Self-Learning of Intonation for Declarative Sentences and Interrogative Sentences in Japanese

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ABSTRACT

This study aims to identify the independent learning processes used by Japanese language learners to enhance sentence intonation. However, different intonations are required to express different intentions, such as declarative and interrogative sentences. The experiment of pronouncing sentences in conversational form has been done before, but too much data has been challenging to analyze using the OJAD (Online Japanese Accent Dictionary) website. The following three outcomes have been discovered through experiments using three approaches. First, without the help of audio examples and visualization of intonation, students can only pronounce sentences with flat intonation in both sentences from the pronunciation experiment per sentence for declarative sentences and invitation sentences. Second, there was an improvement in intonation in the two sentences due to the shadowing technique experiment, but it did not last long. Third, the experiment of adding information to visualize the intonation curve after the audio has played has shown that it is easier for students to pronounce sentences with the correct intonation. Furthermore, the correct intonation can be mastered by students relatively stable. The results of this study indicate that Japanese textbooks or learning media could also include audio and a visualization of the intonation curve so that students can pronounce Japanese sentences correctly, depending on their meaning.

Keywords: *Declarative sentences, Interrogative sentences, Intonation learning, Japanese intonation.*

1. INTRODUCTION

Mistakes in pronunciation can cause misunderstandings in communication. One aspect of pronunciation that can affect the understanding of the meaning of speech when communicating is intonation. Intonation is the rise and fall of a sound or tone in a sentence (Dahidi & Sudjianto, 2019). Furthermore, the essential function of intonation is (1) demarcation (showing what or where specific messages are combined or separated) and (2) grammatical differentiation (such as whether a sentence is declarative or interrogative) (3) attitude (the speaker's involvement and state of mind about what was said), and (4) focus (emphasizing what the speaker wants to emphasize) (Abe, 1998).

Pronunciation learning, especially intonation, is also not practiced in Indonesia. Based on observations at several colleges in Indonesia, it was discovered that most of them did not provide pronunciation lessons for several reasons. This is shown by the fact that no university curriculum includes Japanese pronunciation or phonetics studies due to the lack of lecturers who are experts in that field (Najoan, 2014). As a result, most Japanese learners learn Japanese pronunciation on their own.

Japanese language learners use various media to learn Japanese pronunciation and intonation, such as audio pronunciation samples, drama or Japanese dialogue, et cetera. However, there are still very few study resources that illustrate pronunciation. A site called the Online Japanese Accent Dictionary (OJAD) is one of the media to learn Japanese accents and intonation that visualizes the pronunciation of a Japanese sentence (OJAD). The OJAD website visually illustrates the accent pattern in a sentence and the approximate position of the accent point in the sentence. The visuals on this website can also be arranged to meet the needs of students, allowing them to visualize the pronunciation of sentences with accent or intonation patterns comparable to native speakers (Nakamura et al., 2013). As a result, the intonation visualization of a sentence retrieved from the OJAD

website will also be used to determine whether a sentence's intonation visualization influences learning Japanese intonation.

However, there has been no research on the acquisition of Japanese intonation of Japanese language learners in Indonesia. Furthermore, there is no research on intonation curve visualization media in pronunciation learning. Therefore, this study aims to see how the acquisition of Japanese language learners in learning Japanese intonation, with a research question "Does sentence intonation curve affect intonation learning?". The intonation function that becomes the focus of this research is the grammatical intonation function, where the use of intonation in pronouncing a sentence can cause differences in meaning interpretation. As for in Japanese, several types of declarative and interrogative sentences are possible to have the same grammatical structure, so these sentences' meanings can only be distinguished through intonation.

2. LITERATURE REVIEW

Learners' first language influences their foreign language learning (Tsurutani, 2009). Furthermore, Learning intonation in a foreign language occurs in two stages: first, the learner will identify the definite pattern of the foreign language, and afterward, the learner will attempt to issue the intonation of the foreign language according to their native tongue (Ueyama, 1997). According to these theories, learner's second language pronunciation may influence their first language pronunciation. As an outcome, Indonesian pronunciation will influence Japanese learners in Indonesia.

