

A Preliminary Study on Clause-Boundary Rising Intonation in Indonesian Learners of Japanese and the Effect of “*He no Ji*” Instruction

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Abstrak

Penelitian pendahuluan ini menyelidiki kecenderungan prosodik pada pembelajar bahasa Jepang asal Indonesia, dengan fokus pada penggunaan intonasi naik yang tidak tepat di batas klausa dalam kalimat deklaratif. Pola ini dapat mengurangi kefasihan dan kealamian tuturan, dan kemungkinan besar dipengaruhi oleh transfer prosodi dari bahasa pertama. Sembilan pembelajar merekam lima kalimat yang mengandung mora khusus. Meskipun awalnya ditujukan untuk menganalisis kesalahan segmental, temuan paling mencolok adalah kecenderungan naiknya intonasi di tengah kalimat. Sebagai tindak lanjut, pelajar diperkenalkan pada pola intonasi *he-no-ji* bahasa Jepang melalui video pembelajaran. Hasil rekaman setelah instruksi menunjukkan penurunan 59% dalam penggunaan intonasi naik, yang mengindikasikan efektivitas instruksi prosodi secara eksplisit. Temuan ini menegaskan pentingnya pengajaran intonasi sejak awal dalam pembelajaran bahasa Jepang bagi penutur bahasa Indonesia.

Kata Kunci: *Linguistik terapan; Pengajaran prosodi; Alir nada; Analisis Praat*

Abstract

This preliminary study investigates prosodic tendencies in Indonesian learners of Japanese, focusing on inappropriate rising intonation at clause boundaries in declarative sentences. Such patterns can reduce naturalness and are likely influenced by prosodic transfer from the learners' first language. Nine Indonesian learners recorded five sentences containing special morae. While the initial aim was to examine segmental pronunciation errors, the most notable finding was rising intonation at non-final clause boundaries. To address this, learners were introduced to the *he-no-ji* intonation pattern through an instructional video. Post-instruction recordings showed a 59% decrease in rising intonation, suggesting that explicit prosody instruction can promote more natural speech. These findings underscore the importance of incorporating intonation teaching early in Japanese language education for Indonesian learners.

Keywords: *Applied linguistics; Prosody instruction; Pitch boundary movement; Praat analysis*

1. Introduction

For Indonesian learners of Japanese at the beginner level, pronunciation and intonation are often strongly influenced by their native language. While introductory Japanese lessons typically focus on grammar and vocabulary, the explicit teaching of proper pronunciation particularly in terms of phonetic and prosodic features remains limited. However, developing accurate pronunciation is essential not only for intelligibility but also for achieving natural

sounding speech.

In recent years, the growing accessibility of Japanese content through platforms such as YouTube and other streaming services has led to increased exposure to Japanese pop culture worldwide. Many learners, including those in Indonesia, have begun engaging with this content more actively by creating voiceovers or dubbing videos. This trend highlights a new motivation for learners: the desire to mimic authentic Japanese speech in both comprehension and performance contexts.

Despite this development, the role of phonetics and phonology in Japanese language education in Indonesia is still relatively underemphasized. Most curricula remain grammar-centric, often neglecting the systematic teaching of pronunciation patterns and prosodic features of standard Japanese. Without diminishing the importance of grammatical instruction, this study argues that incorporating phonetic awareness particularly of standard Japanese pronunciation and intonation would enhance learners' communicative competence and deepen their engagement with Japanese language content.

This research serves as a preliminary study aimed at exploring how Indonesian learners of Japanese pronounce full Japanese sentences, particularly those containing special phonemes. Initially, we focused on five sentences that included long vowels (*chōon*), geminate consonants (*sokuon*), voiced consonants (*dakuon*), and nasal sounds (*hatsuon*), in order to identify possible segmental pronunciation errors. However, in line with findings from Najoan et al. (2012), who observed that Indonesian learners tend to produce long vowels more accurately when reading aloud due to visual cues in written text, our study similarly found few critical errors in segmental features during scripted read-aloud tasks. Instead, a more salient and consistent issue emerged: the tendency for learners to produce rising intonation within phrases or at clause boundaries mid-sentence. This prosodic pattern, likely influenced by intonation features of the Indonesian language, became the central focus of our analysis.

