

IMPROVING STUDENTS' UNDERSTANDING OF THE MORPHOPHONEMIC CHANGE FROM VERBS {-MASU} FORM TO VERBS TO {-TA} FORM AT FUJI ACADEMY BALI THROUGH THE DIRECT INSTRUCTION LEARNING MODEL

Ni Made Dwi Agustini¹, I Nyoman Suparwa², Made Ratna Dian Aryani³

^{1,2,3}(Linguistic Department, Udayana University, Indonesia)

ABSTRACT : *The purpose of this study is to identify the errors made by students in converting verbs ending in {-masu} to verbs ending in {-ta}, to examine the direct instruction model for improving comprehension, and to determine the improvement experienced by students after using the direct instruction model on the topic of converting verbs ending in {-masu} to verbs ending in {-ta}. The four theories used in this study are the morphophonemic theory by Koizumi (1993) and the error analysis theory by Setyawati (2013), the direct instruction model theory by Arends (2012), and the N-gain test theory by Hakke, R.R. (1999). This study employed both qualitative and quantitative approaches using a pre-experimental research design of the one-group pretest-posttest type. The findings revealed that the pretest results showed 22 errors made by the students in the conversion of the {-masu} verb form to the {-ta} form. Subsequently, five learning sequences for the {-ta} verb form were implemented using the direct instruction model, including a post-test. Following this, an N-gain test was conducted using pre-test and post-test scores, yielding an N-gain value of 0.69. These results indicate an improvement in the students' scores.*

KEYWORDS- *Morphophonemics, Direct Instruction Model, Japanese Verbs*

I. INTRODUCTION

Prospective workers planning to work in Japan need to be able to speak Japanese. Prospective workers must complete Japanese language training before departing for Japan, such as by attending training at a specialized vocational training institute for Japan. One such vocational training institute that provides training for those heading to Japan is LPK Fuji Academy. Participants are trained in basic Japanese language materials. One of these basic Japanese language materials covers the conversion of verbs from the {-masu} form to the {-ta} form.

Linguistically, the change of verbs from the {-masu} form to the {-ta} form involves a morphophonemic process specific to each verb group in Japanese. There are three verb groups; the first group is called goudan doushi, the second group is called ichidan doushi, and the third group is called fukisoku doushi. Each of these verb groups has a different morphophonemic process. This process of change causes student to make mistakes regarding the transformation of verbs ending in {-masu} to the {-ta} form when studying this material. According to Tsujimura

(2014), errors in inflectional morphology frequently occur among students. Inflectional morphology relates to changes that occur in words, especially when those words are combined with affixes.

The direct instruction learning model was used to help improve students' understanding of the material regarding the change of the {-masu} verb form to the {-ta} form. After implementing the direct instruction learning model, we sought to determine whether students had shown improvement.

In previous research, a study examined the use of specific teaching methods to improve students' understanding of the transformation of Japanese verbs from the {masu} form to the {-te} form. The study showed that students demonstrated improved understanding when specific teaching methods were used. Additionally, another study investigated the effectiveness of the direct instruction model in helping students improve their understanding. These studies showed an improvement in understanding of the material when using the direct instruction learning model.

This study focused on identifying students' errors in the subject matter of verb conjugation using the {-masu} form, determining the development of lesson plans using the direct instruction model, and assessing improvements in students' scores following the implementation of the direct instruction model. Data were collected using documentation and observation methods. The observation method was used to collect data in the field, while the documentation method was used to collect textual data through note-taking based on the results of pre-test and post-test assessments.

The contribution of this study is to assist teachers in helping students improve their understanding of the verb change from the {-masu} form to the {-ta} form.

II. METHODS AND THEORY

2.1 Research Method

This research employs both qualitative and quantitative data analysis methods. Qualitative data analysis is used to identify students' errors and determine the appropriate learning sequence using the direct instruction model. According to Miles and Huberman (1994), qualitative data analysis is conducted interactively and continues until data saturation is reached. Quantitative data analysis methods were used to analyze the improvement experienced by students after learning the conversion of verbs from the {-masu} form to the {-ta} form using the direct instruction model.

