

# Reduplication in Spoken Thai and Thai Sign Language

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## ABSTRACT

Reduplication is a productive morphological phenomenon in the world's languages having both derivational and inflectional functions. The purpose of this paper is to compare and contrast the function of reduplication in sign languages as well as between a sign language and a spoken language. A qualitative research was conducted by studying literature on reduplication in Thai Sign Language (TSL), American Sign Language (ASL) and German Sign Language (DGS). Data were drawn from word lists that appear in Thai Sign Language Book compiled by National Association of the Deaf in Thailand and Deaf TV, a TV channel for deaf people. Three programs were observed: news, interview and cooking show. The results show that reduplication serves two functions in TSL: derivational and inflectional. It is derivational if it creates a new word, for example changing a verb into a noun. It is inflectional if it adds grammatical information to the verb or noun such as number and aspect. Then the functions of these three sign languages were compared. The results show that reduplication in TSL has similar functions as that in ASL and DGS. It is used for derivation and inflection such as plural marking, distributive marking, temporal aspects and reciprocity. When compared to spoken Thai, TSL reduplication also has similar functions. However, it was found that certain functions only exist in spoken Thai reduplication such as degree intensification which is marked via facial expressions combined with the size of gesture in Thai Sign Language. This research suggests that there is morphological similarity between spoken and sign languages and reduplication is a universal phenomenon in human languages.

**Keywords:** Reduplication, Thai Sign Language, Morphology

## 1. INTRODUCTION

Reduplication is a morphological process used across languages both spoken and signed. The purpose of this study is to analyze the functions of reduplication in Thai Sign Language (TSL) and compare them to those in spoken Thai and other sign languages. Sign languages are natural languages that contain all linguistic components as in spoken languages. Signs made by

the deaf are mainly based on their visual perception. Meanwhile, a spoken language in one country does not need to share the same features as the sign language used in that country. Sign languages have grammar and rules independent of the associated spoken language. For example, in spoken Thai, word order is SVO while in Thai Sign Language, the basic word order is OSV.

There have been studies on the functions of reduplication in both spoken and sign languages (Hurch, 2005). However, there has never been a study on the role of reduplication in TSL. Therefore, it will be useful to see whether it serves similar functions as reduplication in other sign languages.

Reduplication is manifested in two ways: total and partial reduplication. Total reduplication takes the whole form and reduplicates it, for example *tao* 'human' > *taotao* 'pupil of the eye' in Ilocano. On the other hand, partial reduplication only takes a part of the base form to reduplicate such as *gogs* 'dog' > *gogogs* 'dogs' in Papago (Zepeda, 1983). The plural is formed by reduplicating the CV template of the base as a prefix.

In this paper, I will talk about the background of TSL and its morphological components in Section 2. Section 3 discusses the role of reduplication in spoken languages. Section 4 talks about the role of reduplication in American and German sign languages. Section 5 presents the role of reduplication in TSL. Section 6 concludes the paper.

## 2. BACKGROUND OF TSL

Thai Sign Language or TSL was recognized as the national language of deaf people in Thailand in August 1999. According to Reilly and Suvannus (1999), there are around 56,000 deaf people in Thailand. TSL is used by 20% of the whole community. Signs are made from three sources: home-made signs, official signs and borrowed signs. Signs may differ from one region to another. TSL is related to American Sign Language (ASL) and it was claimed that both belong to the same family (Woodward, 1996) due to language contact between ASL and at least two traditional sign languages used in Thailand: Old Bangkok Sign Language and Old Chiang Mai Sign Language. The original sign languages were developed in towns and urban areas where deaf people socialized. However, they are no longer used for daily conversation.

According to Danthanavanich (2008), the basic sentence pattern of TSL is OSV. The object is placed at the beginning followed by the subject. The sentence usually ends with a verb. In many cases, the subject is omitted or incorporated into the main verb. Sign language is based on visual perception and therefore, many signs are iconic. Danthanavanich also discovers that TSL also use other components in combination with hand signs for example pointing, signing space, facial expressions, nodding, palm orientation, body movement and speed to show grammatical information. For example, pointing direction is used to distinguish person marking. Namely, pointing towards oneself refers to first person or addresser. Pointing directly to the front of oneself refers to second person or addressee. Pointing to the side of oneself refers to

third person or non-participant. The examples of signing direction for each reference are shown in Figure 1. Pron 1 refers to the signer. Pron 2 refers to the addressee and Pron 3 refers to the third person.

