한국수어사전 용례 구축

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Example Sentences in the Korean Sign Language (KSL) Online Dictionary

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ABSTRACT

[Purpose] The purpose of this paper is to describe the procedure of making 500 Korean Sign Language (KSL) example sentences for the Korean Sign Language Online Dictionary, which were compiled by the National Institute of Korean Language. This dictionary is mainly used for sign language learning, but its use was limited because the semantic information of sign language was not sufficiently described. To improve this, 500 KSL example sentences for 125 entries were added to the dictionary. [Method] We first provide background information, such as the purpose of example sentences in dictionaries, and about the different types of example sentences. Thereafter, we explore how other sign language dictionary compilers abroad have created example sentences. [Results] We then explain how we produced authentic example sentences taken from the KSL Corpus, how we edited examples, and how we constructed example sentences. Finally, we introduce our principles and guidelines, which we developed to produce example sentences with the same consistent quality. [Conclusion] It is the first time that a KSL sign language dictionary provides so many example sentences. It is expected these example sentences will have an impact on sign language lexicography.

Key Words: Korean Sign Language, Dictionary, Example sentences, Corpus

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Ⅰ. Introduction

Korean Sign Language (KSL) is the official language of the deaf in Korea. On the lengthy journey towards the legal recognition of KSL, of which resulted in the Korean Sign Language Act in 2016 (Hong et al. 2019), the role and influence of sign language dictionaries was fundamentally important due to helping people to perceive KSL as an independent language.

In 2005, the National Institute of Korean Language and the Korean Association of the Deaf together compiled the Korean Sign Language Dictionary, which is primarily used by sign language learners. In 2015, the dictionary was edited and published online. As part of the dictionary revision in 2020 (NIKL 2020a) the macrostructure, as well as the microstructure of the dictionary, was changed. If the orientation of the entry was previously based on the spoken word, the content of the entry is now related to the sign as a lemma. This major revision which changed the dictionary from a Korean-centered dictionary into a KSL-centered dictionary[3] provided the basis for adding 500 KSL example sentences and their Korean translation to the dictionary. The example sentences do not refer to the Korean word, but the KSL sign.

The addition of KSL example sentences is of particular importance in several respects. The entry, which previously only contained information on the form of the sign (i.e. the articulation of the sign) has been supplemented with information on the meaning of the sign, as the example sentences illustrate what the sign could mean in context. This is, as we explain with more detail in the next chapter, essential for polysemous sign entries, because the example sentences aids in understanding the sense of a sign, which means they clarify the various meanings of a sign. To be more concrete, the context disambiguates the different word senses of a sign.

Furthermore, the example sentences enable the user to see how the sign is actually used. That is, the example sentences increase the usability and effectiveness of the dictionary in general and are an especially important contribution for the users who want to acquire KSL as a second language. Although it is common for spoken language dictionaries to show example sentences, this is

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3) For a discussion about Korean-centeredness and Korean Sign Language-centeredness in sign language dictionaries see. Lee, Nam & Cho (2018).

not yet the case in Korean Sign Language dictionaries. The 500 example sentences mentioned here are, therefore, to be regarded as the first attempt to establish example sentences in a KSL dictionary.

The current form of the KSL Online Dictionary entry includes a signing video that represents the sign of the entry, drawings that illustrate the sign and have the advantage that dictionary users can see the sign without watching the video, a written explanation about how the sign is to be articulated, information whether or not a sign consists of more than one sign, and equivalents in Korean. And as mentioned before, various entries are provided with example sentences.

The purpose of this paper is to describe the procedure of making 500 KSL example sentences for the KSL Online Dictionary[4] (http://sldict.korean.go.kr) and to present and discuss our principle and guidelines which we based on the guidelines of the Danish Sign Language Dictionary and adapted to our needs.

We first provide background information on the necessity of example sentences and describe three different types of example sentences. We then introduce other sign language dictionaries from abroad which include signing examples. Afterward, we describe our process of how we selected KSL example sentences, and we conclude by presenting and discussing the principle and guidelines of how to make good example sentences for the KSL Online Dictionary.

Ⅱ. Example Sentences in Dictionaries

1. Purpose and Characteristics of Example Sentences

Atkins & Rundell (2008: 453-355) see the most basic purpose of examples in dictionary entries first by its attestation that proves the existence of a word in the language, then by elucidating meanings that are a helpful complement to the definition and to clarify meaning distinctions in a polysemous word, and lastly to illustrate contextual features such as syntactical patterns, collocation, register and more. Concerning the meaning distinction, the authors state the most reliable

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4) There are legitimate considerations to classify the term "KSL Online Dictionary" as problematic, since the dictionary is not a monolingual dictionary as the name suggests, but an unidirectional bilingual dictionary. However, this term is used as a proper name here.

indicator of a word sense distinction in a polysemous word is the lexical and syntactic environment in which a word appears. Considering the surprisingly small amount of context one needs to disambiguate every distinct sense of a word (2008: 294), example sentences in the dictionary fulfill this function well enough.

Won (2011) divides the purpose of example sentences in a learner's dictionary[5] in semantic, morpho-syntactic, and pragmatic functions. The semantic function example sentences focus on the clarification of meaning by providing complemental information to the definition, separating the meaning of related words, and giving a special nuance. The morpho-syntactic function of example sentences is defined by showing sentence patterns or grammatical patterns, showing declension and how the target word is used, and in what register it can appear. Finally, demonstration of the appropriate usage area or stylistic levels, degrees of formality (formal vs. informal), emotional aspects in use of context (verbal vs. written) as well as the presentation of possible vocabulary combination within the context of various cultures, is seen as the pragmatic function of example sentences.