2.2 Theoretical Review

This research employs four theories to analyze the existing issues.

2.2.1 Error Analysis Theory

Error analysis is the process of identifying, classifying, and interpreting language error made by learners, both in spoken and written contexts (Setyawati, 2013). This approach aims to identify the types and causes of error made by learners and serves as a foundation for developing language learning strategies.

According to Setyawati (2013), the error analysis procedure consists of five steps: (1) collecting error samples, (2) identifying errors, (3) explaining the causes of errors, (4) classifying errors based on type or linguistic aspect, and (5) evaluating the severity of error and their impact on meaning comprehension.

One type of language error is morphological error, which is an error related to the process of word formation. Morphological errors generally occur during affixation and word compounding, such as errors in the use of prefixes, infixes, suffixes, or confixes (Setyawati, 2013).

2.2.2 Morphophonemic Theory

Morphology is a branch of linguistics that studies word forms and morphemes as the smallest units of meaning, while phonology deals with the relationship between phonemes and speech sounds (Koizumi, 1993). Morphophonemic studies examine the sound changes that occur when morphemes come together in the process of word formation.

In Japanese verbs, the past tense uses the morphemes {-ta} and {-da}, the choice of which is determined by the phoneme in the verb stem. According to Koizumi (1993), Japanese verbs are divided into two types: *shiindoushi*,

know as consonant verbs, and bouindoushi, known as vowel verbs. Consonant verbs are group one verbs. Group one verbs have ninen moraic variations in the {-masu} conjugation. These variations consist of *i* (い), *chi* (ち), *ri* (り), *bi* (び), *ni* (に), *mi* (み), *ki* (き), *gi* (ぎ), and *shi* (し). Therefore, consonant verbs undergo various sound changes in the past tense {-ta} forms, such as gemination, nasalization, or sound changes to /ta/ or /da/. Meanwhile, vowel verbs have a simple pattern of change because their root remains unchanged. Group two verbs include group one verbs, which consists of the suffixes -emasu and imasu. The phonemes /e/ and /i. in the suffixes are vowel phonemes attached to the root of group two verbs and do not undergo varied changes when other morphemes are added.

Koizumi (1993) also describes the morphophonemic processes in Japanese, which include: (1) *fuka* (sound addition), which is the addition of phonem during word formation; (2) *sakujo* (sound deletion), which is the elision of a phonem during word formation; (3) *chikan* (sound substitution), which is the change of one phoneme into another. These processes demonstrate that verbs inflection in Japanese is influenced not only by morphology but also by phonological rules.

2.2.3 Learning Model Direct Instruction

The direct instruction model is a teaching approach that helps students acquire basic skills as well as procedural and declarative knowledge in a step-by-step manner (Arends, 2012). This model is based on social learning theory or modeling, which involves learning through observation of the teacher's behavior and examples.

Direct instruction is teacher-centered and aims to maximize students' learning time through the delivery of structured content. According to Arends (2012), this model has five main stages: (1) presenting learning objectives and prepping students, (2) demonstrating knowledge or skills, (3) guiding practice, (4) checking understanding and providing feedback, and (5) providing further practice and application of the material.

In the practice, the direct instruction model can be implemented through lectures, demonstrations, exercises, hands-on practice, and group work. The success of this model depends on academic focus, teacher guidance, time management, and expectations regarding student learning outcomes. Therefore, direct instruction is effective for learning that requires systematic explanation and practice.

2.2.4 N-Gain Test

The Normalized Gain (N-Gain Score) test is used to measure the effectiveness of a method or intervention in improving student learning outcomes. According to Richard R. Hake (1999), the N-Gain score is derived from a comparison between the actual score gain and the maximum score gain that students could have achieved. The calculation is based on the difference between pre-test and post-test scores, allowing for a proportional assessment of the level of improvement in learning outcomes.

