

## Research Article

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# Study on the Effect of Self-Monitoring Tasks on Improving Pronunciation of Foreign Learners of Korean in Blended Courses

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**Abstract:** This study provides empirical evidence of how self-monitoring tasks contribute to improving the Korean pronunciation of foreign learners of Korean in blended courses, which combine face-to-face classes with online assignments. The study focuses on lateralization and nasalization rules, which are obligatory assimilation rules that frequently occur in spoken Korean. These rules involve the phoneme at the syllable boundary turning into a nasal or lateral sound during the assimilation process. For example, the words *janlak* (“call”) and *apmun* (“front door”) are pronounced as *jal.lak* and *am.mun*, respectively. Nasalization rules have been identified by Hasan et al. (2024). A study on intelligibility, comprehensibility, and accentedness is based on the application pattern of lateralization and nasalization rules in foreign-accented speech of Korean. *Cogent Arts & Humanities*, 11(1), 2384708) and Hong (2018). A Study on Korean Pronunciation Education for Laotian Learners, Seoul National University, Ph.D. Dissertation) as problematic for learners of the Korean language, particularly with regard to intelligibility. Previous research has emphasized the need to develop new instructional designs for teaching these rules to improve students’ intelligibility. This study assumes that self-monitoring tasks will enable students to learn the targeted pronunciation elements and correct them independently. Pre- and post-tests were prepared to investigate the impact of the self-monitoring tasks. A 5-week-long explicit instruction period on the phonological rules was followed by

online assignments incorporating self-monitoring tasks. A total of 39 students majoring in the Korean language participated in the pre- and post-tests. The results show that students’ ability to correctly apply nasalization and lateralization rules in their speech increased by approximately 50–70% after the designated period.

**Keywords:** self-monitoring, pronunciation, blended learning, Korean

## 1 Introduction

Pronunciation has received great attention from researchers in the field of teaching Korean as a foreign language (KFL) due to its role as an essential component of successful communication. Consequently, several studies have been conducted to develop new teaching methods aimed at improving foreign students’ pronunciation, with a focus on the intelligibility of foreign learners of Korean (Hasan, 2021; Hong, 2018; Lee, 2017). The concept of *Intelligible Pronunciation* or *Foreign Learner’s Intelligibility* in KFL can be defined as achieving a certain level of proficiency in particular elements of pronunciation that enable the foreign learner of Korean to communicate successfully with Korean native speakers. The concept of intelligibility in KFL here differs from EFL’s concept in its focus precisely on the Korean native speakers’ comprehension towards foreign-accented speech. In KFL, the focus is specifically on the comprehension of foreign-accented speech by native Korean speakers, as the number of non-native Korean speakers is relatively small. By contrast, the concept of intelligibility in EFL emphasizes the comprehension of both native and non-native speakers, given the global use of English as an international language.

To achieve intelligible speech among foreign learners, Grant (2014) emphasized the need to focus on specific pronunciation elements that have been empirically proven to be essential for successful communication between the listener and the speaker, both inside and outside the classroom. Grant also highlighted the importance of extending

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pronunciation learning beyond the classroom, especially in cases where class time is limited.

Morley (1991) noted that developing students' skills in self-monitoring and self-modifying would enable them to learn independently. They stressed the need to design new instructional methods for pronunciation teaching, where students take an active and central role in their own learning. Similarly, Yule, Hoffman, and Damico (1987) emphasized the importance of self-monitoring skills, stating that self-monitoring is a critical part of the consciousness-raising process and essential for creating independent and competent learners. However, self-monitoring does not imply neglecting the importance of explicit instruction in pronunciation during foreign language classes. Explicit instruction plays a vital role in drawing learners' attention and raising their awareness of language rules, which in turn enables them to self-monitor. Krashen (1982), in his Monitor Hypothesis, stated that learners would be able to self-monitor, edit, and correct their written and spoken language once they become consciously aware of language rules. To this end, self-monitoring tasks need to be preceded by explicit instruction in specific pronunciation components.

Recently, the programs at the Faculty of Foreign Languages at the University of Jordan have been revised to incorporate new teaching and learning strategies that rely on e-learning platforms. As a result, each foreign language program now includes three types of courses: face-to-face, blended, and online. The *Pronunciation and Speech* course in the Korean language program was specifically designed as a blended course, combining face-to-face classes with online assignments. This new instructional design aims to shift the focus from passive learning to student-centered learning. While students may have less direct interaction with the instructor, they are given ample time to apply the strategies learned beyond the classroom. In this approach, the instructor's role is to develop new tasks and methods to enhance students' ability to self-monitor and modify their speech patterns.

