The Acquisition of Japanese Numeral Quantifiers Through Song

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Abstract. This study aims to determine the effectiveness of audio visual form of the song in the language acquisition of the Japanese numeral quantifiers (NQ). The NQ is a phrase consisting of the cardinal number and numeral classifiers (Cl) to quantity expressions. In this study, the NQ are focused on the NQ that serve to quantity expressions 3 dimensional objects (use of Cl ~ko), objects for animals (use of Cl ~hiki), 1 dimensional objects (use of Cl ~hon), binding objects (use of Cl ~satsu), and objects for the person (the use of Cl ~rilinin). From the results of data analysis found that through the audio visual of the song can be used as an alternative in an effort to accelerate the acquisition of Japanese NQ. This is because if the traditional method only of learning will be difficult to recall one by one of the NQ, while through audio visual in the form of learner song will be more interested to repeat the material more fun every time so that will be more quickly come in into the subconscious memory.

1. Introduction

Japanese language is a language that resides in the Asian continent and has a numeral classifiers (Cl) system such as Chinese language, Indonesian language, Korean language, and Thai language. In Japanese language, this Cl is called the josuushi [1] and its used together the cardinal number to form numeral quantifiers (NQ).

Since it is compulsory, the number of Cl in Japanese language is relatively large. Based on the opinion of Downing [2] there were 154 pieces of Cl in Japanese language, but only 27 were actively used in daily life.

From the 27 Cl, the authors choose only five Cl only that most frequently used, namely ~ko, ~hiki, ~hon, ~satsu, and ~nin. Referring to the Iida and Machida data [3], the following is the use of each Cl:

1). ~ko is used for objects in the form of small numbers in 3 dimensional shapes such as ringo 'apple', ishi 'stone', and yubi ningyoo 'finger puppets';
2). ~hiki is used for objects in the form of animals in general such as inu 'dog', sakana 'fish', and tombo 'dragonfly';
3). ~hon is used for cylindrical objects or one dimensional objects such as empitsu 'pencils', banana 'bananas', and ude 'arms';
4). ~satsu is used for objects in the form of bound nouns such as ehon 'picture books', zasshi 'magazines', and nooto 'notes';
5. ~ri/nin is used specifically for humans (animate) such as Toshi-chan 'Toshi-chan (child name)',
gakusei 'student', and editaa 'editor'.
When it comes together with the cardinal number so that it forms NQ together with the cardinal
number, there are several cardinal numbers and Cl that can experience sound changes as in the ippiki
'one tail'. Referring to IPA [4] and Vance [5]. Ippiki [ip:ik] is an NQ formed from cardinal number
ichi [itɕi] 'one' and Cl hiki [çik] 'tail'. In other words, in the NQ, cardinal number ichi [itɕi] 'one' > ip [ip],
while Cl hiki [çik] 'tail' > piki [piki]. This is one factor that makes it difficult to obtain NQ in
Japanese learners. Not only for foreign learners whose native language is not Japanese, but also for
learners of children in Japan aged 3-6 years [6].

2. Method
This study is a case study focused on acquiring NQ based on audio visual media in the form of songs
on Japanese learners. The choice of audio-visual media in the form of songs as learning media is based
on the opinion that humans enjoy the beauty of language sounds in conversation and singing [7]. The
selected song is a children's song titled Dooyoo de Mono no Oshiekata o Manaboo! (DMOM!) 'With
Chanting Let's Learn to Calculate Objects'. The song can be downloaded freely via the youtube
internet page with the address https://www.youtube.com/watch?v=v45TcXMcZIo [8].
The first thing that was done in this study was to record the song's lyrics and give an understanding of
their meaning one by one to the learners. After the learner understands its meaning, then the learner is
invited to sing it while watching and listening to the song in audio-visual form. After feeling
sufficient, then a post test was held to find out the success rate of language acquisition with the focus
of NQ through the learning method.
The post test results were then compared with the acquisition of Cl in L2 learners in Indonesia [9]
which was carried out through traditional methods.

3. Result
There are many ways you can do to maximize Japanese language acquisition. Two ways include the
use of picture cards to accelerate the acquisition of Japanese vocabulary [10] and the use of anime
tools in the classroom to instill Japanese cultural experiences in Japanese learners [11].
Similar to the two ways above which involve the sense of sight and the sense of sight (visual and
audio-visual), this research was conducted using audio-visual media in the form of a children's song
titled DMOM! In the song there is a 2 minute 19 second short anime display that illustrates various
forms of nouns, namely ringo 'apple', inu 'dog', empitsu 'pencil', ehon 'picture book', and Toshi-chan
'Toshi-chan (name of child)' which is calculated from 1 to 10.

3.1. NQ Acquisition and Grammar in DMOM! Song Lyric
Language acquisition through DMOM! can be divided into two things, namely the acquisition of NQ
and grammar acquisition. Here's the explanation one by one.