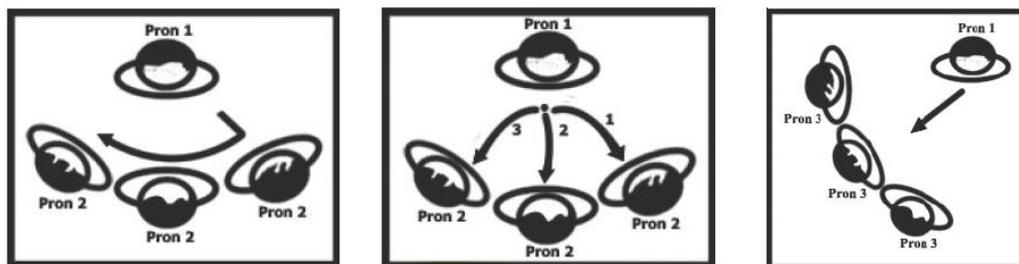


Figure 1: Pronouns in TSL (Source: Danthanavanich (2008) page 145)

Many of the verbs in TSL use movement and space to show grammatical information such as agreement with the subject, object and aspect. Facial expressions are used to show manner.

In this section, I discuss the background of Thai Sign Language and some basic information. Next, I present the role of reduplication in spoken languages.

### 3. THE ROLE OF REDUPLICATION IN SPOKEN THAI

Reduplication can carry a number of meanings in spoken languages. It can be used in derivational and inflectional morphology. For derivation, it is used to form new words or to change word category. For example, reduplication of a noun changes its meaning in some languages as shown below:

- |     |        |         |              |                |             |
|-----|--------|---------|--------------|----------------|-------------|
| (1) | dayang | ‘lady’  | dayangdayang | ‘princess’     | (Tausug)    |
|     | wil    | ‘wheel’ | wilwil       | ‘bicycle’      | (Tok Pisin) |
|     | sapi   | ‘cow’   | sapisapi     | ‘cowrie shell’ | (Mapun)     |

(Rubino, 2005: 19)

In some languages, reduplication can alter word class, e.g. Kayardild (Pama-Nyungan) *kandu* ‘blood’ > *kandukandu* ‘red’ or Tigak (Austronesian) *giak* ‘send’ > *giakgiak* ‘messenger’. Full reduplication of temporal nouns is used in several languages to derive temporal adverbials, e.g. Indonesian *pagi* ‘morning’ > *pagipagi* ‘early in the morning’.

For inflection, reduplication with verbs and adjectives may be used to denote a number of things such as plurality, distribution, collectivity, tense, aspect (repeated occurrence; completion; inchoativity), attenuation, intensity, transitivity, conditionality, reciprocity, etc. With nouns, reduplicative morphemes denote concepts such as number, distributivity, indefiniteness, reciprocity, size (diminutive or augmentative) and associative qualities. Examples below show reduplication that carries indefiniteness meaning.

- (2) hisiyu ‘who’ hisiyu-siyu ‘anybody’ (Tausug)  
 mmooy ‘which’ mmooy-mmooy ‘whichever’ (Mapun)

(Rubino, 2005: 21)

In spoken Thai, both derivational and inflectional functions are found in Thai reduplication. For derivation, it is used to change word class from (1) noun to verb (2) noun to adverb (3) adjective to adverb and (4) verb to adverb. In the last case, the changed form has a negative connotation added to it. For inflection, it is used to add grammatical features such as habituality, iterativity, intensification, plurality, distributivity and indefiniteness. Examples of each occurrence are shown below.