This study aims to examine the effect of self-monitoring tasks in enhancing students' ability to apply the lateralization and nasalization rules of Korean, as these are considered the most difficult phonological rules for foreign learners of the language (Heo, 2012). Lateralization can be defined as an assimilation process that occurs when the phonemes /n/ and /l/ appear consecutively at the syllable boundary. During this process, the nasal sound changes into a lateral sound. The lateralization rule applies to both /l-n/ and /n-l/ sequences, referred to here as "Progressive Lateralization," where the assimilated sound is influenced by the preceding lateral sound (e.g., *solnal* ("new year") is pronounced as *sol.lal*), and "Regressive Lateralization,"

where the assimilated sound is influenced by the following lateral sound (e.g., *onlain* ("online") is pronounced as *ol.la.in*). Nasalization is defined as an assimilation process that occurs at the syllable boundary when an obstruent or lateral sound meets a nasal sound. There are three types of nasalization based on direction: "Progressive Nasalization" (e.g., *ʃʃaŋru* ("genre") is pronounced as *ʃʃaŋ.nu*), "Regressive Nasalization" (e.g., *apmun* ("front door") is pronounced as *am.mun*), and "Double Nasalization" (e.g., *hakrjak* ("level of education") is pronounced as *haŋ.nja.k*). Double nasalization occurs when two consonants in sequence influence each other.

Recently, research on Korean pronunciation has confirmed the correlation between correctly applying these phonological rules and intelligibility. Hong (2018) investigated the lateralization and nasalization rules produced by Laotian learners of Korean in terms of intelligibility, comprehensibility, and accentedness. The study found that the intelligibility of Laotian learners was affected by the non-application of the nasalization rules. Additionally, it found that failing to apply the lateralization or nasalization rules made listeners' comprehension less comfortable. Consistently, Hasan, Ahn, and Altakhaineh (2024) also confirmed that the accuracy of applying nasalization and lateralization rules influences the comprehensibility and accentedness of foreign-accented speech. Most importantly, they suggested that the non-application of double nasalization rules negatively impacts intelligibility, as listeners cannot understand the utterance when the rules are not applied correctly.

To this end, achieving intelligible speech can be seen as correctly applying the lateralization and nasalization rules. In the case of limited-time classes, there are difficulties in teaching these rules explicitly, highlighting the need to design a pedagogical task based on different communicative discourses that include targeted pronunciation elements. This study aims to examine the effect of this task on enhancing students' pronunciation.

This study suggests that raising students' awareness of the phonological rules of Korean by helping them notice the gap between what they say and what native speakers say will significantly contribute to improving their self-monitoring skills. In turn, this will encourage them to improve their pronunciation, especially when benefiting from blended courses and online assignment systems. This study is designed to answer the following questions:

1. Does the self-monitoring task enhance students' pronunciation in terms of lateralization and nasalization rules?
2. Does self-evaluation reflect students' ability to apply lateralization and nasalization rules correctly?
3. Do students benefit from e-learning platforms in performing their online assignments?

## 2 Literature Review

The phonological rules of Korean are considered essential components of pronunciation that should be taught to foreign students. Korean textbooks on pronunciation focus on these phonological rules and provide practice for targeted components in both independent and dependent contexts. Moreover, several studies have suggested various methods for teaching pronunciation to foreign students and proposed instructional designs for integrated Korean classes that combine different skills, such as speaking, listening, writing, and reading. However, few studies have proposed self-monitoring tasks or examined their influence on pronunciation teaching.

Hur and Park (2012) analyzed the pronunciation content of eleven integrated Korean education textbooks and illustrated that these textbooks focus primarily on communication-centered language skills, while rarely providing explanations for phonemic variation, such as phonological rules. They suggested teaching phonemic variation in the following order: final consonant rules, syllable rules, assimilation rules, and insertion rules. Their proposed instructional design for integrated Korean language classes followed a four-stage approach: presenting, explaining, practicing, and finalizing.

Yang (2013) emphasized the importance of increasing the convertibility of phonological rules between structural and phonological levels. To achieve this goal, Yang suggested two approaches: integrating pronunciation with vocabulary and balancing accuracy with fluency. Yang also proposed a four-stage instructional design based on presenting, explaining, practicing, and using. While this study provided an instructional framework for pronunciation in integrated Korean language classes, it did not examine the effects of the proposed teaching methods on students' ability to correctly apply phonological rules, nor did it design an appropriate task for use outside the classroom to enhance self-monitoring and self-correction skills.