Besides, verbal adults are accustomed to uttering their first language, which is influenced by how frequently they use that language, based on the assumption that elderly adults use language more frequently (Zainurrahman, 2015). It is also known as fossilization and refers to the adult internalization of language. Moreover, Japanese intonation has a diminishing tone towards the end of the phrase while blending word accent patterns to construct a curve that looks like the hiragana character へ (*he*) (Tsurutani, 2009).

Meanwhile, intonation in Indonesian follows the same pattern as in Japanese, with the tone flow decreasing progressively from the first syllable to the last syllable of the last word, forming a curve. However, the accent rule in Indonesian vocabulary is penultimate, meaning the accent is in the second syllable from the back (such as *dae-rah*, *istime-wa*, *keluar-ga*) (Halim, 1981). As a result, most Indonesian speakers pronounce a phrase in a sentence with a descending tone on the penultimate syllable and create a different curve in the same sentence. This intonation variation can impact students' Japanese pronunciation, and one of the reasons

for the pronunciation inaccuracy probably is that the learner has been fossilized.

However, students can avoid fossilization if they learn second language pronunciation as early as possible, using efficient and appropriate media for native speakers of the second language being studied. One of the methods is to use audio sample media and intonation curves, as tested in this study.

3. METHOD

This study used qualitative research methods. This approach carefully studied students' intonation abilities through sentences that illustrate several forms and types.

Three Japanese language learners who are native Indonesian speakers are involved as the respondents of this study. The limited number of respondents is due to the limited time of the study. The respondents also represent the three levels of Japanese language proficiency: beginner, intermediate, and advanced. In this approach, researchers can focus on their research to intonation variability and discover more about the respondents' speaking intonation.

Before the respondents were given the treatment steps, a test instrument was created in the form of 16 Japanese sentences consisting of declarative and interrogative sentences. Here are two examples from each sentence:

1. これでいい？

   Kore de ii?

   Is this good?

2. これでいい。

   Kore de ii.

   This is good/enough.

As shown in Table 1, it presents the respondent's initials, age, and level of Japanese language skills. As measured before through the SPOT-90 test, Japanese language skills are determined from the scores obtained: scores 1-30 are equivalent to beginner level, 31-60 are equivalent to intermediate level, and 61-90 are equivalent to advanced level.

Table 1. Respondent's identity

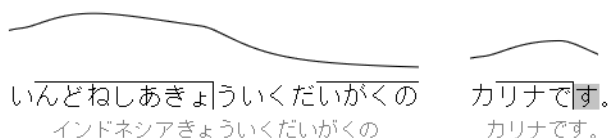| Name (Initial)	Age	Japanese Level
AY	22	Beginner
ZA	21	Intermediate
CL	23	Advanced

Figure 1 Intonation curve of sentence 1.

Then, using the OJAD website, an intonation curve for each sentence is created. For example, see the intonation curve of sentence 1 as shown in the figure 1.

After the test instrument was made, treatment steps were given to the respondents that were divided into 4 phases: 1) Respondents pronounce the sentences without hearing the pronunciation audio sample or seeing the intonation curve of the sentence. 2) Respondents pronounce the sentences after previously hearing the sample audio pronunciation. 3) Respondents pronounce sentences while looking at the intonation curve that was previously obtained through the OJAD website (as shown in figure 1). 4) Respondents pronounce the sentences after previously listening to audio samples while looking at the intonation curve. These intonation curve that comes afterward will be observed and analyzed.

4. FINDINGS AND DISCUSSION

It stated that the focus of this study is on how students self-learn a declarative and interrogative sentence intonation. So after considering the various forms and types of sentences in Japanese, along with the nuances in their pronunciation, we decided to create a sentence, whether it is a declarative sentence or an interrogative sentence, and form it into formal and informal forms as a comparison. Here are the sentences that was given to the respondent as a treatment.

1. インドネシアきょういくだいがくの／カリナです。

   Indoneshia kyouiku daigaku no / Karina desu.
   (I am) Karina from Indonesia Education University.