Apart from the function of an example sentence in a dictionary entry, Atkins & Rundell (2008) are concerned with the question of what makes a good example sentence and state the following three criteria: 1) natural and typical, 2) informative and 3) intelligible.

Typical example sentences include high-frequency syntactic sentences, collocations, and idioms. These sentences also reflect the preferred tense, and the correct method of phrasal composition, including other examples which make the sentence intuitively acceptable. Examples that have the right balance between too much and too little context and examples that maintain in a consistent register are perceived as natural utterances by native speakers. An informative sentence helps to identify the meaning of the headword and provides useful additional information that helps the reader to better understand it, It should not conflict with the definition of the entry. Intelligibility is important to the dictionary user because an example can be natural and informative, however, if it is not comprehensible to the user, it is worthless. This means that example sentences should avoid unnecessarily difficult vocabulary and complicated sentence structure. Prinsloo & Gouws (2000) describe what makes a good example sentence by enumerating

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5) Jeong (2009) states that a learner's dictionary provides much more various examples of usage than a regular language dictionary. Nevertheless we believe the core function of example sentences is identical in both types of dictionaries.

characteristics of substandard example sentences. In addition to the points made above, they state that good examples should not include distracting or irrelevant details, should not be overly context-dependent, nor confuse the user with register mismatch. Furthermore, the authors point out that poor examples contain unnecessary extralinguistic factors such as race, sex, politics, culture, and so on, or refer to female subjects, companies, or ethical unaccepted issues. It is also recommended not to refer living persons or current events because such examples can easily become outdated which gives the impression that the whole dictionary itself is outdated.

2. Different types of example sentences

In recent decades, huge computer-assisted language corpora emerged, which also changed the compilation of dictionaries with a lasting effect. While example sentences in dictionaries were traditionally constructed Cobuild[6] began in 1987 to use unmodified sample sentences from Corpora in dictionaries. Although it cannot be denied that Cobuild has set a new lexicographical standard, Prinsloo and Gouws (2000) regret that the discussion about the different approaches of example sentences in dictionaries assumed ideological proportions and prevented the factual discussion.

Corpus examples are sentences that have actually occurred in the language and, therefore, provide a reliable guide for language users in many aspects. They also show features of normal discourse, such as the use of pronouns rather than nouns. Corpus examples seem to be much more natural than constructed examples and they represent the language exactly the way native speakers use it. On the other hand, corpus examples are often taken out of context and, therefore, are only partially understandable to the dictionary user. Corpus examples also contain irrelevant extralinguistic information which may distract or even mislead the user. While Fox (1987 cited in Laufer 1992) sees superiority of authentic examples over constructed examples, Laufer (1992) claims that learners benefit more from constructed examples than from authentic examples. His claims are based on the results of a study, in which he examined the difference in the effectiveness of the

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6) Collins Birmingham University International Language Database, is a British research facility set up at the University of Birmingham in 1980 and funded by Collins publishers.

two aforementioned types of examples for language learners. The results of this study show that constructed example sentences help learners better understand a new word than authentic examples do. Also, constructed examples seem to be less dependent on the learner's general lexical knowledge than authentic examples.

Laufer, therefore, argues that constructed examples are pedagogically more beneficial to language learners. Hong (2010) has studied example sentences in existing Korean dictionaries and has found three types of example sentences: corpus examples, edited corpus examples and constructed examples. He points out that it is not easy to distinguish between edited corpus examples and constructed examples. How little must the modification of an example be so that it is still an edited example and not an already constructed one? Prinsloo & Gouws (2000), therefore, propose to see the issue of corpus example versus constructed examples as a continuum with each type at the endpoints. Edited corpus examples are divided into slightly edited corpus examples, heavily edited corpus examples and partially invented constructed examples. Humble (1998) groups example sentences into authentic corpus examples, made-up examples, and a third kind, which he calls controlled examples. The last examples are retrieved from corpora such as encyclopedia.

3. Example Sentences in Sign Language Dictionaries

Compared to spoken languages, the compilation of sign language dictionaries is more complicated, considering sign languages are visual-spatial languages that do not have a standardized writing system. There are often simple word lists in different countries, that contain a written word from the spoken language accompanied by a line drawing or a photograph of a person making the corresponding sign. Such sign collections (for a discussion of sign collections and sign language dictionaries see Zwitserlood 2010) usually do not contain sign entries that describe the sign, This means different meanings senses are not distinguished and there are no example sentences that would show the use of the sign in detail. To our knowledge, there are currently four online sign language dictionaries that provide sign language example sentences from a corpus and give information about how the example sentences have been produced: the Danish Sign Language Dictionary ODT, the New Zealand Sign Language Dictionary ODNZSL the Polish

Sign Language Dictionary KS-PJM and the DGS Dictionary for German Sign Language.

The Danish Sign Language Dictionary illustrates every meaning sense of a sign entry, with one or more example sentences. All example sentences are represented by a sign video, a gloss transcription, and by a translation into Danish. The transcription of the sign example allows the user to see the word order in the sign language sentence and given that the glosses are all linked to the corresponding sign entry, it is possible to go from one entry to another for a sign used in a sentence. The Danish Sign Language Dictionary has taken approximately 50% of the example sentences from their raw corpus[7], which exists of 148 monologues and 75 hours of discussions from consultant groups about signs, their meaning, their use, and so on. The remaining half of the example sentences were constructed by their deaf lexicographers (Kristoffersen & Troelsgård 2010).