Zhang (2016) argued that the main goal of teaching phonological rules is to enable learners to apply them unconsciously in communicative situations. Zhang emphasized raising students' awareness of the concepts and principles of phonological rules, improving their ability to perceive and monitor these rules in communicative discourse, and ultimately fostering self-correction of misapplied rules. To achieve this, Zhang designed tasks involving activities such as identifying rules in sentences or reading texts, perceiving rules in listening exercises, monitoring rules in speaking discourse, and self-evaluating their performance in these activities. However, while Zhang's study provides a pedagogical task design for teaching Korean phonological rules to advanced learners in integrated language classes, it

does not implement these activities in real classroom settings or evaluate their effectiveness in improving foreign students' pronunciation.

The existing literature on Korean pronunciation instruction for foreign learners highlights various pedagogical approaches, including integrated Korean language classes and targeted instructional designs focusing on phonological rules. Although Yang (2013) and Hur and Park (2012) offer comprehensive instructional frameworks for teaching phonological principles, their studies lack empirical evidence to demonstrate the effectiveness of these strategies in improving students' pronunciation accuracy. Similarly, while Zhang (2016) proposes innovative tasks aimed at enhancing learners' awareness and self-monitoring of phonological rules, the study does not empirically assess the impact of these tasks on pronunciation improvement.

Yan (2021) emphasized the importance of teaching multiple phonological rules (e.g., *k'ui t'najo* ("finish") is pronounced as *k'uit.na.jo* according to Rule 1 and *k'un.na.jo* according to Rule 2) in the classroom, alongside simple phonological rules. To support this, Yan analyzed the words in the *Standard Pronunciation* and identified 28 types of multiple phonological rules in Korean, highlighting the importance of drawing students' attention to these rules during the educational process. While the study comprehensively categorized the types of multiple phonological rules, it fell short in addressing how to effectively teach them in real educational settings and did not evaluate the impact of teaching these rules in the classroom. Additionally, the approach places a greater burden on students, requiring them to learn not only simple phonological rules but also the more complex multiple rules. This contrasts with the newer pedagogical approach of focusing on specific elements to improve students' intelligibility.

In this context, it is worth noting that the concept of Korean learners' intelligibility was introduced in KFL (Korean as a Foreign Language) studies for the first time in 2017. Since then, research on intelligibility and intelligible pronunciation has gained traction in the field of KFL. Hong (2018) examined the intelligibility of phonological rules applied by Laotian learners of Korean and their impact on the comprehension of native Korean speakers. The study found that, among the Korean phonological rules, nasalization significantly influenced the comprehension of native speakers, suggesting that this rule should be prioritized in pronunciation teaching. Similarly, Hasan et al. (2024) conducted an auditory experiment to investigate the effect of phonological rule application by Arabic learners of Korean on the comprehension of native Korean listeners. Their findings also indicated that nasalization played a critical role in listener comprehension. These studies underscore the

**Table 1:** Students' information

Participants	Average age	Academic level
39 (36 Females, 3 males)	20 (20–21 years old)	2nd Year

importance of including such phonological rules as essential elements of Korean pronunciation education. However, these studies were limited to investigating the impact of applying the phonological rules without proposing an instructional design for teaching them.

The gap in the literature highlights the need for empirical research to evaluate the effectiveness of instructional designs and activities in improving students' pronunciation. Specifically, there is limited research on how self-monitoring exercises impact Korean language learners' ability to pronounce words correctly. This study aims to address this knowledge gap by providing empirical evidence on the value of self-monitoring activities in enhancing students' pronunciation skills.

## 3 Methodology

### 3.1 Participants

A total of 39 students enrolled in the Korean/English B.A. program at the University of Jordan participated in the pre- and post-tests (Table 1). All participants are native speakers of Arabic (Amman dialect) and are in their first semester of the second academic year. The students were selected based on their Korean proficiency level, which is deemed appropriate for learning about phonemic variations. According to the Korean/English B.A. program study plan (Official Website of the University of Jordan, 2024), first-year students are required to take obligatory courses titled *Korean for Specialization 1* and *Korean for Specialization 2*, where they are taught skills such as reading, writing, listening, and speaking. However, due to the time constraints of these first-year courses (6 credit hours per semester), dedicating time to

teaching phonemic variations is highly challenging. As a result, it is reasonable to assume that none of the students were familiar with any Korean phonological rules at the time of the pre-test.