The N-Gain formula is:

$$\langle g \rangle : \frac{\% \langle Sf \rangle - \% \langle Si \rangle}{\% \langle Smax \rangle - \% \langle Si \rangle}$$

Explanation : (Sf) = post-test score, (Si) = pre-test score, and (S{max}) = maximum score.

Once the values were obtained, the average was calculated and interpreted based on Hake's criteria, namely: values ($g < 0.30$) are classified as low, ($0.30 < g < 0.70$) as moderate, and ($g > 0.70$) as high.

The low category indicates only a small improvement in learning outcomes, the moderate category indicates a fairly significant improvement, while the high category indicates that the teaching method is highly effective in improving students' abilities. Thus, the N-Gain test can be used to determine the effectiveness of a teaching model based on pre-test and post-test results.

III. RESULTS AND DISCUSSION

This section discusses the errors students make in the morphophonemic change of verbs from the {-masu} form to the {-ta} form, the learning process using the direct instruction model, and students' progress in mastering the material on the change of verbs from the {-masu} form to the {-ta} form.

3.1 Morpho-phonemic Change Error: From the {-masu} Form to the {-ta} Form.

The pre-test results revealed that the students made 22 errors. Eighteen errors were found in Group 1 verbs or *godan doushi*. Four errors were found in Group 2 verbs or *ichidan doushi*. No errors were found in Group 3 verbs.

3.1.1 Errors in Godan Verbs

The table below shows the number of errors found in first-group verbs.

Table 3.1 Errors Godan Verbs Ending in {-ta}

Godan Verbs		
No	Mora Before The Morphem {-masu}	Number of Errors
1	<i>I</i> (い)	4
2	<i>Chi</i> (ち)	2
3	<i>Ri</i> (り)	3
4	<i>Bi</i> (び)	1
5	<i>Ni</i> (に)	0
6	<i>Mi</i> (み)	1
7	<i>Gi</i> (ぎ)	2
8	<i>Ki</i> (き)	3
9	<i>Shi</i> (し)	2
Total		18

Based on the table, it was found that Group 1 verbs with a mora I (い) before the {-masu} morpheme had the highest number of errors among verbs with other moras. The morphophonemic processes of verbs with a mora I (い) involve elision and sound changes.

In this study, there were two verbs that showed errors in changing the {-masu} form to the {-ta} form, both of which had a mora I (い) before the {-masu} morpheme. The first verb was *omoimasu* (おもいます), with two errors. The second verb was *aimasu* (あいます), with two errors.

The first verb is *omoimasu* (おもいます), which means "to think, to consider." The phoneme /masu/ is elided, and the phoneme /i/ undergoes a sound change when it encounters the morpheme {-ta}, transforming into /Qta/. Therefore, the correct form of the verb is *omotta* (おもった).

There are two errors made by the students. In the first error, the student only omitted the /masu/ sound, skipped the sound change of /i/ to /ta/, and performed a sound insertion or fuka by inserting the phoneme /ta/. Consequently, the resulting form is *omoita* (おもいた). The second error involves changing /i/ to /ta/ without adding a long vowel sound. Consequently, the resulting form is *omota* (おもた).

From these two errors, it can be seen that the mistake made by the students regarding the verb *omoimasu* in the past tense was a morphophonemic error involving sound insertion, specifically failing to add the phoneme /Q/ during the sound change to the {-ta} form.

The second verb is *aimasu* (あいます), which means “to meet.” The phoneme /masu/ undergoes a process of *sakujo*, or sound deletion. The phoneme /i/ preceding the phoneme /masu/ undergoes a sound change, transforming into /Qta/. Therefore, the correct past tense form of the verb *aimasu* is *atta* (あった).