The New Zealand Sign Language Dictionary shows one to four example sentences per entry. Each filmed example sentence is translated into English and, similar to the Danish Sign Language Dictionary, the content is also displayed in glosses. This allows the user to see the syntactic order of the signs and enables cross-references between the entries. The compilers of the New Zealand Sign Language Dictionary report that almost 50% of their lemma couldn't be found in the corpus due to its limited size. The corpus consists of more than 50 hours of videotaped discourse by 80 members of the Deaf community. The corpus data includes conversations, narratives, speeches, meetings, and discussions on more than 30 different topics. Most example sentences taken from the corpus required editing and approximately 30% of the example sentences are constructed by a native speaker on the editorial team. The compilers of the New Zealand Sign Language Dictionary tried to ensure that most signs within the example sentences were relatively high-frequency and appear in the dictionary for cross-referencing. For this reason, they avoided productive signs within the example sentence because these are not in the dictionary and it is not possible to cross-reference to them (McKee & McKee 2013).

The Polish Sign Language Dictionary also provides signing examples for each entry, but not for all meaning senses within an entry. The example sentence is

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7) The compiler say this raw corpus is what Asmussen (2012) refers to as a "quasi-corpus", that means a corpus build entirely of adapted sentences, namely the usage examples of the dictionary and not an annotated corpus.

shown as a video clip and accompanied by a Polish translation. All existing example sentences are authentic signed utterances taken from the PJM Corpus, which amounts to more than 300 hours of video material. The example sentences have been re-recorded by the dictionary team in order to standardize the appearance of the examples, and in order to maintain anonymity (Kosem 2017). The compilers explain that in many cases, certain meanings couldn't be found in the corpus. Even they were found, not all authentic utterances are suited as an example sentence for the dictionary due to many utterances not being understandable without a broader context. There are, for example, fragments of stories, and utterances such as classifiers which refer to previously introduced elements. It can be assumed that the example sentences have, therefore, not been edited by the compilers. Example sentences in the Polish Sign Language Dictionary do not specify a meaning or complement a general definition, however, they illustrate the use of the sign. They also have a focus on syntactic properties. For example, signs with nominal usage in the entry are also illustrated in their attributive use, including cases in which they would be translated into Polish as adjectives. There are also example sentences for directional verbs and classifiers (Linde-Usiekniewicz et al. 2014). The PJM Corpus from which the examples sentences are taken amounts to more than 300 hours of video materials.

The DGS Dictionary usually presents two example sentences for each meaning sense in an entry. Since the number of meaning senses for an entry is not limited, that could mean a dozen or more example sentences per entry. All example sentences with very few exceptions are taken directly from the DGS corpus, which contains nearly 560 hours of signed material. This approach is corpus-based but at the same time, it is also corpus-bound because dictionary and corpus are interconnected. That means each example sentence presents the original informant from the corpus and is not re-recorded in the studio (Langer et al. 2018). Example sentences are presented in a video clip and provided with a German translation as well as an additional explanation in parenthesis about the context to make sure the signed example is understandable to the dictionary user without its original context. The example sentence is not presented in glosses within the entry, however, there is a button below the video clip so that the example can be traced back to its original conversation video, which also displays the conversation partner. Once the user arrives in the corpus view, it is possible to see the whole conversation with its basic annotation such as translation, glosses, and non-manual signals (Langer et

al. 2018).

Although all four sign language dictionaries have taken their example sentences from their respective corpus, the four dictionaries differ in how they present the signed examples and the manner in which they fill the gap if no suitable example sentence is found in the corpus. The corpus sentences of the Danish Sign Language and the New Zealand Sign Language have all been re-recorded in the studio, and if it wasn't possible to find proper example sentences in the raw corpus, deaf compilers constructed example sentences. The example sentences from the Polish Sign Language Corpus have also been re-recorded in the studio, however, if no suitable example sentence was found in the corpus, the gap was left empty. The example sentences of the German Sign Language Dictionary were not re-recorded in the studio, but the authentic utterance was shown in the original form the way it was recorded when the informant uttered it in the data collection. Considering the German Sign Language Dictionary also based their lemma selection purely on their corpus, there is no such thing as an empty gap in the examples sentences. On the contrary, it is rather the other way around. If there are no example sentences in the corpus, there is no entry in the dictionary.

Ⅲ. Example Sentences in the KSL Online Dictionary

1. Example Sentences for 125 entries in the KSL Online Dictionary

Currently, the KSL Online Dictionary (http://sldict.korean.go.kr) has got 3,819 entries in the everyday life category. We chose 125 entries and provided each of them with 3-5 example[8] sentences. The list of the 125 entries with the exact number of example sentences for each entry is separately available on the Homepage of the KSL Online Dictionary.

When we selected 125 KSL signs, we made sure these KSL signs qualified as a lemma and had sufficient evidence in the KSL Corpus. It's not a given, as the dictionary was compiled before there was a KSL Corpus. The KSL Corpus contains