### 3.2 Design of the Study

As shown in Figure 1, this study is divided into three main stages: pre-test, progress, and post-test. In the pre-test, each student was asked to read 60 sentences containing targeted words and expressions, which are commonly used in pronunciation textbooks and the official website of the *Standard Pronunciation Rules of Hangeul* (1999). These sentences required the application of phonological rules (as shown in Appendix 1). Each student recorded their voice while reading the sentences using their own smartphones in a noise-free environment and submitted the audio file via the e-learning platform. Examples of the targeted words and expressions are provided in Table 2.

In the progress stage, 30 min per week were allocated for explicit instruction on the targeted phonological rules by the instructor, accounting for 30% of the total face-to-face class time each week. Over the course of 5 weeks, the lateralization and nasalization rules were explicitly taught using the *Seoul University Pronunciation 47 textbook* and a two-stage instructional design (exposure and explanation). During the face-to-face classes, students were exposed to the targeted words in both dependent and independent contexts. The phonological rules were then explained, including the environments in which they apply and the phonemes involved.

Due to time limitation, students were not able to practice the rules in class. On the day of the online assignment, students were asked to record their voices while reading a text and then listen to the same text as recorded by a native Korean speaker. They were instructed to compare the two recordings, noting the differences between their pronunciation and that of the narrator. At the end of each assignment, students were required to answer three main questions:

1. *Where are the phonological rules applied in the text?*

**Figure 1:** Design of the study.

**Table 2:** Targeted words and expressions

Lateralization	Progressive	ex) 설날/səl.lal/, 실내/sil.le/, 한글날/han.gwl.lal/, etc.
	Regressive	ex) 연락/jəl.lak/, 한라산/hal.la.san/, 신랑/sil.lan/, etc.
Nasalization	Progressive	ex) 장르/tʃan.nw/, 능력/nwŋ.njak/, 음력/wum.njak/, etc.
	Regressive	ex) 앞문/am.mun/, 못 먹고/mon.mak.ko/, 듣는/twn.nwn/, etc.
	Double	ex) 학력/han.njak/, 국립/kuŋ.nip/, 독립/toŋ.nip/, etc.

2. Did you encounter any difficulty in applying the phonological rules?
3. Were you able to apply all the phonological rules correctly? If not, write down the words you were unable to pronounce (Table 3).

Students were then asked to upload their notes along with their recordings for review by the instructor. Over the 5 weeks, the instructor provided feedback based on the students' notes and recordings.

After the designated period of instruction, the post-test was conducted with the same students and materials listed in Table 2.

### 3.3 Data Collection

Thirty-nine students uploaded their recordings, which included 60 targeted words, onto the e-learning platform during both the pre-test and post-test. As a result, a total of 4,680 observations (39 students  $\times$  60 words  $\times$  2 tests) were collected.

**Table 3:** Sample assignment (Seoul University Pronunciation 47 Textbook, Page 37)

A: 실례합니다. "Excuse me"
B: 네, 어떻게 오셨어요? "How can I help you?"
A: 김 선생님 좀 만나러 왔는데요. "I came to meet Kim teacher."
B: 지금 막 나가셨는데 못 만나셨어요? "He just left now, couldn't you meet him?"
A: 제가 김 선생님 얼굴을 몰라서요. "I never saw Kim teacher before"
B: 그럼 잠깐 기다리시겠어요? 조금 있으면 오실 거예요. "Can you wait for a moment? He will come back soon."
A: 알겠습니다. "Okay."
Instructions & Questions
– Listen to the attached audio file
– Record your voice while reading the same text
– Compare between the two recordings
– Answer to the following questions
Q1: Where are the phonological rules applied in the text?
Q2: Did you encounter any difficulty in applying the phonological rules?
Q3: Were you able to apply all the phonological rules correctly? If not, write down the words you were unable to pronounce

### 3.4 Data Analysis

The observations were categorized as either "correct" or "incorrect" based on the application of the targeted rules. Observations were classified as "correct" when the phonological rules were applied correctly, while cases of misapplication (e.g., pronouncing *nonli* ("logic") as *non.ni* instead of *nol.li*) or non-application (e.g., pronouncing *nonli* ("logic") as it is written) were classified as "incorrect." All observations were converted into binary codes (correct = 1, incorrect = 0) using RStudio, an integrated development environment for R, a programming language for statistical computing and graphics. The data were then reorganized into tables based on the type of phonological rule (e.g., progressive lateralization pre-test vs progressive lateralization post-test). Subsequently, a dependent-sample *t*-test was conducted to determine the statistical significance of the differences between the pre-test and post-test results.