3.1.1. NQ Acquisition
NQ is formed from cardinal number + Cl. In Japanese language, cardinal numbers from 1 to 10
commonly used are ichi 'one', ni 'two', san 'three', yon 'four', go 'five', roku 'six', nana 'seven',
hachi 'eight', Kyuu 'nine', and juu 'ten' [12]. In the song entitled DMOM! 'With Song Let's Learn to Calculate
Objects', the cardinal number has been directly followed by five Cl's, namely ~ko, ~hiki, ~hon, ~satsu,
and ~ri/nin so that language acquisition is directly in the form of NQ.
The following is the NQ found in the song:
1). NQ for Objects in the Form of Small Numbers in 3 Dimensional

| Table 1. Cardinal Number + ko |
|-----------------------------|
| Ikko | Niko | Sanko | yonko | goko | rokko | nanako | hachiko | kyuuko | jukko |


2). NQ for Objects in the Form of Animals in General

| Ippiki | Nihiki | sambiki | yonhiki | gohiki | roppiki | nanahiki | happiki | kyuuhiki | jupppiki |
|--------|--------|---------|---------|--------|---------|--------|-------|---------|---------|
| 1-Cl   | 2-Cl   | 3-Cl    | 4-Cl    | 5-Cl   | 6-Cl    | 7-Cl   | 8-Cl   | 9-Cl    | 10-Cl   |
| ‘one’  | ‘two’  | ‘three’ | ‘four’  | ‘five’  | ‘six’   | ‘seven’| ‘eight’| ‘nine’   | ‘ten’    |

3). NQ for Cylindrical Objects or One Dimensional Objects

| Ippon | Nihon | Sambon | yonhon | gohon  | roppon  | nanahon | hachihon | kyuuhon | juppon  |
|-------|-------|--------|--------|--------|---------|--------|----------|---------|---------|
| 1-Cl  | 2-Cl  | 3-Cl   | 4-Cl   | 5-Cl   | 6-Cl    | 7-Cl   | 8-Cl     | 9-Cl    | 10-Cl   |
| ‘one’ | ‘two’ | ‘three’| ‘four’ | ‘five’ | ‘six’   | ‘seven’| ‘eight’  | ‘nine’  | ‘ten’   |

4). NQ for Objects in the Form of Bound Nouns

| Issatsu | nisatsu | Sansatsu | yonsatsu | gosatsu | rokussatsu | nanatsu | Hassatsu |
|---------|---------|----------|----------|---------|-------------|---------|----------|
| 1-Cl    | 2-Cl    | 3-Cl     | 4-Cl     | 5-Cl    | 6-Cl        | 7-Cl    | 8-Cl     |
| ‘one’   | ‘two’   | ‘three’  | ‘four’   | ‘five’  | ‘six’       | ‘seven’ | ‘eight’  |

|                   | kyuusatsu | Jussatsu |
|                   | 9-Cl       | 10-Cl     |
|                   | ‘nine’     | ‘ten’     |

5). NQ for Humans (Animate)

| Hitori | Futari | sanin | yonin | gonin | rokunin | nananin | hachinin | kyuunin | juunin |
|--------|--------|-------|-------|-------|---------|---------|----------|---------|-------|
| 1-Cl   | 2-Cl   | 3-Cl  | 4-Cl  | 5-Cl  | 6-Cl    | 7-Cl    | 8-Cl     | 9-Cl    | 10-Cl |
| ‘one’  | ‘two’  | ‘three’ | ‘four’ | ‘five’ | ‘six’   | ‘seven’ | ‘eight’  | ‘nine’  | ‘ten’ |

3.1.2. Grammar Acquisition
In addition to the acquisition of NQ above, learners also obtain grammar in a simple form with the NQ pattern. In this case, N is the number that is calculated, namely ringo ‘apple’, inu ‘dog’, empitsu ‘pencil’, ehon ‘picture book’, and Toshi-chan ‘Toshi-chan (child name)’. As for it is not a postposition that functions as the mutual c-command condition between NQ and N [13]. The following is a Japanese N-Q based grammar found in the DMOM! song:

1). Ringo ga sanko ‘three apples’, ringo ga rokko ‘six-fruit apple’, ringo ga kyuusaku ‘nine apples’, and ringo ga jukko ‘ten apples’.
2). Inu ga sambiki ‘three dogs’, inu a roppiki ‘six dogs’, inu ga kyuuhiki ‘nine dogs’, and inu ga jupppiki ‘ten dogs’.
3). Empitsu ga sambon ‘three pencils’, empitsu ga roppon ‘six pencils’ empitsu ga kyuuhon ‘nine pencils’, and juppon ‘ten pencils’.
4). Ehon ga sansatsu ‘three picture books’, ehon no rokusatsu ‘six picture books’, ehon ga kyuusatsu ‘nine picture books’, and ehon ga jussatsu ‘ten picture books’.
5). Toshi-chan ga sannin 'one Toshi-chan', Toshi-chan a rokunin 'six Toshi-chan', Toshi-chan ga kyuunin 'nine Toshi-chan', and Toshi-chan ga juunin 'ten Toshi-chan'.