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8) There is one entry provided with eight example sentences because this entry had a particularly large number of word senses.
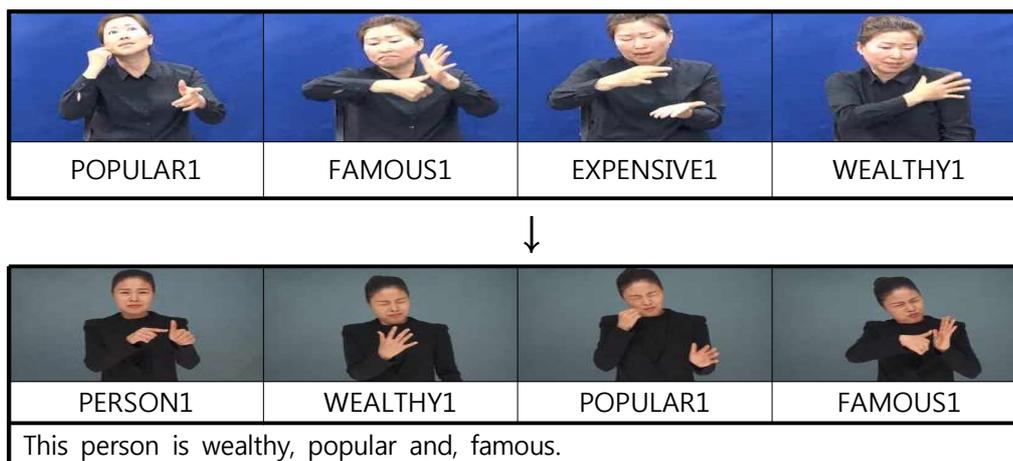
approximately 180 hours of sign language data from 148 informants of five sites in Korea (Hong et al. in press, NIKL 2020b). Each sign of the 125 entries was first looked up in the KSL Corpus. If the utterance from the corpus was suitable as an example sentence, it was recorded as a corpus example. If the utterance did not meet our guidelines for acceptable example sentences, it was edited by our deaf dictionary staff members. In many cases, the utterances from the corpus could not be used at all as an example sentence and we decided to construct examples instead. The constructed example sentences particularly required the native signer's sense of language. Although the native signers were trained on the guidelines for example sentences, multiple corrections were still necessary[9]. Only when a sample sentence was fully checked was it translated into Korean. This was in order to make sure that the example sentence was a natural KSL sentence and not influenced by Korean.

Of the 500 example sentences, 14 are taken directly from the corpus. These example sentences were re-recorded in the studio. In order to keep the newly recorded example sentences as close as possible to the original sentence in the corpus, not only the syntactic order was copied identically; but also the non-manual signals and prosodic features. Although this process was closely checked during and after the filming, we are aware that a re-recorded example sentence from a person other than the original informant, will always differ to some extent from the original utterance. But there are a few reasons not to use the original materials from the Corpus. First, although the informants allowed the use of their language data, we believe that some utterances can make them feel uncomfortable. Furthermore, re-recorded utterances are easier to understand by language learners because aspects such as pronunciation and the speed of utterances can be adjusted to the need of the dictionary users.

178 example sentences are from the corpus, yet had to be edited. The reasons for the edition are diverse. Fig. 1 and Fig. 2 show corpus utterances and their edited versions as an instance of edited corpus example sentences. The corpus example in Fig. 1 doesn't contain a subject. It is possible in KSL to drop the subject, but since there is no context this makes it hard to understand the sentence

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9) Each edition or correction of a KSL example sentence means that it has to be recorded again. Other than example sentences in spoken languages that consists of written sentences and can easily be edited, it is a challenge in sign language lexicography to manage the large number of KSL films, that have to be recorded repeatedly in several phases.

completely. So the sentence was edited by adding a subject, deleting an ambiguous sign, and changing the order of two signs to make the sentence more natural.

POPULAR1	FAMOUS1	EXPENSIVE1	WEALTHY1

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PERSON1	WEALTHY1	POPULAR1	FAMOUS1
This person is wealthy, popular and, famous.			

<Fig. 1> Original and edited example sentence for the KSL sign WEALTHY1

Fig. 2 shows another case, and how we edited the original utterance. The corpus example sentence is rather short and states only the fact that 50CC motorcycles are not allowed. In the edited version, we provided some context to make the example sentence more natural: It is forbidden to drive a 50CC motorcycle without a driver's license.

MOTORCYCLE1	50CC	GESTURE		

↓

LICENCE1	NONE1	50CC	MOTORCYCLE1	IMPOSSIBLE
It is forbidden to drive a 50CC motorcycle without a driver's license.				
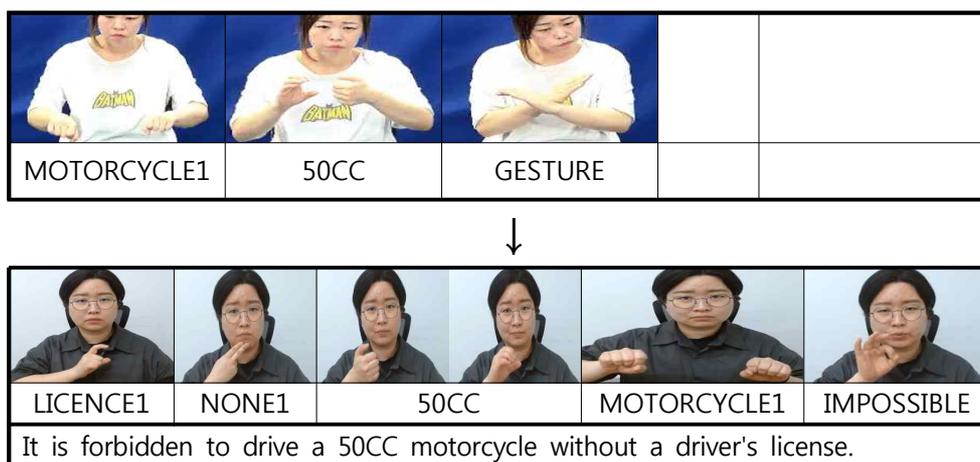
<Fig. 2> Original and edited example sentence of the KSL sign MOTORCYCLE1

At last, an example sentence from the corpus is edited if it is believed that an edition of the sentence can make it conform to the guidelines presented in the next chapter.

308 of 500 example sentences are made up. The high number of constructed example sentences has several reasons. First, the corpus data is limited, because only a fragment of the corpus data has been annotated so far (NIKL 2020b). Often there are not enough occurrences to use as example sentences. Second, even if there are occurrences, they often do not qualify as example sentences because they do not meet the demanding guidelines. We have always searched the corpus first and only constructed example sentences, if there weren't any or if there were not enough corpus examples. This shows that the high number of constructed examples wasn't on purpose or a strategy to speed up the whole process. Be that as it may, according to Laufer (1992) language learners benefit more from constructed examples than they do from corpus examples. This is entirely in our sense, as the dictionary is primarily intended for sign language learners.

