**Contrastive Linguistic Study of South and North Korean Sign Language and Japanese Sign Language at the Level of Phoneme and Lexis**

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1. Establishment process of Korean Sign Language

It is very difficult to ascertain when sign language has been used as a means of communication among the Deaf. Many data and materials are needed to explore the origin of language and to study etymology, but there is a lack of sign language origin and etymology materials. Sign language may have been used since the presence of the Deaf. Because Deaf persons communicate with different way with hearing persons, it is thought that Deaf person developed sign language to reflect the society, culture, and idea of the Deaf. Kim Chil-Kwan (1998) argued that Korean Sign Language (KSL) was established based on autonomous home sign and foreign sign language. Before modern schooling and transportation developed, Deaf person would have used their own signs at home. And then more and more community sign would have used community as well as home. Sign language at that time reflected Korea's own way of thinking, culture and custom. Sign language requires school education in order to have language system, so sign language began to have rule-governed language system in Korea since 1909 when Deaf schooling began. Then, under Japanese colonialism from 1910 to 1945, Japanese Sign Language (JSL) flowed into Korea in large quantities under the Chosun Government-General. At that time, formal Deaf education at school began, and language contact between Korean native sign language and JSL would have occurred. Japanese sign language was borrowed as it was, but some signs were borrowed with some change. Through this process, the foundation of KSL was further strengthened and refined. Kim Chil-gwan (1998) believed that the influx of Chinese sign language is weak in the process of KSL formation. Chinese sign language was less likely to flow into Korea because first established Deaf school in China used oral education instead of Chinese Sign Language. However, because the sign languages of countries in East Asian such as China, Japan, and Korea made sign language sign using the shape of Chinese character, there is a KSL sign using the Chinese character form in KSL. Kim Chil-Kwan (1998) asserted that most of the sign language that came into Korea was JSL, and some of them were American Sign Language (ASL). When foreign sign language was introduced, it was borrowed in various ways such as direct borrowing, transitional borrowing, and some form of borrowing. In conclusion, KSL was developed in combination with Korean's own custom and unique KSL and influx foreign sign languages including JSL and ASL.
2. Literature of contrastive linguistics of Northeast Asian sign language

KSL is recognized as Japanese Sign Language Family along with JSL and Taiwanese Sign Language. In the process of establishing Korean sign language as a language system, JSL was introduced during the Japanese colonial period. Language contact occurs for a number of reasons, including military occupation and colonization, socioeconomic reasons, commerce and trade exchanges, nationalism and political reasons, education and culture, urbanization and international marriage (Valli, Lucas, & Mulrooney, 2005). After the liberation, however, KSL and JSL developed differently. In addition, South and North Korea were divided for 70 years after the Korean War and there is little exchange. Lee Nan-hee and Choi Sangbae(2017) compared the handshapes of the two Korea’s sign language. They reported 15% for both hands agreement, 21% for the dominant hand agreement, 23% for the nondominant hand agreement, and 71% for the disagreement. They asserted that the heterogeneity of sign languages between South and North Korea is serious.

Kim Seung-guk (1983) analyzed 563 ASL signs, 382 JSL signs, and 742 KSL signs for comparison. Similarity between three sign languages was 28.57%, 32.33% between KSL and ASL, 63.35% between KSL and JSL, 38.43% between JSL and ASL. The results of this study showed that KSL and JSL are very similar. While the similarity between French Sign Language and ASL is about 25%, the similarity between Korean and Japanese Sign Language is 63%. These results suggest that the universality of culture and custom is stronger between Korea and Japan than between Korea and the United States or the United States and Japan.

3. A study on contrastive linguistic characteristics of Northeast Asian sign language at the level of phoneme

Since the division of the two Koreas, the heterogeneity of sign language has accelerated, and this difference might shows that the sign language of the two Koreas is not variant but rather being changed into different sign language. Also, sign language was very similar between Korea and Japan immediately after liberation in 1945, but since the two countries have developed their own identity since the liberation, the two sign languages has become more different.

Therefore, this study analyzed the degree of agreement between South Korean, North Korean, and Japanese sign language and the degree of parameter(chereme) agreement between three sign languages. 401 signs from SKSL, NKSL and JSL were used in the analysis. The results are shown in the table below.

| Sign languages | Exact agreement | Partial agreement | Entirely disagreement | Agreement rate of parameter (%) |
|----------------|-----------------|-------------------|-----------------------|---------------------------------|
|                | No. of sign | rate | No. of sign | rate | No. of sign | rate | Handshape | Location | Movement | Orientation |
| SKSL-NKSL-JSL  | 61          | 15   | 128        | 32   | 212        | 53   | 26        | 32       | 26       | 29         |
| SKSL-NKSL      | 122         | 30   | 144        | 36   | 135        | 34   | 43        | 49       | 43       | 47         |
| SKSL-JSL       | 132         | 33   | 128        | 32   | 141        | 35   | 45        | 49       | 44       | 49         |
| NKSL-JSL       | 72          | 18   | 140        | 35   | 189        | 47   | 30        | 35       | 30       | 33         |