### Derivation

- (3) Noun → Verb (with high tone on the first word)

mæw (N) ‘cat’ máw-mæw (V) ‘having cat-like features’

- (4) Noun → Adverb

wan (N) ‘day’ wan-wan (Adv) ‘all day long’

- (5) Adjective → Adverb

ræ̀æk (Adj) ‘first’ ræ̀æk-ræ̀æk (Adv) ‘at first’

- (6) Verb → Adverb (with negative connotation)

sòŋ (V) ‘hand in’ sòŋ-sòŋ (Adv) ‘sloppily’

### Inflection

- (7) Habitual marking

duu ‘look’ duu-duu ‘look constantly / examine’

- (8) Iterative marking

càp ‘grab’ càp-càp ‘grab again and again’

- (9) Degree intensifying

rǒc n ‘hot’ rǒc n-rǒc n ‘very hot’

còp ‘end’ còp-còp ‘really end’

- (10) Degree minimizing

khem ‘salty’ khem-khem ‘rather salty’

dam ‘dark/black’ dam-dam ‘rather dark/black’

- (11) Plural marking

dèk ‘child’ dèk-dèk ‘children’

(12) Distributive marking

khon 'person'      khon-khon 'each person'

(13) Indefinite marking

khrai 'who'      khrai-khrai 'whoever'

(Prasithratsint, 2009, page 2)

According to Abraham (2005), the functions of augmentation and diminution that seem to be contradictory can be explained by Janus-faced iconicity. Namely, reduplication means 'more of X' where X is a variable representing a lexical entry. The augmentative meaning such as plurality, distributivity and iterativity results from the meaning 'more of X' applying to the extension of the word, i.e. what that word refers to. On the other hand, the diminutive meaning such as indefiniteness and degree minimizing results from the meaning 'more of X' applying to the intension of the word, i.e. what the word means.

In this section, I have shown that reduplication serves both derivational and inflectional functions in spoken languages. In Spoken Thai, it serves many purposes from changing the meaning of a word to adding grammatical information to a word. Next, reduplication in sign languages is discussed.

#### 4. THE ROLE OF REDUPLICATION IN SIGN LANGUAGES

In this section, I present the role of reduplication in two sign languages: American Sign Language (ASL) and German Sign Language (DGS). First, the distinction between repetition and reduplication must be made. Fischer (1973) claims that many ASL nouns made with repetition are plural or mass nouns. For example, the sign CHILDREN is made with two downward movements of a palm-down flat hand. That means the initial movement is repeated once.

Another use of repetition in ASL is in deverbal nominals. The relationship between certain Noun/Verb pairs in ASL was initially discussed by Supalla and Newport (1978). The noun/verb pairs are highly constrained, i.e. the verb sign has a single long movement and the noun sign has a repeated short movement. Figure 1 shows the verb form of SIT, which has a single movement to contact and the related noun CHAIR, with two repeated short movements to contact.

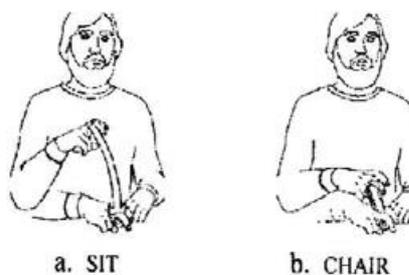


Figure 2. Verb/Noun pair in ASL (Source: Wilbur, 2005, page 597)

Wilbur (2005) argues that the Verb/Noun conversion in ASL is not made by reduplication, but by repetition. According to Wilbur, reduplication must have at least three repetitions. The return cycle of the reduplicated forms is meaningful, whereas that in repetition is not. She also claims that repetition is the derivational morphology that affects the lexical category in creating nouns. In contrast, reduplication serves grammatical functions, reflecting predicate aspect and argument structure. Reduplication involves two types of modification: spatial and temporal. Spatial reflect information about the arguments whereas the temporal modifications reflect aspectual modifications of the predicate.

Wilbur (2005) studies the reduplication of the verb signs in ASL and found that it contributes to distributive and iterative meanings. The distributive meaning in English is equivalent to the word 'each'. So in signing the verb that carries the feature [distributive], the signer stops at each participant and the result is repeated stops at multiple points in sequence. There must be at least three distinct points and three productions of the verb movement stopping at the distinct points. These productions can be made to mean 'exactly three', as shown in Figure 2 below.



Figure 3. GIVE [distributive] 'I give to each of them.' in ASL  
(Source: Wilbur, 2005, page 615)

Timing of reduplication combined with the shape of return path is also important in indicating whether the event is [incessant], [habitual] or [iterative]. For example, if the sign LOOK is made with no reduplication, it means to look at something. If LOOK is made with a rapid sequence of like movements, it means to look at something non-stop or to stare. If LOOK is reduplicated with significant time between events and a clear return from final position of one event to initial position of next event, it means to habitually look. Finally, if LOOK is reduplicated with extended time between events and the return path is curved, it means to look again and again. The four signs are shown below.