2. くろいようふくは／すきじゃありません。

   Kuroi youfuku wa / suki ja arimasen.
   (I) don't like black clothing.

3. コーヒーでものみませんか？

   Kore de ii?
   Would you like some coffee?

4. これでいい？

   Koohii demo nomimasenka?
   Is this good?

5. ひるごはんは／なんじにたべる？

   Hirugohan wa / nanji ni taberu?
   What time do (you) eat your lunch?

6. あらしの／まつもとじゅんだ。

   Arashi no Matsumoto Jun da.
   It's Matsumoto Jun from Arashi.

7. これは／やまださんのボールペンなの？

   Kore wa / Yamada san no boorupen na no?
   Is this Mr. Yamada's pen?

8. きのうのよる／スミスさんのともだちと／レストランで／ばんごはんをたべた。

   Kinou no yoru / Sumisu san no tomodachi to / resutoran de / bangohan o tabeta.
   Last night (I) ate dinner with Mr. Smith's friend at the restaurant.

9. きのうのパーティーは／たのしかった？

   Kinou no paatii wa / tanoshikatta?
   Did you enjoy the party last night?

10. これは／やまださんのボールペンですか？

    Kore wa / Yamada san no boorupen desu ka?
    Is this Mr. Yamada's pen?

11. かれのことは／まったくしらない。

    Kare no koto wa / mattaku shiranai.
    (I) really don't know anything about him.

12. コーヒーでものまない？

    Koohii demo nomanai?
    Would you like some coffee?

13. きのうのよる／スミスさんのともだちと／レストランで／ばんごはんをたべました。

    Kinou no yoru / Sumisu san no tomodachi to / resutoran de / bangohan o tabemashita.
    Last night (I) ate dinner with Mr. Smith's friend at the restaurant.

14. ひるごはんは／なんじにたべます？

    Hirugohan wa / nanji ni tabemasu?
    What time do (you) eat your lunch?

15. きのうのパーティーは／たのしかったんで
すか？

Kinou no paatii wa / tanoshikattan desu ka?

Did you enjoy the party last night?

16. これでいい。

Kore de ii.

This is good/enough.

These sentences are made up of 7 declarative sentences and 9 interrogative sentences. In formal and informal sentence patterns, some of these sentences are also made in pairs. As an example, sentence 8 with sentence 13, and sentence 9 with sentence 15. There are also sentences with the same arrangement, namely sentences 4 and 16, that can only be distinguished as declarative or interrogative based on the intonation of their pronunciation.

As presented in Tables 2 to 5, it can be seen that in phase 1, the average of total error is 37 points. Then it decreases in the phase 2 to 20 points. After that, in the phase 3, it decreases some more to 17 points. And finally in the phase 4, the total error reach 10 points only. From this point on, it is apparent that the average error was steadily reducing.

Based on the results, respondents AY, beginner-level learners, have made outstanding progress. The total error progressed from 40, 20, 16, then 7 points. It is assumed that beginner-level learners have so little input in studying intonation that they can absorb information very well from audio and intonation curves. Respondents also stated that learning intonation was more effortless after receiving information in audio or intonation curves.

Table 2. Phase I

Sentence Number	MAX ERROR	Total Error			Σ
		Beginner	Intermediate	Advanced	
1	20	13	17	1	10
2	16	1	5	1	2
3	12	3	5	2	3
4	5	1	3	1	2
5	13	4	1	2	2
6	11	0	0	0	0
7	16	2	4	0	2
8	32	1	7	0	3
9	14	2	1	0	1
10	17	1	2	2	2
11	13	8	5	0	4
12	10	1	3	0	1
13	34	2	8	0	3
14	14	1	2	0	1
15	18	0	0	0	0
16	5	0	0	0	0
TOTAL	250	40	63	9	3

Table 3. Phase II

Sentence Number	MAX ERROR	Total Error			Σ
		Beginner	Intermediate	Advanced	
1	20	2	3	2	2
2	16	0	4	0	1
3	12	2	2	2	2
4	5	1	1	0	1
5	13	0	2	0	1
6	11	0	0	0	0
7	16	2	2	2	2
8	32	0	3	0	1
9	14	2	1	0	1
10	17	0	2	2	1
11	13	8	0	0	3
12	10	0	2	0	1
13	34	3	6	0	3
14	14	0	2	0	1
15	18	0	3	0	1
16	5	0	0	0	0
TOTAL	250	20	33	8	20