All 500 example sentences, regardless of what kind of example sentence, were recorded in the studio and provided with a Korean translation. The different types of example sentences are not marked in any way, which means it is not recognizable to the dictionary user if an example sentence is from the corpus, edited or constructed. Although most dictionaries handle it this way, this should be something to be considered for the future.

2. Principles and Guidelines for Example Sentences in the KSL Dictionary

Before we present the guidelines that we have applied to the 500 example sentences, we would like to point out that our primary aim was to produce natural KSL example sentences, and not sentences in Signed Korean, which follow the word order and grammar of Korean.[10] This point is crucial. KSL is a visual language with its own grammar and syntax and independent of Korean. In order to understand a KSL sign and to see its usage, the example sentences must show the word order and grammatical features of KSL.[11]

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10) For a discussion about the word order in Korean and KSL concerning adjectives see Nam (2016).
11) Deaf people use KSL as well as Signed Korean. For a analysis of code-switching between these

Our guidelines are based on the guidelines for good example sentences by the compiler of the Denmark Sign Language Dictionary (Kristoffersen & Troelsgåd 2010, 7-8). The Danish compilers state that a good context sentence

- reveals something about the core meaning
- includes a common use of the lexeme
- is understandable out of a larger context
- keeps focus on the sign
- has a high truth value
- must not be offending in any way
- does not reveal the source of the sentence
- should contribute to the balance in topics
- should not be a definition of the sign

The following guidelines show how we have added and adjusted the above guidelines for our purposes. Each point is illustrated by example sentences from our work[12] and applies to corpus examples, edited examples as well as constructed examples.

1) Examples should demonstrate the characteristics of KSL
2) Examples should illustrate variously how the KSL sign is used.
3) Examples should typically express the central meaning of the KSL sign
4) Examples should also show a grammatically modified form of the KSL sign
5) Examples should show typical collocations of the KSL sign
6) Examples should be presented in a natural context
7) Examples should contain ordinary content and be understandable to everybody
8) Examples should be as simple as possible in structure and content
9) Examples should be based on facts
10) Examples should avoid specific ideologies or discriminatory expressions.
11) Examples should avoid names of specific institutions, facilities, or persons.
12) Examples should not contain unethical or non-educational issues
13) Examples should not include ambiguous or confusing content

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two languages see Lee & Yoon (2015).

12) Information on our dictionary project as well as guidelines for the translation of the example sentences, for the semantic analysis of polysemous signs, for translated Korean expressions, and so on can be found in the final report (NIKL 2020).

1) Examples should demonstrate the characteristics of KSL

If possible, we try to use example sentences that display the characteristics of KSL as a visual-spatial language. KSL, as well as other sign languages differ from spoken languages in that they are articulated by the hands and by non-manuals such as mouth, eye gaze, head, eyebrows, head, shoulders, facial expressions, and body shifts. These articulators produce their linguistic signals simultaneously, which is another characteristic that is unknown in spoken languages. Signed languages contain iconic elements, which means the form of a sign can be related to its meaning. Furthermore, signed languages also use space grammatically. Using the last characteristics as an instance would mean that we only use example sentences in which the use of space is articulated correctly. Fig. 3 shows an example that doesn't use space properly and is, therefore, not grammatical.

BOAT1	OBJECTS1	*MOVE1

I moved things to the boat (not grammatical) ⇒ not suitable example sentence
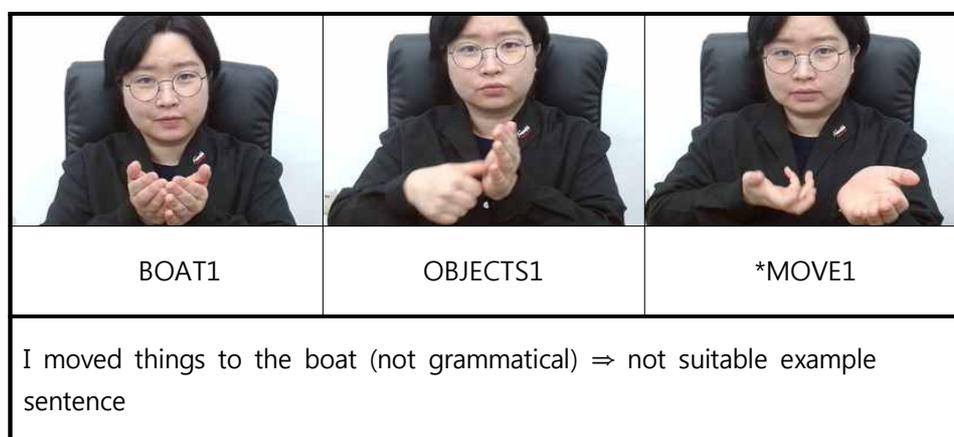
<Fig. 3> Example sentence of the sign MOVE 1

Fig. 4 shows an example sentence of the sign MOVE1. MOVE1 is located in three different locations in signing space(loc-a is on the right side of the signer, loc-b is in front of the signer and loc-c is on the left side of the signer). These three locations can be associated with the spatial relation in the real world, which means space is used topographically (for a discussion of syntactic and topographic space see Klima/Bellugi 1979, Padden 1990). In the above sentence, the sign MOVE1 with its three locations means 'visit all tourist destination". The dictionary user can see that the sign MOVE1 can be located meaningful.