In response to this finding, we introduced a basic concept from Japanese phonetics, the への字 (*he-no-ji*) intonation pattern as a means to guide learners toward more natural prosody. To make this concept more tangible, learners were shown visual pitch contours using the speech analysis software Praat. This approach aligns with the theoretical framework discussed in Najoan et al. (2012), which draws on Ellis (1995) distinction between explicit and implicit language knowledge. While implicit knowledge supports fluent, intuitive language use, explicit knowledge gained through conscious instruction can facilitate noticing, cognitive comparison, and monitoring, all of which promote the internalization of correct language forms. By helping learners explicitly notice Japanese intonation contours and compare them with their own output, we aimed to support the transition from declarative understanding to proceduralized, more stable intonation patterns. Our preliminary results suggest that even basic prosodic instruction, when grounded in explicit explanation and supported by visual tools, can contribute to more natural pitch production. Nevertheless, further research is needed to explore long-term training methods that promote consistent and automatic control over intonation.

2. Method

This study aims to investigate the pronunciation tendencies of Indonesian learners of Japanese, with a particular focus on pitch boundary movement and the articulation of special Japanese phonemes. To this end, a five-step methodology was employed.

2.1 Selection of Target Sentences

To elicit learners' pronunciation patterns, five Japanese sentences containing special morae, specifically *chōon* (long vowels), *sokuon* (geminate consonants), *dakuon* (voiced

consonants), and *hatsuon* (nasal sounds) were selected from the website JP-Lab.com. This site was chosen because it provides sentence-level pronunciation samples by native Japanese speakers, which served as a reliable benchmark for analyzing deviations in learner pronunciation. The decision to limit the number of sentences to five was based on the preliminary nature of the study, this allowed focused analysis without overcomplicating the data processing.

Table 1. Target sentences

No.	Sentence
1.	地図を見ながらチーズを食べた。
2.	こっちに来てこれを切ってください。
3.	かばん屋の看板がかっこいいです。
4.	牛乳パックをバッグに入れた
5.	西の空に虹が出ている。

2.2 Data Collection

Indonesian learners of Japanese were recruited from various linguistic backgrounds and levels of learning experience. Each participant was asked to read and record the five selected sentences and submit the audio files via a Google Form. The form was distributed from 1-30 June 2025. Initially there are 17 learners were filling in the form but only 9 of them recorded and filled the form again after watching the instruction video.

Table 2. Respondent

Learner	Sex	Age	Mother Tongue	Certification
A	Male	21-25	Indonesian	JLPT N3
B	Female	21-25	Indonesian	JLPT N3
C	Male	16-20	Indonesian and Sundanese	JLPT N3
D	Female	16-20	Indonesian	-
E	Female	21-25	Indonesian	JLPT N2
F	Female	16-20	Indonesian	JLPT N3
G	Female	21-25	Indonesian	JLPT N2
H	Male	16-20	Indonesian	JLPT N5
I	Male	21-25	Indonesian	JLPT N3

2.3 Acoustic Analysis

The submitted audio recordings were analyzed using the phonetic software *Praat*. The primary focus of the analysis was to observe pitch movement patterns within sentences, with particular attention paid to unnatural rising intonation mid-utterance phenomenon hypothesized to reflect transfer from the prosodic characteristics of the Indonesian language. Image 1 shows the falling pitch on the phrase *mi-nagara* from sentence no. 1. In comparison, image 2 shows the rising pitch o