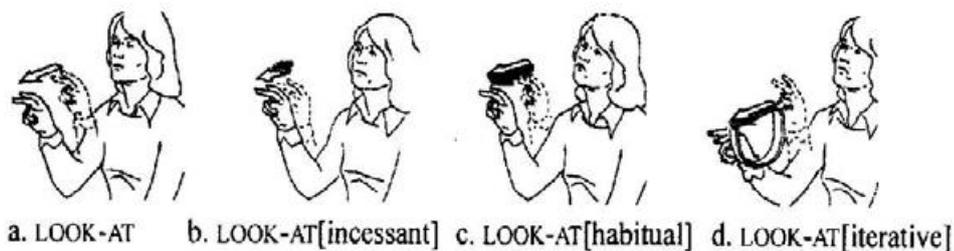


Figure 4. Three temporal modifications on telic predicate LOOK in ASL  
(Source: Wilbur, 2005, page 611)

Wilbur (2005) concludes that reduplication is the presence of the phonological feature [repeat] semantically licensed at aspectual and/or quantificational nodes. Reduplication in ASL simply means “more of the same”.

In German Sign Language (DGS), reduplication is used for aspectual, plural and reciprocal marking (Pfau and Steinbach, 2005). Plural and reciprocal reduplications make use of the signing space. Backward reduplication is used for reciprocal marking and sideward reduplication is used for plural marking. These reduplications are restricted to certain classes of nouns and verbs. Verb signs are divided into two types: agreeing verbs and plain verbs. Agreeing verbs are signed with one or two hands moving from the position of the source argument towards the position of the goal argument. On the other hand, plain verbs have a lexically fixed beginning and end point of the path movement. An example of agreeing verbs is HELP as shown below.

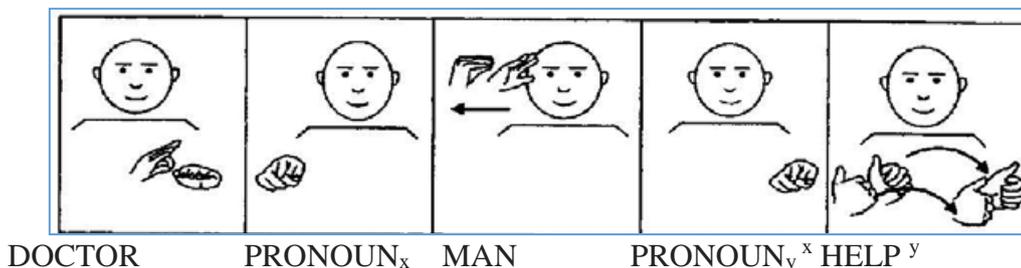


Figure 5. ‘The doctor is helping the man.’ in DGS  
(Source: Pfau and Steinbach, 2005, page 571)

An example of plain verbs is TRUST as shown below.

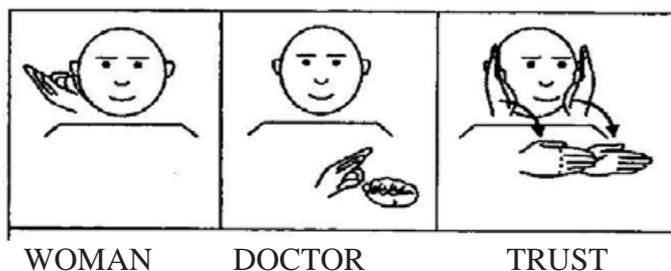
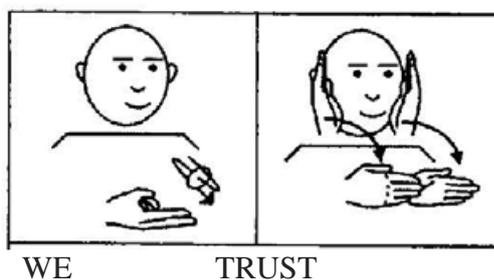


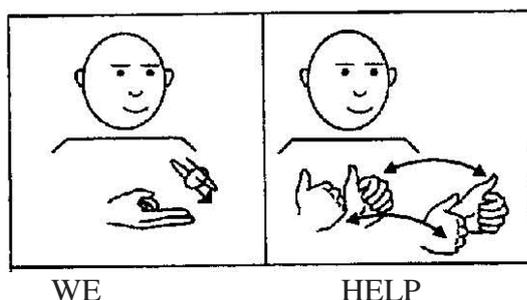
Figure 6. ‘The woman trusts the doctor.’ in DGS  
(Source: Pfau and Steinbach, 2005, page 572)

To show reciprocal, backward reduplication only applies to agreeing verbs. Plain verbs show reciprocals by dropping the object. Figure 6 below shows reciprocal for TRUST. Notice that there is no reduplication.