JEJU1	AREA1	TRAVEL1	AREA1

dominant hand: MOVE1$_{loc-a}$ MOVE1$_{loc-b}$ MOVE1$_{loc-c}$

non-dominant hand: AREA1

COMPLETE1	POSSIBLE1	HOW-MANY-DAY1

How many days does it take <u>to visit all tourist destinations</u> on Jeju Island?

⇒ suitable example sentence

<Fig. 4> Example sentence of the sign MOVE1

2) Examples should illustrate variously how the KSL sign is used

(1) By showing example sentences, we show various ways how the KSL sign is used. The sign SON1, for example, is usually formed with a thumb handshape, which represents a male person, and contains a movement from the wrist. Fig. 5 shows a quite usual way how the sign SON1 is used.

INDEX1_1	SON1	COMMUNICATE1	HARD1

It is hard to communicate with my son.

<Fig. 5> Example sentence of the sign [SON1]

Presenting only fig. 5 as an example sentence doesn't illustrate how variously the sign SON1 can be used. We, therefore, add an example sentence that shows that the sign SON1 can also be combined with a five-fingerhand in the non-dominant hand (fig. 6). It then means 'first son' or 'eldest son'. This utterance is not to be seen as a new two-handed sign because the five-fingerhand can be combined with

numerous other signs such as DAUGTHER1 and BROTHER1.

SON1	dom. H.: SON1 non-dom: five-fingerhand	SCHOOL1	INDEX1	GO1
My first son goes to this school ⇒ suitable				

<Fig. 6> Example sentence of the sign SON1

(2) In order to show how a sign is used we also demonstrate the sign as an idiom. Fig. 7 presents the idiom EYE1+CHEAP1 which means 'not able to see'. Idioms are allowed as long as they relate to the sign in the entry.

WORK1	GO2	TIME2	NONE1	BUSY1
CAR1	EYE1	CHEAP1	MUST1	SEE1
You may not be able to see the car because you are too busy on your way to work, so take a look. ⇒ suitable if the example is for the sign EYE1, but not suitable if the example is for the sign CAR1				

<Fig. 7> Example sentence of the sign EYE1

3) Examples should typically express the central meaning of the KSL sign

Fig. 8 clearly expresses the meaning of the KSL sign PLAN1 and is, therefore, a suitable example sentence. However, the example sentence should not contain a definition of the corresponding sign such as in fig. 9 because we distinguish definitions that belong to the meaning part of an entry and example sentences that are supposed to show how the sign is used. This distinction is especially needed in case definitions are added to the KSL Dictionary some point later.

JULY1	TRAVEL1	PLAN1
I plan to travel in July ⇒ suitable Meaning of PLAN1: A word used to prepare a task or method in the future or to create a task that you want to achieve.		

<Fig. 8> Example sentence for the sign PLAN1

APPLE1	APPLE1	INDEX1	APPLE1
TREE1	FRUIT1	INDEX1	FRUIT1
An apple is the fruit of an apple tree. ⇒ **not suitable**			

<Fig. 9> Example sentence for the sign APPLE1

4) Examples should also show a grammatically modified form of the KSL sign

The sign as an entry is always shown in its citation form. We, therefore, tried to show modified forms of the sign in the example sentences. Fig. 10 shows a modified form of the agreement verb DEMAND1.

SIGNNAME1	WOMAN1	INTRODUCE1	DEMAND1	BEG1
X asked me to introduce him to a woman ⇒ suitable				

<Fig. 10> Example sentence for the sign DEMAND1

5) Examples should show typical collocations of the KSL sign

Fig. 11 shows the sign MEMORY1 and the sign NONE1, which usually go together.

CELLPHONE1	CELLPHONE4	LOC1+
NMS: eyebrow raised	REMEMBER1	NONE1
I don't remember where I put my cell phone ⇒ suitable		

<Fig. 11> Example sentence for the sign REMEBER

6) Examples should be presented in a natural context

Unlike fig. 12, fig. 13 presents an example sentence that doesn't have a natural context because it is common and natural to eat bread in a bakery, but not in the restroom.

BREAD1	HOUSE1	BREAD1	EAT1	END1
I had some bread at a bakery ⇒ **suitable**				

<Fig. 12> Example sentence of the sign BREAD1

RESTROOM1	BREAD1	EAT1	END2
I had some bread in the restroom ⇒ **not suitable**			

<Fig. 13> Not suitable example sentence of the sign BREAD1

7) Examples should contain ordinary content and be understandable to everybody
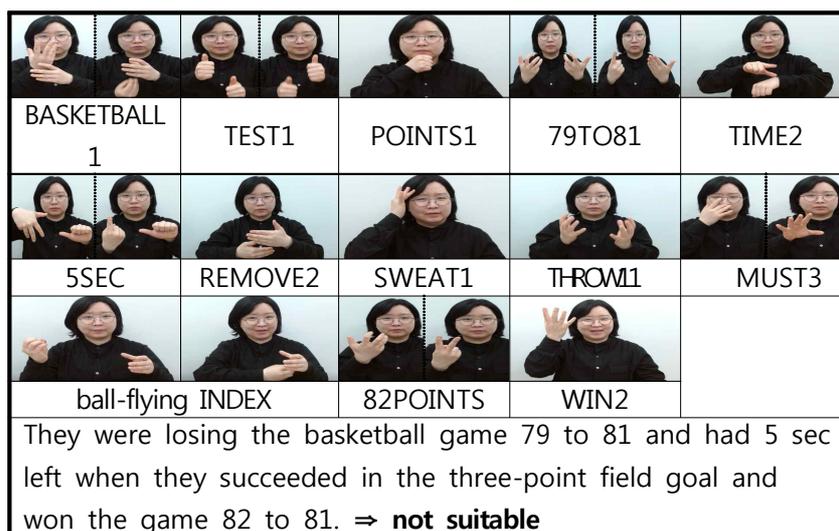
Fig. 14 presents an example sentence in which a student teaches a teacher. Although this example sentence is neither grammatically wrong nor has wrong content, it would be more ordinary when the teacher teaches the student and not the other way around. However, since this untypical content might distract the dictionary user from understanding the sentence easily we try to avoid such sentences.