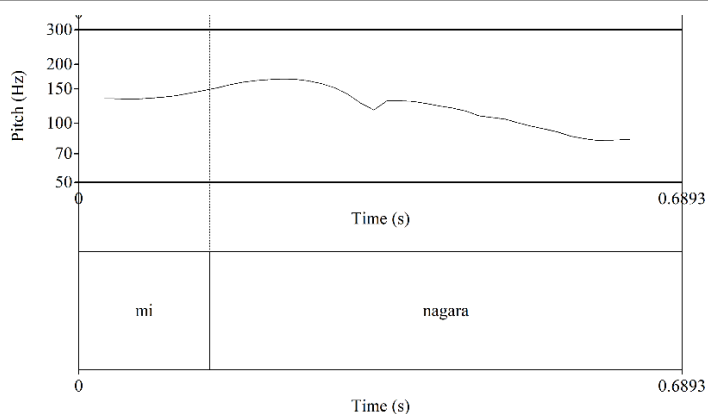


Image 1. Falling pitch on phrase *minagara* in the middle of sentence

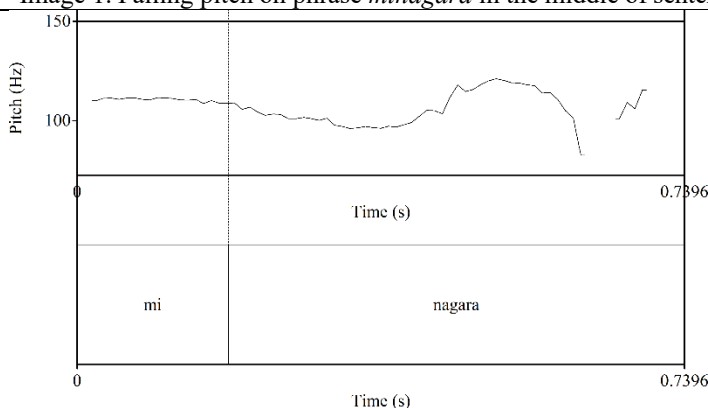


Image 2. Rising pitch on phrase *minagara* in the middle of sentence (Learner C)

2.4 Instructional Intervention

Following the initial analysis, participants were provided with an instructional video explaining the basic rules of Japanese intonation, particularly the concept of *への字* (*he-no-ji*) intonation, a characteristic pitch contour in standard Japanese (Kato & Ando, 2016). The video served not only to introduce fundamental phonetic principles but also to provide learners with explicit knowledge about how intonation functions in Japanese discourse.

According to Ellis’s (1995) model of second language acquisition, as cited in Najooan (2012), explicit knowledge gained through conscious instruction plays an important role in facilitating the acquisition of implicit, proceduralized language skills. In this framework, explicit instruction can promote three key processes: (1) noticing specific language features in input, (2) cognitive comparison between learners’ own output and target forms, and (3) monitoring for accuracy and appropriateness in production. The instructional video was designed with these processes in mind, aiming to help learners become more aware of Japanese intonation patterns, reflect on their own prosody, and adjust their pitch contours accordingly.

2.5 Post-Instruction Recording and Comparison

After watching the video, participants were asked to re-record the same five sentences, this time applying the *への字* (*he-no-ji*) intonation pattern. These second recordings were again analyzed using Praat to compare the pre- and post-instruction pitch patterns. The degree of pitch stabilization and the reduction of inappropriate rising intonation were examined to assess the effectiveness of the intervention.

3. Result

Audio data were collected from nine Indonesian learners of Japanese, each of whom recorded five target sentences before and after watching an instructional video on Japanese intonation. The main focus of analysis was the tendency to use inappropriate rising intonation at clause boundaries (i.e., within a sentence), which contrasts with the typical falling intonation of standard Japanese declarative utterances.

Using Praat, the pitch movement of each utterance was analyzed and categorized into three labels: "rise" (rising pitch at the boundary), "fall" (natural falling contour), and "subtle" (undecidable or nearly flat pitch movement). The results are summarized below.

3.1 Change in Intonation Tendencies (Overall)

Across 45 pre-instruction utterances (9 learners × 5 sentences), 22 instances (49%) showed rising intonation, compared to only 9 instances (20%) after instruction. Conversely, falling intonation increased from 17 to 30 cases (a 76.5% increase), as shown in Table 3.

Table 3. Pitch change before and after instruction video

Intonation Type	Before	After
Fall	17	30
Rise	22	9
Subtle	6	6

This shift suggests that the video instruction had a moderate to strong effect in reducing the use of inappropriate rising intonation among the participants.

3.2 Learner-Specific Trends

Learners exhibited varying degrees of responsiveness to the instructional intervention. As shown in image 3, learner G showed the most consistent and significant improvement, with positive pitch changes across all five sentences (total score: 5). Similarly, Learners C, F, and H demonstrated notable gains (scores ranging from 3 to 4), suggesting that the instructional video supported increased pitch awareness and more natural intonation patterns for these individuals.

On the other hand, Learner B showed no change at all across all five sentences, maintaining a flat score of 0. This lack of response may indicate a need for alternative instructional approaches or greater individual support.