### 3.5 Results

The results for progressive lateralization show that only 24.1% of the total observations were correctly applied in the pre-test; however, this percentage increased significantly to 96.2% in the post-test. For regressive lateralization, the percentage of correctly applied observations rose from 41% in the pre-test to 96.3% in the post-test, indicating a substantial improvement in the students' ability to apply lateralization rules in both directions (Table 4, Figure 2).

A dependent-sample *t*-test was conducted to determine the statistical significance of the difference between the pre-test and post-test results. The difference between the two tests in terms of progressive lateralization ( $t(986) = -34.13$ ,  $p < 0.001$ ) was below the significance level ( $p \leq 0.05$ ), indicating that the difference between the two tests was highly significant. Similarly, the difference in terms of regressive lateralization ( $t(910) = -22.15$ ,  $p < 0.001$ ) was below the significance level ( $p \leq 0.05$ ), suggesting that the difference between the two tests was also highly significant, as shown in Table 5.



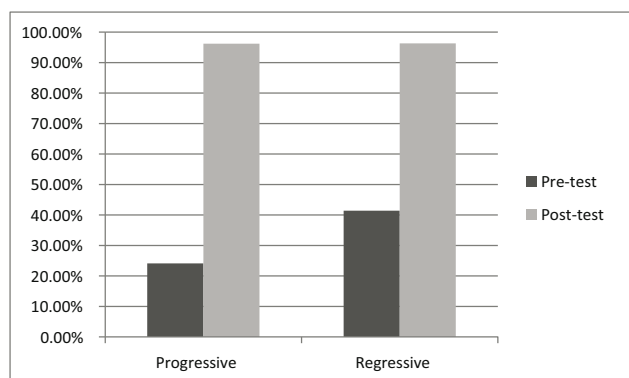
**Table 4:** Correctly applied lateralization rules in pre- and post-tests

	Pre-test	Post-test
Progressive	119 (24.1%)	475 (96.2%)
Regressive	189 (41.4%)	439 (96.3%)

In terms of progressive nasalization, the results show that only 21.3% of the total observations were correctly applied in the pre-test; however, this percentage increased to 92.2% in the post-test. For regressive nasalization, the percentage of correctly applied observations rose from 23.9% in the pre-test to 91.9% in the post-test. In the case of double nasalization, which recorded the lowest percentage at 15.8% in the pre-test, the percentage increased to 93.4% in the post-test. Overall, the results indicate a significant improvement in students' ability to apply the nasalization rules after the designed period (Table 6, Figure 3).

A dependent-sample *t*-test was conducted to determine the statistical significance of the difference between the pre-test and post-test results. The difference between the two tests in terms of progressive nasalization ( $t(986) = -32.52, p < 0.001$ ) was below the significance level ( $p \leq 0.05$ ). The difference in terms of regressive nasalization ( $t(1,062) = -30.99, p < 0.001$ ) was also below the significance level ( $p \leq 0.05$ ). Additionally, the difference in terms of double nasalization ( $t(304) = -30.65, p < 0.001$ ) was below the significance level ( $p \leq 0.05$ ), indicating that the differences between the two tests were highly significant, as shown in Table 7.

Through the pre/post-tests, the study was able to confirm the positive impact of self-monitoring tasks on students' pronunciation in terms of applying phonological rules. Overall, the results showed a significant difference in students' skills after the designated period of explicit instruction and self-

**Figure 2:** Lateralization rules correctly applied on progressive and regressive directions in the pre- and post-tests.**Table 5:** T-test results of pre-test and post-test of lateralization

	Pre-test (N1 = 39)		Post-test (N2 = 39)		DF	t	p
	M	SD	M	SD			
Progressive	0.24	0.43	0.96	0.19	986	-34.13	<0.001
Regressive	0.41	0.49	0.96	0.19	910	-22.15	<0.001

monitoring, indicating that self-monitoring tasks are highly effective in enhancing students' pronunciation.