3.2. Comparison of NQ Language Achievement Results
Comparison of the results of language acquisition in the form of NQ is a comparison of learning methods through DMOM! songs above with traditional learning commonly used in the classroom, namely through exposure to grammar. In acquiring NQ through the song, the learner directly gets the results of the recitations repeatedly in the form of NQ and in the form of N-ga NQ sentence patterns through the senses of sight as well as the sense of hearing. Thus, learners can directly mark the realization of oral language acoustics, especially the prosodic aspects [14]. This prosodic aspect refers to intonation, pressure, and jointness [15]. Thus, the learner obtains NQ as a whole as a speech. Because it is repeated with a pleasant rhythm, the learner can absorb NQ learning material more quickly in their subconscious. Compared with the results of NQ acquisition through traditional methods (Suhartini, 2018), the results of acquiring NQ through this song can obtain maximum results. This is because learners more quickly absorb learning material in a relatively short time.

4. Conclusion
Along with technological advances, audio-visual media in the form of DMOM! songs can be used as a means of language acquisition in the form of NQ in Japanese learners. Nevertheless, it is necessary to provide assistance in the form of understanding the contents of the song, especially for early Japanese learners whose native language is not Japanese language so that learners can absorb learning materials more quickly. Compared to traditional methods, learning through songs is more effective and efficient because learners can directly articulate this NQ properly and correctly through the song rhythm guide. Thus, this method can be done as an effort to accelerate the acquisition of Japanese NQ and can be used as a complement to traditional methods commonly used in learning activities in classrooms.

Acknowledgment
This article is part of the Penelitian Disertasi Doktor outcomes in 2018. The author conveyed his gratitude to DRPM Kementerian Ristek Dikti that has funded this research through LPPM Universitas Teknologi Yogyakarta.

5. References
[1] Mano, Miho. 2012. Compositional Mechanisms of Japanese Numeral Classifiers, 26th Pacific Asia Conference on Language, Information and Computation pages 620–625.
[2] Downing, Pamela. 1984. Japanese Numeral Classifiers: A Syntactic, Semantic, and Functional Profile. Linguistics, Dissertations. Departement of Linguistics. University of California Berkeley, USA.
[3] Iida, Asako and Machida, Ken. 2004. Kazoekata no Jiten. Shoogakukan, Japan.
[4] International Phonetic Association (IPA). 1999. Handbook of the International Phonetic Association. Cammbridge University Press, USA.
[5] Vance, Timothy J. 2008. Sounds of Japanese. Cambridge University Press, UK.
[6] Yamamoto, Kasumi and Keil, Frank. 2000. The Acquisition of Japanese Numeral Classifiers: Linkage between Grammatical Forms and Conceptual Categories. Journal of East Asian Linguistics, Vol. 9, No. 4. First Language Acquisition of EastAsian Languages, pp. 379-409.
[7] Djawanai, Stephanus. 2009. Telah Bahasa, Telah Manusia. Pidato Pengukuhan Jabatan Guru Besar dalam Ilmu Linguistik pada Fakultas Ilmu Budaya Universitas Gadjah Mada. Universitas Gadjah Mada, Yogyakarta.
[8] https://www.youtube.com/watch?v=v45TcXMcZLo
[9] Suhartini. 2018. Pemerolehan Penyukat Bilangan Bahasa Jepang pada Pembelajar L2 di Indonesia (Studi Kasus pada Nomina Berbentuk Orang dan Nomina Berbentuk Silindris).
Prosiding Setali 2018, 5-6 Mei 2018 halaman 790-794. Universitas Pendidikan Indonesia, Bandung.

[10] Oberg, Andrew. 2012. Receptive and Productive Vocabulary Acquisition: Examining Processing Time and Memory Threshold. *Indonesian Journal of Applied Linguistics*, Vol. 2 No. 1, July 2012, pp. 23-40. 23.

[11] Chan, Yee-Han, Wong, Ngan-Ling, and Ng, Lee-Luan. 2017. Japanese Language Students’ Perception of Using Anime as a Teaching Tool. *Indonesian Journal of Applied Linguistics*, Vol. 7 No. 1, pp. 93-104.

[12] Yasuhiro, Kishida. 1997. Nihongo no Josuushi ni Tsute : Bunrui no Saikoo to Kihon Gainen. *Nihongo-Nihongo Bunka Dai 23Goo. 1997. Hal.: 13-37, Kenkyuu Ronbun*. Osaka University : NII-Electronic Library Service.

[13] Tsujimura, Natsuko. 1996. *An Introduction to Japanese Linguistics*. Blackwell Publishers, USA.

[14] Sugiyono. 2003. *Pedoman Penelitian Bahasa Lisan: Fonetik*. Pusat Bahasa Departemen Pendidikan Nasional. Jakarta.

[15] Kridalaksana, Harimurti. 2008. *Kamus Linguistik*. PT Gramedia Jakarta.