STUDENT1	TEACHER1	MATHS1	TEACH1
The student teaches maths to the teacher. ⇒ **not suitable**			

<Fig. 14> **Example sentence of the sign TEACH1**

8) Examples should be as simple as possible in structure and content

The example sentence presented in fig. 15 is inappropriate because the structure of the sentence, as well as the content, is too long and complicated. Furthermore, the sentence contains too much detail which distracts from showing the use of the sign BASKETBALL1.

BASKETBALL 1	TEST1	POINTS1	79TO81	TIME2
5SEC	REMOVE2	SWEAT1	THROW1	MUST3
ball-flying INDEX		82POINTS	WIN2	
They were losing the basketball game 79 to 81 and had 5 sec left when they succeeded in the three-point field goal and won the game 82 to 81. ⇒ **not suitable**				

<Fig. 15> Example sentence of the sign BASKETBALL1

9) Examples should be based on facts

While the example sentence in fig. 16 is correct, the example sentence in fig. 15 cannot be considered proven.

PC1	gesture showing forward neck	ALWAYS1
NATURAL1	NECK1	head forward
Working in front of a PC too long can lead to a forward head posture.		

<Fig. 16> Example sentence of the sign NECK1

VILLAGE1	GO1	AGE1	LIVE1	ETERNAL1	ABLE1
Living in the countryside extends your life　⇒ **not suitable**					

<Fig. 17> Example sentence of the sign AGE1

Some issues, as in fig. 18, might be based on facts, but customs or social habits can change over time and example sentences that contain such issues make the whole dictionary look out of date.

NOWADAYS1	MARRY1	AGE1	LATE1
TODAY1	MOOD1	CHANGE1	
Nowadays people marry late. ⇒ **not suitable**			

<Fig. 18> Example sentence of the sign AGE1

10) Examples should avoid specific ideologies or discriminatory expressions

Political and socially sensitive content should be avoided in example sentences. Any discrimination based on sex, appearance, nationality, religion, age, disability, social origin, and so on, is not to be included either. The example sentence in fig. 19 is not suitable because it gives the impression that women have to be pretty and must perform beauty surgeries to be considered beautiful. The example sentence in fig. 18 is inappropriate because it contains gender discrimination.

INDEX1_1	FRIEND1	FACE1	SURGERY1	END1
WOMAN1	WOMAN1 ⋮ FACE1	WOMAN1 ⋮ PRETTY1	WOMAN1 ⋮ NONE1	
My friend did several beauty surgeries, but she is still not pretty. ⇒ **not suitable**				

<Fig. 19> Example sentence of the sign NONE1

PARENT1	DAUGHTER1	~THAN1	SON1	IMPORTANT1	LOVE1
Parents love their son more than their daughter. ⇒ **not suitable**					

<Fig. 20> Example sentence of the sign PARENT1

11) Examples should avoid names of specific institutions, facilities, or persons.

The example in fig. 21 is not suitable because it refers to one of several deaf schools in Seoul. The naming of a certain school or the non-naming of the other schools gives the impression of unequal treatment and should, therefore, be avoided.

INDEX1_1	SEOUL1	DEAF1	GRADUATE1
I graduated from Seoul Deaf School ⇒ **not suitable**			

<Fig. 21> Example sentence of the sign PARENT1

12) Examples should not contain unethical or non-educational issues

No matter how well an example shows the use of a sign, example sentences should not contain unethical issues such as stealing a purse in fig. 22.

EUROPE1	TRAVEL1	CARRY2	BOX1	PURSE1	REMOVE
On my trip to Europe, I stole a purse. ⇒ **not suitable**					

<Fig. 22> Example sentence of the sign TRAVEL1

13) Examples should not include ambiguous or confusing content

Since the purpose of an example sentence is to show the use of the sign, the example should be clear and understandable, and it should not contain ambiguous

or confusing content which distracts the dictionary user. The example sentence in fig. 23 can be interpreted in two ways and is, therefore, not suitable.

HELMET1	INDEX1_1	SHAPE1	PICTURE1	SAME1
① The helmet looks like it has been drawn ⇒ **not suitable**				
② The helmet is shown as a picture ⇒ **not suitable**				

<Figure 23> Example sentence of the sign HELMET1

IV. Discussion

To create 500 KSL example sentences with consistent quality, we used the guidelines for good context sentences of the Danish Sign Language Dictionary and adjusted them to our project. The Danish compilers list 9 guidelines and 8 of them have been adapted to our guidelines. The guideline that a good context sentence should reveal something about the core meaning is adapted to number 3 of our guidelines, which says examples should typically express the central meaning of the KSL sign. The guideline that a good context sentence should include common use of the lexeme is taken over in number 2 and 5 of our guidelines, which says examples should illustrate various ways of how a KSL sign is used and show typical collocations of the KSL sign. The Danish compilers say a good context sentence should be understandable out of a larger context. This point is adapted in number 7 of our guidelines which says examples should be understandable to everybody. Guideline number 7 also mentions that example sentences should contain ordinary content. This was added in order to avoid too technical language or any kind of jargon. The next guideline of the Danish compilers says a good context sentence keeps focus on the sign, which means it should not contain anything that makes the user use too much energy in trying to understand the context of the sentence, instead of concentrating on the sign itself. This point has been adapted in number 6, 8 and 13 of our guidelines, which state that examples should be presented in a