Table 4. Phase III

Sentence Number	MAX ERROR	Total Error			Σ
		Beginner	Intermediate	Advanced	
1	20	0	7	0	2
2	16	1	6	0	2
3	12	1	1	2	1
4	5	1	0	1	1
5	13	0	0	0	0
6	11	2	0	0	1
7	16	2	2	4	3
8	32	0	5	0	2
9	14	0	0	0	0
10	17	0	2	0	1
11	13	8	0	0	3
12	10	0	0	2	1
13	34	0	2	0	1
14	14	1	2	0	1
15	18	0	0	0	0
16	5	0	0	0	0
TOTAL	250	16	27	9	17

Table 5. Phase IV

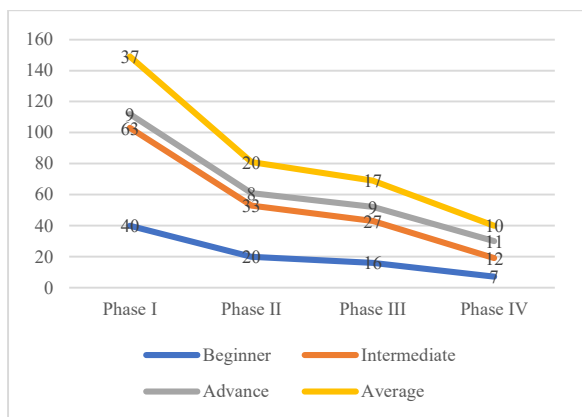| Sentence Number	MAX ERROR	Total Error			Σ
		Beginner	Intermediate	Advanced	
1	20	3	4	3	3
2	16	0	0	0	0
3	12	1	0	2	1
4	5	1	0	0	0
5	13	0	0	0	0
6	11	0	0	0	0
7	16	2	2	4	3
8	32	0	0	0	0
9	14	0	0	0	0
10	17	0	2	2	1
11	13	0	0	0	0
12	10	0	0	0	0
13	34	0	2	0	1
14	14	0	2	0	1
15	18	0	0	0	0
16	5	0	0	0	0
TOTAL	250	7	12	11	10

Figure 2 The average errors according to the type of treatment given.

It can be assumed that visuals, such as the curves in this study, can help students understand learning. It is also explained in the research of Kusrini, Dewanty & Hidayat (2020) and Putri et al., (2021) that the use of visual media in language learning can support the transfer of knowledge. For instance, using icons, illustrations, comics, etc., as visuals is one element that keeps students motivated in language learning.

Meanwhile, it can be seen that ZA's total error starts from 63 to 33, 27, then finally 12. Although the total errors start from a quite high point, it still gradually decrease through the phases. This state probably happened because an intermediate-level learner, ZA, already received much input regarding intonation learning either intentionally through classroom learning or accidentally through music, drama, and Japanese films, as revealed in interviews. It is also known that ZA finds it easier to learn the pronunciation of a sentence through audio than through the intonation curve.

As an advanced-level learner, CL has the total errors starting from 9, 8, 9, to 11 points. CL tends to be stable at every phase, but from one phase to another, CL does not have a constant decreasing point. This case also happens because CL generally received much input regarding intonation, the same as ZA.

Then, there is also a propensity for some sentences to not improve in pronunciation in a better direction for respondents at the intermediate and advanced levels. For example, please refer to ZA's and CL's pronunciation of sentence 10 in figures 3 and 4.

Figure 3 ZA's Pronunciation.

Figure 4 CL's Pronunciation.