WE TRUST  
Figure 7. 'We trust each other.' in DGS  
(Source: Pfau and Steinbach, 2005, page 575)

For agreeing verbs, reciprocal meaning is made by backward reduplication as shown in Figure 7.



WE HELP  
Figure 8. Backward reduplication in HELP 'We help each other.' in DGS  
(Source: Pfau and Steinbach, 2005, page 573)

Figure 7 and 8 show that backward reduplication only applies to agreeing verbs but not to plain verbs.

As for plural, only lateral signs permit sideward reduplication. Other nouns use simple reduplication or do not allow reduplication at all. An example of nouns that use lateral signs is KIND 'child'. To mark plural, sideward reduplication is applied.

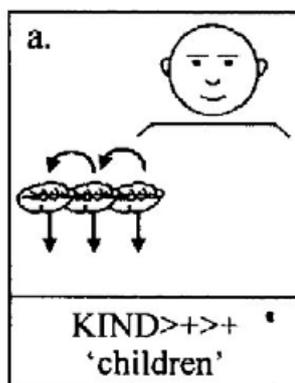


Figure 9. Plural form of CHILD in DGS

(Source: Pfau and Steinbach, 2005, page 580)

However, reduplication on verb signs shows habitual aspect. For example, the reduplicated form of BIKE means to habitually bike. The sign is the same as the noun BICYCLE.

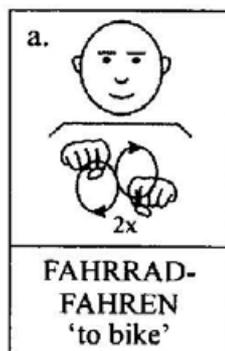


Figure 10. BIKE ++ 'to bike habitually' in DGS  
(Source: Pfau and Steinbach, 2005, page 585)

It has been shown that reduplication in DGS is a morphological marker for plurality if it occurs sideward and reciprocal if it occurs backward. The verb and noun type also determines whether the sign can reduplicate or not. As for ASL, reduplication in combination with spatial and temporal modifications marks aspect and argument structure. Next, I present the result of the study of reduplication in TSL.

## 5. METHODOLOGY AND RESULTS

In collecting data, I studied word lists that appear in Thai Sign Language Book compiled by National Association of the Deaf in Thailand. Data were also drawn from Deaf TV, a TV channel for deaf people. Three programs were observed: news, interview and cooking show. The results show that reduplication serves two functions in TSL: derivational and inflectional. It is derivational if it creates a new word, for example changing a verb into a noun. It is inflectional if it adds grammatical information to the verb or noun such as number and aspect.

According to Wilbur (2005) and Pfau and Steinbach (2005), reduplication is made in combination with time and space to show grammatical information such as aspect, distributive, plurality and reciprocity. Although a distinction is made between repetition and reduplication, I consider both forms as reduplication since they are made by repeating signs. The difference is that repetition is made with short repeated motion while reduplication makes use of time and/or space in the repeated sign. I argue that when reduplication serves the derivational purpose, it

does not involve space and time. I will call this type of reduplication “simple reduplication”. The sign is simply repeated in short motion. An example of simple reduplication is shown below. The sign for CHAIR is a simple reduplication of the sign for SIT.



Figure 11. Sign for CHAIR<sup>1</sup> in TSL  
(Source: Danthanavanich, 2008, page 113)

The verb/ noun conversion makes use of simple reduplication. The noun is the reduplicated form of the related verb sign.

However, when reduplication serves the inflectional purposes, it involves other components such as time, space and facial expressions in the repeated sign. I will call this type “complex reduplication”. This type of reduplication can be applied to verbs and nouns. An example of complex reduplication is shown below. The sign for many stars is made by repeating the sign for STAR in combination with signing space and facial expression to show plurality.