Interestingly, Learners D and E, who produced appropriate falling intonation before the instruction, showed a negative shift after the intervention. Learner D scored -2, and Learner E scored -1. This suggests that the attempt to consciously control intonation after initially producing it correctly at a subconscious level may have disrupted their previously intuitive performance. These cases point to the possibility that overcorrection or interference caused by explicit instruction can occasionally hinder rather than help, especially when the learner’s implicit prosodic control was already adequate.

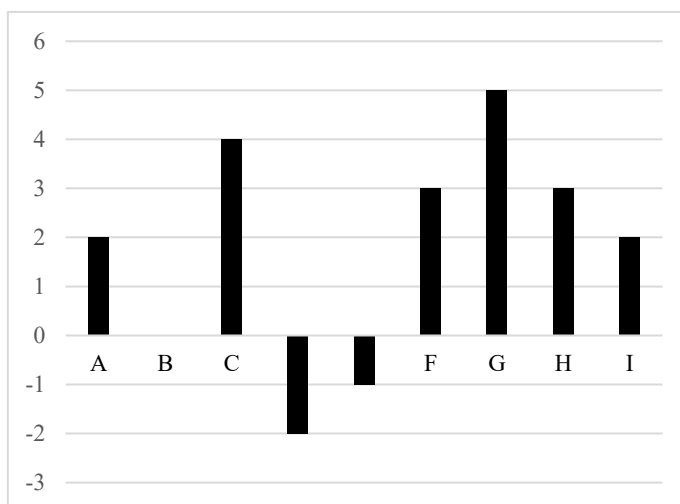


Image 3. Learner-specific number of falling intonation after instruction video

3.3 Sentence-Specific Patterns

In addition to individual learner variation, analysis of sentence-specific trends revealed that certain sentence types were more amenable to improvement after instruction. As shown in image 4, Sentences 4 (パックを) and 5 (空に) exhibited the greatest improvement in pitch realization, with 4 and 5 learners respectively showing better intonation (falling pitch) after the video intervention. In contrast, Sentence 1 (見ながら) showed the lowest rate of improvement, with only one learner demonstrating positive change, and others either showing no change or regressing.

This discrepancy may be linked to morphosyntactic cues at clause boundaries. Notably, Sentences 3, 4, and 5 featured particles (e.g., を, が, に), which likely served as intonational anchors, making it easier for learners to detect and apply the expected falling pitch contour. Particles in Japanese frequently function as boundary markers that naturally invite intonational closure, thus supporting learners’ ability to produce more native-like prosody.

In contrast, Sentences 1 and 2 ended with verb inflections (e.g., 見ながら, 来て), which lack clear phonological boundaries or prosodic cues. These morphologically complex verbs may have led to difficulty about where the pitch should fall, especially among learners unfamiliar with prosodic phrasing rules in Japanese.

These results suggest that explicit instruction in Japanese prosody should consider the interaction between intonation and morphosyntactic structure, especially in helping learners identify appropriate pitch boundaries in complex sentences. In particular, the inclusion of visual and auditory examples that contrast pitch movement across different clause types (e.g., particles vs. verb endings) may help learners build more reliable mental models of Japanese intonation.

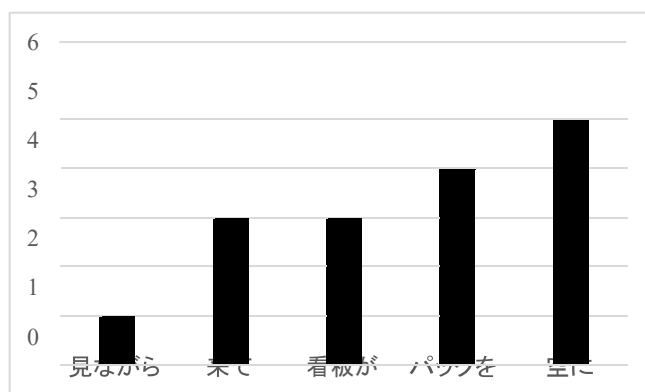


Image 4. Sentence-specific number of falling intonation after instruction video

4. Discussion

The findings of this preliminary study suggest that a brief instructional intervention on Japanese intonation, particularly using the visualized への字 (*he-no-ji*) model can support Indonesian learners in improving their prosodic realization of clause-final intonation. A 59% reduction in inappropriate rising pitch at non-final clause boundaries was observed after watching a short pedagogical video. This result indicates that even limited explicit instruction in prosodic features may positively influence learners' speech production, especially when supported by visual feedback (e.g., pitch contours in Praat) and focused attention on pitch boundaries.