When pronouncing the phrase "*Yamada-san no boorupen desu*" (やまださんのボールペンです), ZA and CL both pronounce the particle の (*no*). in a low tone so that it is as if two curves are formed. While in Japanese pronunciation, the phrase has one meaning, namely "Yamada's ballpoint" and is only read in the form of a curve so that the tone should drop at the end of the phrase, namely the letter す (*su*). This may be influenced because Indonesian speakers generally tend to pronounce a phrase in a sentence with a descending tone on the penultimate syllable of the phrase and form a different curve in one sentence as Halim (1981) said, which is in the phrase "*Yamada san no*" (owned by Yamada) and the phrase "*boorupen desu*" (ballpoint), as in Indonesian, "*bol-pen Yama-da*". So, it could be possible as a fossilization process in language acquisition by ZA and CL because their pronunciation has already been formed within 2-3 years, as intermediate and advanced-level learners.

Unlike ZA and CL, AY as a beginner-level learner actually has excellent pronunciation in every phase. As shown in the following image.

Based on figure 5, there is only 1 pronunciation error in AY's pronunciation even though AY is a beginner-level learner. So, it can be understood that AY can absorb Japanese intonation pronunciation information very well so the process of fossilization is not happened yet.
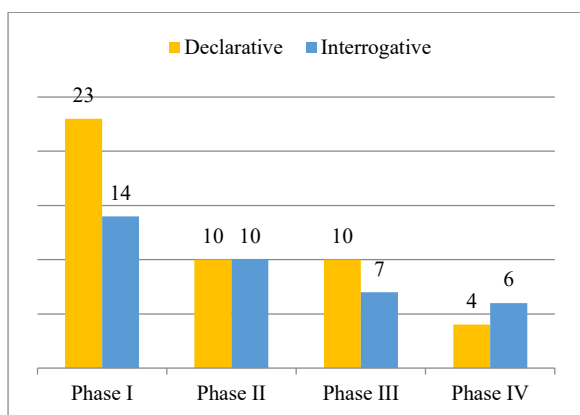

Figure 5 AY's Pronunciation.

Figure 6 The average errors according to the form of sentence.

Furthermore, based on the type of sentence, as shown in figure 6, it is known that the type of declarative sentence in the beginning, there are still many errors when pronounced. However, in the next phase, there is a significant decrease in pronunciation errors until the average pronunciation error of the last phase is only almost a quarter of the average pronunciation error in the first phase. For the interrogative sentence type, there are fewer pronunciation errors than in the declarative sentence type. However, there is still a significant decrease in errors, so the average pronunciation error in the last stage is only half of the average pronunciation error in the first phase. So it can be concluded that the treatment in the last phase, which is by providing audio samples and the intonation curve of the pronunciation of a sentence, can reduce sentence pronunciation errors, both declarative and interrogative.

The decrease in pronunciation errors also shows that using intonation curves and learner audio samples in the fourth phase, early in the learning process, can help to avoid fossilization when learning Japanese.

5. CONCLUSION

Intonation is the rise and fall of a sentence's tone. Intonation has a grammatical function in and of itself, which means that it can determine whether a sentence is declarative or interrogative. Japanese intonation has been practiced using a variety of media. This study practiced Japanese intonation using audio samples and intonation curves. According to the findings of this study, the average total error or average pronunciation error has decreased.

AY as a beginner-level learner, has made outstanding progress. This was known because AY has so little input in studying intonation that they can absorb information very well from audio and intonation curves. Meanwhile, ZA's total error started from a very high point, and CL did not have a constant reduction point. ZA and CL, as intermediate-level and advanced-level learners, generally

have received much input regarding intonation learning either intentionally through classroom learning or accidentally through music, drama, and Japanese films, as they revealed in interviews. But reviewing from the progress of each sentences of the phases, ZA and CL still have a promising progress.

This indicates that visualization of intonation curves is very effective when used in conjunction with audio sample pronunciation in learning sentence intonation. It can also help learners distinguish between declarative and interrogative sentences more accurately. The reduction in pronunciation errors also demonstrates that using intonation curves and learner audio samples early in the learning process can help prevent fossilization in learning Japanese as a second language.

This study only focuses on students' intonation in declarative and interrogative sentences. However, because there were only three respondents, the study's findings cannot yet be generalized. Therefore, this study can be extended in the future as a quantitative study with additional respondents to be generalized. This study also can be continued through an experiment in class with continuous learning.

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