There are two mistakes made by the students. The first mistake is that the student changes the phoneme /i/ to the sound /wa/ and then adds /ta/ without lengthening the sound, resulting in the word *awata* (あわた). The second error is omitting the /masu/ sound at the end of the sentence and the /a/ sound at the beginning of the verb. Then, the phoneme /i/ does not undergo a sound change and undergoes a sound insertion or *fuka* process by inserting the phoneme /ta/ accompanied by a sound lengthening process. Thus, the resulting error is *itta* (いった). Of these two errors, the morphophonemic errors involve using the process of sound insertion (*fuka*), applying elision to the wrong phoneme, and making an error in sound selection during the sound change process.

3.1.2 Errors in *Ichidan* Verbs

The table below shows the number of errors found in *ichidan* verbs.

Table 3.2: Errors in *ichidan* Verbs

<i>Ichidan</i> verbs		
1	-emasu (～えます)	1
2	-imasu (～います)	3
Total		4

Based on the table, it was found that Group 2 verbs ending in *-imasu* (-います) had the highest number of errors compared to verbs ending in *-emasu* (- えます). The morphophonemic process of verbs with the *-imasu* (-います) mora involves the elision of the {-masu} morpheme and the insertion of the {-ta} morpheme sound. Although they have two different variations, Group 2 verbs do not differ in their {-ta} conjugation because they are classified as *bouin doushi*. *Bouin doushi* are verbs that have a vowel phoneme at the end of the verb stem. In Group 2 verbs, the phonemes /e/ and /i/ are the final phonemes of the verb stem.

There are three verbs derived from Group 2 verbs: first, the verb *okimasu* (おきます), with one error; second, the verb *tarimasu* (たります), with one error; and third, the verb *imasu* (います), with one error.

The first verb is *imasu* (います), which means “to be.” The phoneme /masu/ undergoes a process of elision. Following that, a sound addition occurs with the addition of the phoneme /ta/ to the root /i/. Therefore, the correct {-ta} form of the verb is *ita* (いた). The mistake made by the student was to add a sound lengthening process by inserting the phoneme /Q/ before /ta/. Consequently, the incorrect form created was *itta* (いった).

The second verb is *tarimasu* (たります), meaning ‘enough’. The phoneme /masu/ undergoes a process of elision. After that, the process of adding the phoneme /ta/ to the root /tari/ follows. Therefore, the correct conjugation is *tarita* (たりた). The mistake made by the student is that the phoneme /ri/ changes to /ta/, accompanied by the lengthening of the consonant /Q/. Consequently, the conjugation made by the student becomes *tatta* (たった).

The third verb is *okimasu* (おきます), which means “to wake up.” The phoneme /masu/ undergoes elision. Then, through a process of sound addition, /ta/ is added to the root {oki-}. Therefore, the correct form change {-ta} is *okita* (おきた). The error made is that the phoneme /k/ undergoes a sound change to /ita/ when it encounters the morpheme {-ta}. Consequently, the change made by the student is *oita* (おいた).

Based on the errors occurring in these three verbs, it can be determined that the errors made by the students regarding the changes in Group 2 verbs involve a morphophonemic process error, specifically the incorrect application of sound change processes to Group 2 verbs. Meanwhile, Group 2 verbs undergo only two morphophonemic processes: elision of the {-masu} morpheme and sound addition by adding the {-ta} morpheme.

3.2 Learning the Verb Conjugation Change from the {-masu} Form to the {-ta} Form in Japanese

The Direct Instruction model was implemented to improve students' understanding of how to change verbs ending in {-masu} to the {-ta} form, based on the errors identified in the pre-test results. The instruction was designed to address the difficulties students faced, particularly in conjugating first-group verbs and certain second-group verbs.

The teaching process follows the Direct Instruction stages outlined by Richard Arends, namely: (1) presentation of learning objectives, (2) demonstration of knowledge or skills, (3) guided practice, (4) assessment of understanding and provision of feedback, and (5) further practice and application. During the demonstration stage, the teacher emphasizes the patterns of verb inflection with the {-ta} ending for each verb class, particularly the sound changes in Class 1 verbs and specific Class 2 verbs that frequently lead to errors.