Figure 12. Sign for STARS in TSL  
(Source: Danthanavanich, 2008, page 121)

As mentioned above, simple reduplication serves derivational purpose in turning a verb into a noun. A minimal pair of FLY and PLANE is shown below. The sign for PLANE is a simple reduplication of FLY.

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<sup>1</sup> Pictures in this section are taken from Danthanavanich (2008) with her permission.  
*The 4<sup>th</sup> Ratchasuda International Conference on Disability 2017*  
*Ratchasuda College of Mahidol University, Thailand, 26-27 July 2017*



Figure 13. Signs for PLANE and FLY in TSL  
(Source: Danthanavanich, 2008, page 108)

The verb FLY is signed in one long movement in combination with the mouth shaped as U. The hand shape can combine with pointing direction depending on where the person is flying to. If he flies north, the hand sign is pointing upward onto the other arm that signs THAILAND simultaneously.

On the other hand, complex reduplication serves inflectional purpose. Complex reduplication combines repetition with space, time and facial expressions. We find it in reciprocal marking, distributive marking, plural marking, habitual/iterative marking and durative marking. An example of each occurrence is shown below.

#### 1. Reciprocal marking

Reciprocal meaning of a verb is made with two hands. Figure 14 below shows the reduplication of the verb FIGHT to mean 'fight each other'.



Figure 14. Sign for FIGHT-EACH-OTHER in TSL (<http://signlang.psu.ac.th/>)

#### 2. Distributive marking

Distributive meaning of a verb is made with repeating the verb sign and stopping at each point of reference. Below is the sign for MEET reduplicated at each point to mean 'meet each of you'.



Figure 15. Sign for MEET-EACH-OF-YOU in TSL  
(Source: Danthanavanich, 2008, page 116)

### 3. Plural marking

Plural is made by reduplicating the noun in combination with signing space and facial expression. Figure 15 below shows the reduplication of the noun STAR to mean 'stars'.

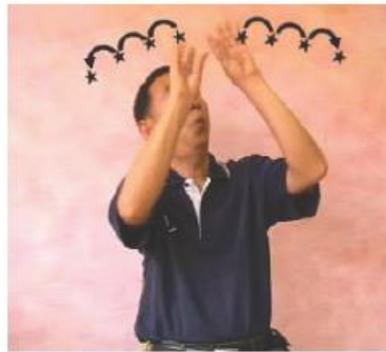


Figure 16. Sign for STARS in TSL  
(Source: Danthanavanich, 2008, page 121)

### 4. Habitual/Iterative marking

Habitual or iterative meaning of a verb is made by reduplicating the verb sign in combination with time. The sign is repeated in a long movement. Figure 16 below shows the reduplication of the verb GO BY ONESELF to mean 'regularly go by oneself'.



Figure 17. Sign for REGULARLY-GO-BY ONESELF in TSL  
(Source: Danthanavanich, 2008, page 87)

### 5. Durative marking

Durative meaning of a verb is made by reduplicating the verb sign in combination with facial expression and body movement. The example below means 'wait for a long time'.



Figure 18. Sign for WAIT-LONG-TIME in TSL  
(Source: Danthanavanich, 2008, page 87)

## 6. CONCLUSION

TSL reduplication has similar functions as ASL and DGS. Namely, it is used for plural marking, temporal aspect and reciprocity. When compared TSL with spoken Thai, we find that reduplication in TSL has similar functions as that in spoken Thai. Namely, reduplication is used for derivational purposes in both languages to create a new word and change the category of a word. It is also used for inflectional purposes to mark grammatical information such as distributivity, plurality and temporal aspect such as iterativity, habituality and durativity in both languages. However, there are some functions that are different. In spoken Thai, reduplication is used for degree intensification and degree minimization. These meanings are carried out by means of facial expressions in TSL. This is because in spoken Thai, intensification meaning of reduplication is accompanied by change of tone. High tone is usually used for an intensifying effect such as *khaáw-khaǎw* 'very white'. Another function found in spoken Thai but not in TSL is indefinite marking. This research suggests that reduplication is a universal language property to which both deaf and non-deaf equally have access. Therefore, there is no difference in terms of language universals among human regardless of their ability to speak a language.

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