This study reinforces the importance of explicit phonological knowledge in L2 learning. According to Ellis (1995), explicit knowledge facilitates noticing, cognitive comparison, and monitoring, all of which are crucial for transforming input into intake and, eventually, implicit knowledge. The video used in this study served as a form of explicit instruction in Japanese prosody, introducing learners to the basic pitch contour of Japanese declarative sentences via the metaphor of the への字 (*he-no-ji*). While explicit knowledge alone does not guarantee fluency, it creates conditions for learners to attend to relevant features in the input and self-monitor their output.

The learner-specific trends observed in this study revealed meaningful variation in how individuals responded to explicit prosody instruction. While some learners, such as G, C, and F, showed consistent improvements after the intervention, others, particularly Learners D and E, exhibited a decline in performance. Notably, both D and E produced largely appropriate falling intonation before receiving explicit instruction but introduced rising or ambiguous contours after. This unexpected regression may indicate that introducing conscious control over a previously intuitive skill can, in some cases, interfere with implicit knowledge and disrupt performance.

These findings suggest that while explicit instruction in prosody, such as using the への字 (*he-no-ji*) model can be beneficial, it should be accompanied by flexible, learner-responsive teaching strategies. Learners with pre-existing prosodic competence may benefit more from reinforcement through input and feedback, rather than from overt re-instruction, whereas others may require more scaffolded practice opportunities or multimodal support, such as visual pitch contour models or auditory comparison tools.

Beyond individual variation, sentence-specific patterns also emerged. As visualized in image 4, Sentences 4 and 5 showed the highest number of learners demonstrating improved intonation, while Sentence 1 had the least improvement. One possible explanation involves the grammatical structure of these sentences. Sentences 3, 4, and 5 end in particles (e.g., を, に), which often serve as natural boundary markers, making it easier for learners to apply falling intonation. These particles may act as auditory cues for intonational phrasing, providing learners with clearer pitch targets.

In contrast, Sentences 1 and 2 end with verb inflections (e.g., 見ながら, 来て), which lack such boundary-marking particles. The less salient clause-final cues in these sentences may have made it more difficult for learners to determine where the pitch should fall, particularly without a deep understanding of Japanese prosodic phrasing.

The findings highlight the pedagogical value of incorporating explicit prosody instruction into Japanese language education for Indonesian learners. Instruction should not only emphasize segmental pronunciation (e.g., vowels and consonants) but also provide

learners with visual and auditory models of suprasegmental features, particularly pitch movement across clauses. Visual pitch analysis tools such as Praat can enhance learners' awareness by making abstract acoustic features visible and measurable.

Furthermore, teachers should pay attention to the interaction between intonation and grammar, particularly in complex or multi-clause sentences. Practice materials should vary sentence-final structures (e.g., particles vs. verb endings) to ensure learners gain flexible control over intonational phrasing across different syntactic environments.

5. Conclusion

This preliminary study examined the intonation patterns of Indonesian learners of Japanese, with a focus on the tendency to produce rising pitch contours at clause boundaries within declarative sentences. Using a small set of sentences containing special morae, we observed that many learners produced rising intonation mid-sentence, a pattern likely influenced by prosodic features of the Indonesian language.

Following a short instructional intervention introducing the concept of *he-no-ji* intonation representing the typical falling pitch contour in standard Japanese, we found a notable reduction in the use of inappropriate rising intonation. Learners showed improved alignment with native-like intonation, suggesting that even basic phonetic awareness instruction can have a meaningful impact on pronunciation patterns.

Although the results are promising, several limitations remain. The small sample size and short-term scope limit the generalizability of the findings. Moreover, some learners continued to exhibit subtle or inconsistent pitch patterns after the intervention, indicating the need for more sustained training.

Future research should explore long-term effects of prosody instruction, include a broader range of learners and sentence types, and investigate effective methods such as shadowing, real-time pitch feedback, or perception training to reinforce stable and natural intonation. Ultimately, greater emphasis on prosodic instruction in Japanese language education may help learners achieve not only clearer pronunciation but also more confident and expressive communication.

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