SKSL : South Korean Sign Language
NKSL : North Korean Sign Language
JSL : Japanese Sign Language
As a result, the number of exact agreement signs were 61, which was 15%, partial agreement signs (1-3 parameter agreement) were 128, which was 32%, entirely disagreement signs were 212, which was 53%. The sign language with the highest agreement among SKSL, NKSL, and JSL was 33% with SKSL and JSL, followed by SKSL and NKSL with 30%, and NKSL and JSL with 18%. As a result of analyzing the parameters agreement among the three sign languages, location was the highest with 32%, followed by 29% orientation, 26% handshape, and 26% movement. This findings suggest that the SKSL, NKSL, and JSL is heterogeneous and it is difficult to categorize it into one language family. Subsequent research needs to extend the analysis to morphology and syntax as well as phonological levels.
Contrastive linguistic study of South and North Korean Sign Language and Japanese Sign Language at the level of phoneme and lexis

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PROCEDURE

- Establishment process of Korean Sign Language
- Literature of contrastive linguistics of Northeast Asian sign language
- A study on contrastive linguistic characteristics of Northeast Asian sign language at the level of phoneme
“Limiting ourselves to the study of only one sign language can be dangerous linguistically as well as politically. The study and comparison of sign languages around the world can give us insights into how language is structured, how the channel of communication affects language structure, and what is possible in the signing modality.”
(Fischer, 2003)
Importance of cross-linguistic study

- **Linguistic reasons**
  - Study on characteristics of sign language through comparison sign languages and spoken languages

- **Political reasons**
  - Recognizing the importance of all sign languages

- **Educational and social reasons**
  - Communicating with each other
  - Facilitating mutual social understanding

Sign languages in common

- Distinction from spoken language
- Three kinds of verbs
- Verb agreement with objects and subjects
- Classifiers and incorporation
- Topic-comment structures
- Grammatical use of nonmanual signal
Establishment of Korean Sign language

- Sign language is not universal.
- KSL was established based on autonomous home sign and foreign sign language.
- Sign language requires school education in order to have language system.
- Sign language began to have rule-governed language system in Korea since 1909 when Deaf schooling began.

Establishment of Korean Sign language

- Under Japanese colonialism from 1910 to 1945, Japanese Sign Language (JSL) flowed into Korea in large quantities under the Chosun Government-General.
- Language contact between Korean native sign language and JSL
- JSL was borrowed as it was, but some signs were borrowed with some change.
Establishment of Korean Sign language

- Chinese sign language was less likely to flow into Korea.

- Sign languages of countries in East Asian such as China, Japan, and Korea made sign language signs using the shape of Chinese character.

- KSL was developed in combination with Korean’s own custom and unique KSL and influx foreign sign languages including JSL and ASL.

Examples of borrowed signs in Northeast Asian SL

|               | JSL | SKSL | NKSL |
|---------------|-----|------|------|
| Borrowed JSL  |     |      |      |
| as it was     |     |      |      |
| Borrowed JSL  |     |      |      |
| with some change |   |      |      |
|               |     |      |      |
Examples of borrowed signs in Northeast Asian SL

|       | JSL | SKSL | NKSL |
|-------|-----|------|------|
| 共 | 共 | 共 |
| 共 | 共 | 共 |

Cross-linguistic study on East Asian SL

- KSL is recognized as JSL Family along with JSL and Taiwanese Sign Language.

- Language contact occurs for a number of reasons, including military occupation and colonization, socioeconomic reasons, commerce and trade exchanges, nationalism and political reasons, education and culture, urbanization and international marriage (Valli, Lucas, & Mulrooney, 2005).

- Fischer (2010) reported that there is little difficulty in communication between KSL, JSL, TSL.
Cross-linguistic study on East Asian SL

- After the liberation, KSL and JSL developed differently.

- In addition, South and North Korea were divided for 70 years after the Korean War and there is little exchange.

- Lee and Choi (2017) compared the handshapes of the two Korea’s sign language. They reported 15% for both hands agreement, 21% for the dominant hand agreement, 23% for the nondominant hand agreement, and 71% for the disagreement.

- They asserted that the heterogeneity of sign languages between South and North Korea is serious.

Cross-linguistic study on East Asian SL

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- The results of this study showed that KSL and JSL are very similar.
Cross-linguistic study on East Asian SL

- While the similarity between French Sign Language and ASL is about 25%, the similarity between Korean and Japanese Sign Language is 63%.

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Contrastive linguistic study on Northeast Asian SL

- Since the division of the two Koreas, the heterogeneity of sign language has accelerated, and this difference might shows that the sign language of the two Koreas is not variant, but rather being changed into different sign language.

- Also, sign language was very similar between Korea and Japan immediately after liberation in 1945, but since the two countries have developed their own identity since the liberation, the two sign languages has become more different.
This study analyzed the degree of agreement between South Korean, North Korean, and Japanese sign language and the degree of parameter (chereme) agreement between three sign languages.

401 signs from SKSL, NKSL and JSL were used in the analysis.

Contrastive linguistic study on Northeast Asian SL

- Signs were basic words commonly used in everyday life.
- JSL signs were analyzed using JSL dictionary and Web site (https://www2.nhk.or.jp/signlanguage).
- North KSL were analyzed using NKSL dictionary.
Contrastive linguistic study on Northeast Asian SL

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Contrastive linguistic study on Northeast Asian SL

- the parameters agreement among the three sign languages, location was the highest with 32%, followed by 29% orientation, 26% handshape, and 26% movement.

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- Subsequent research needs to extend the analysis to morphology and syntax as well as phonological levels.

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