natural context, be as simple as possible in structure and content and avoid ambiguous or confusing content to avoid distracting the user from focusing on the sign. Guidelines of the Danish compilers that involve high truth value and avoiding offending content are adapted in number 9 and 10 of our guidelines, which state that example sentences should be based on facts and should avoid specific ideologies or discriminatory expressions. 'Specific ideologies' have been added to guideline number 10 in order to expand the aspect of discrimination. The Danish guideline of not revealing the source of the sentence has been adapted in number 11 of our guidelines which says examples should avoid names of specific institutions, facilities, or persons. The guideline of the Danish compilers which says that examples should not be a definition of the sign has been included in number 3 of our guidelines. The only guideline which hasn't been adapted to our guidelines is the guideline 'good context sentences should contribute to the balance in topics'. This point is not necessary to us because our 500 example sentences cover only 125 signs and must not display any kind of balance in topics.

Besides the guidelines of the Danish Sign Language Dictionary, we have added three more guidelines. One involves unethical or non-education issues, which should be avoided in example sentences because on the one hand, such things might distract the dictionary user from focusing on the sign and on the other hand such things are in contradiction of the social responsibility a dictionary has in society. People expect that the content of a dictionary is highly ethical and could be used for educational purposes anytime. The other two added guidelines that we added deal with linguistic matters of the sign. Number 1 of our guidelines states that example sentences should demonstrate the characteristics of KSL. The charateristics of KSL are directly related to grammatical aspects of the visual-spatial language. Number 2 of our guidelines requires that examples should also show a grammatically modified form of the KSL sign and not only the citation form of the sign. These guidelines try to demonstrate the grammatical aspect of sign language in the form of example sentences because the grammatical aspect isn't included in the entry. These two guidelines also show how serious the compilers of the KSL Dictionary are to focus on example sentences in KSL and not on example sentences that are translated from Korean or example sentences in Signed Korean.

Ⅴ. Conclusion

Example sentences in KSL dictionaries are still a relatively unexplored area in sign language lexicography. This is the first time in Korea to present KSL example sentences in a sign language dictionary. We have discussed the purpose of example sentences, presented different types of example sentences, and demonstrated how foreign sign language dictionaries integrated example sentences in the entries. We then described the procedure of how we created 500 KSL example sentences in order to show the use of 125 signs in the KSL Online Dictionary. 14 out of 500 example sentences are corpus examples. 178 of 500 example sentences are edited examples and 308 example sentences are constructed examples. Each of the example sentences was preceded by lengthy discussions between hearing and deaf employees and led to our guidelines, which help to decide if a sentence is suitable as an example sentence for the KSL Dictionary. Our guidelines, which are based on the guidelines of the Danish Sign Language Dictionary, are illustrated each by a KSL example sentence. We have discussed our guidelines by comparing them to the guidelines of the Danish compilers and explaining the newly added guidelines.

Although the KSL example sentences are an additional help to the dictionary user, some obvious points require further attention. For example, it is necessary to expand the KSL Corpus so that the number of corpus examples can be increased. Furthermore, it is urgently necessary to present polysemous signs in the entry according to their meaning (word senses), so that the KSL examples may also be assigned to their respective meaning. Another necessary step is the recruiting and training of additional deaf employees, as only native signers are able to construct natural KSL examples.

Despite these points, it is the first time that a KSL Dictionary offers so many example sentences and the first time that guidelines for sign language example sentences are published in Korea. We, therefore, expect that the guidelines especially will have an impact on sign language research in general, and on sign language lexicography in particular.

VI. Acknowledgments

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〈국문 초록〉

한국수어사전 용례 구축

홍 성 은 · 이 현 화

[목적] 국립국어원에서 운영 중인 〈한국수어사전〉은 2015년에 개통된 웹사전으로 3,819개의 수어 표제어가 등재되어 있다. 이 사전은 주로 수어 학습을 위해 사용되고 있지만 수어의 의미 정보가 충분히 기술되어 있지 않아 활용에 제한적이었다. 이를 개선하고자 수어 학습에 도움이 될 수 있도록 125개 표제어에 대한 수어 용례 500개를 제시하였다. **[방법]** 이 글에서는 국내에서 처음으로 시도된 〈한국수어사전〉의 수어 용례 구축 방법과 특성을 논의하였다. 이론적 배경으로 사전 용례의 특성과 기능 그리고 종류에 대한 선행 연구를 살펴보고 이어서 덴마크, 뉴질랜드, 폴란드, 독일 수어사전의 용례 구축과 제시 방법을 소개하였다. **[결과]** 3장에서는 〈한국수어사전〉에 제시된 용례 500개의 구성과 구축 방법을 기술하며, 특히 용례에 한국수어의 언어적 특성이 그대로 반영되도록 하기 위한 접근으로 한국수어 말뭉치를 활용하거나 농인의 언어 직관에 기반해 용례를 직접 작성하는 방법과 이를 위한 지침을 제시하였다. 이와 관련하여 덴마크수어 사전의 용례 지침을 바탕으로 도출된 〈한국수어사전〉의 용례 지침에 대해 논의하였다. **[결론]** 마지막으로 향후 보다 질 높은 용례가 구축되기 위해 한국수어 말뭉치 확대 구축, 한국수어 표제어 의미 분석 등의 방향을 제언하였다. 〈한국수어사전〉에 제시된 한국수어 용례는 수어의 용법을 보여주며 한국어 대응표현으로 충분히 전달되지 못하는 의미 정보를 보완한다. 이는 향후 수어 학습자들에게 도움이 될 것이라 기대한다.

주제어 : 한국수어, 사전, 용례, 말뭉치