The training phase involves memorizing verb conjugation patterns, direct question-and-answer sessions, and progressive practice exercises. Next, students' understanding is assessed through a written test focusing on verbs that have previously caused frequent errors. Based on the assessment results, the instructor provides feedback tailored to each student's ability and follows up with independent practice through assignments and additional exercises.

The results of the analysis show that the Direct Instruction model helps students understand the patterns of verb inflection in the {-ta} form more systematically through step-by-step explanations, repeated practice, and immediate feedback.

3.3 Improving students' understanding of the verb form change from {-masu} to {-ta}

The pre-test results indicate that students' ability to convert verbs in the {-masu} form to the {-ta} form still varies. Student scores ranged from 42.85 to 100, with some students already demonstrating a good understanding, while others still struggled, particularly with verbs in groups one and two. Students with low scores indicate that their understanding of the {-ta} verb conjugation pattern still needs improvement.

After implementing the Direct Instruction model for one week, the post-test results showed an improvement in scores for most students. Five students achieved a perfect score of 100, while the rest also showed an improvement in their scores compared to the pre-test results. However, some errors were still found in the conjugation of first- and second-group verbs, and one student still received a low score, indicating a need for further review of the material. The table below presents the N-gain test results from the pre-test and post-test scores.

Table 3.3: Results of the N-gain test based on the pre-test and post-test scores

No	Pre-test result	Post-test results	N-Gain	criteria
1	96,4	100	1	High
2	67,8	100	1	High
3	100	100	-	Cannot be categorized
4	71,4	76,6	0.21	Low
5	85,7	93,3	0.53	Moderate
6	92,8	100	1	High
7	75	96,6	0.8	High

8	96,4	100	1	High
9	42,85	56,67	0.2	Low
Average			0.6925	Moderate

The results of the N-Gain test showed an average score of 0.6925, which falls into the moderate-to-high category according to Richard R. Hake's criteria. Of the nine students, five were classified as having high improvement, one as moderate, and two as low. In addition, one student could not be categorized because they had already achieved the maximum score on the pre-test.

Overall, the results of the analysis indicate that the implementation of the Direct Instruction model is effective in improving students' understanding of the verb form change from {-masu} to {-ta}, particularly through step-by-step explanations, intensive practice, and immediate feedback.

IV. CONCLUSION

This study yields three conclusions.

4.1 Error in changing the verb form {-masu} to the form {-ta}

In the lesson on changing verbs from the {-masu} form to the {-ta} form, many students still make mistakes regarding the {-ta} form in first- and second-group verbs. This can be seen in the pre-test results. The pre-test results found that the most common errors occurred in first-group verbs that have a first mora (ゝ) before the {-masu} morpheme. The error analysis results show that students made mistakes when determining the correct morphophonemic change from the {-masu} form to the {-ta} form according to the verb group.

4.2 The process of learning how verbs in the {-masu} form change to the {-ta} form

In the learning process using the direct instruction model, teachers must go through several stages, according to Arends. During the demonstration stage, teachers emphasize the verb conjugation patterns of the {-ta} form for each verb group, particularly the sound changes in Group 1 verbs and specific Group 2 verbs that often lead to errors. The practice stage is conducted through memorization of verb conjugation patterns, direct question-and-answer sessions, and step-by-step exercises. Next, the teacher needs to evaluate the students' understanding through tests, such as written exams. Based on the evaluation results, the teacher provides feedback tailored to each student's ability and continues with independent practice through assignments and additional exercises. The Direct Instruction model helps students understand the patterns of verb changes in the {-ta} form more systematically through step-by-step explanations, repeated practice, and direct feedback.

4.3 Improvements in students' ability to change verbs from the {-masu} form to the {-ta}

The results of the N-Gain test showed an average score of 0.6925, which falls into the moderate-to-high category. Based on the results of the N-Gain test, it can be concluded that, overall, the implementation of the Direct Instruction model was effective in improving students' understanding of the verb form change from {-masu} to {-ta}, particularly through step-by-step explanations, intensive practice, and immediate feedback.

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