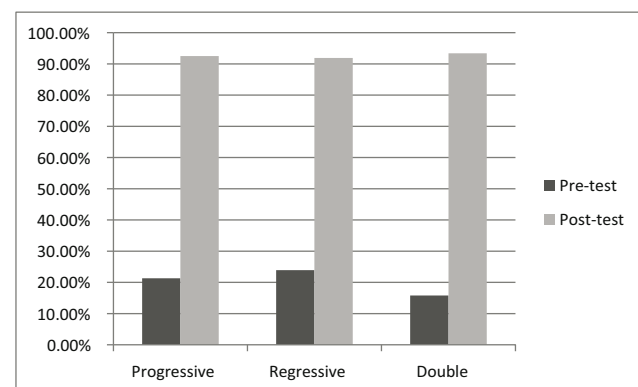
## 4 Discussion

### 4.1 Enhancing Learning Outcomes

The first question of this study was, "Does the self-monitoring task enhance students' pronunciation in terms of lateralization and nasalization rules?" The answer is "yes." The students' results after completing the designated period of self-monitoring tasks were significantly higher compared to their pre-test results. This finding is consistent with previous studies (Luo & Zhou, 2024), which confirmed that self-

**Table 6:** Correctly applied nasalization rules in the pre- and post-tests

	Pre-test	Post-test
Progressive	105 (21.3%)	457 (92.5%)
Regressive	127 (23.9%)	489 (91.9%)
Double	48 (15.8%)	284 (93.4%)

**Figure 3:** Nasalization rules correctly applied on progressive, regressive, and double directions in the pre- and post-tests.

**Table 7:** *T*-test results of pre-test and post-test of nasalization

	Pre-test ( <i>N</i> 1 = 39)		Post-test ( <i>N</i> 2 = 39)		DF	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Regressive	0.21	0.41	0.93	0.26	986	-32.52	<0.001
Progressive	0.24	0.43	0.92	0.27	1,062	-30.99	<0.001
Double	0.16	0.37	0.93	0.25	304	-30.65	<0.001

monitoring is essential and effective in enhancing learning outcomes, particularly in blended courses.

This significant improvement would not have occurred without the self-monitoring tasks, as the time allocated to teaching these phonological rules within the two-stage instructional design (exposure-explanation) was limited. Lateralization and nasalization rules, in particular, are regarded as the most difficult for foreign learners (Heo, 2012), and many instructors tend to avoid teaching them due to their complexity (Lee, 2017). In this study, students were initially confused and frustrated during class, often complaining that the rules were complicated to understand. However, after completing the online assignments, students found the rules easier to implement in communicative discourse.

This highlights how self-monitored learning can be more effective than passive learning in the classroom. After the 5-week period, students expressed a willingness to continue studying these rules, stating that being aware of them had significantly improved their pronunciation on their own.

## 4.2 Student's Self-Evaluation

The second question of this study was, "Does self-evaluation reflect students' ability to apply lateralization and nasalization rules correctly?" The answer is "no." Each week during the experiment, the online assignments were evaluated by the instructor. It was observed that students consistently evaluated their pronunciation more positively than their actual performance reflected.

For example, in response to the second and third questions of the online assignment – "Is there any difficulty in applying the phonological rules?" and "Did you apply all the phonological rules correctly? If not, write down the words you were not able to pronounce?" – the majority of students claimed that they experienced "no difficulty" and were able to apply all the phonological rules correctly.

However, their recorded submissions often did not support these claims.

This discrepancy can be interpreted as follows:

1. Fear of losing marks: Students may have been reluctant to admit their inability to pronounce the rules correctly, fearing it could negatively impact their grades.
2. Lack of thorough comparison: As part of the online assignment, students were required to listen to a native Korean speaker and compare their own recordings to the native speaker's. However, since this task was done independently outside the classroom without teacher supervision, students may have only listened to the native speaker's recording once and skipped the comparison step.
3. Difficulty noticing differences: Students may have been unable to discern the differences between their pronunciation and the native speaker's pronunciation.
4. Cultural influences: Students' cultural backgrounds or mindsets may have influenced their reluctance to admit weaknesses. Brown (2005) argued that cultural background can affect self-judgment. For instance, Japanese individuals often exhibit high self-criticism compared to North Americans, as they place greater emphasis on approximating cultural ideals.

## 4.3 Benefiting from E-Learning Platforms

The third question of this study was, "Do students benefit from E-learning platforms in performing their online assignments?" The answer is "yes." Through the use of e-learning platforms, students were able to practice pronunciation continuously, receive quick feedback, and monitor their own development. All of these factors helped reinforce the lessons taught in class. Incorporating e-learning platforms into the educational process empowered students to take charge of their own pronunciation development outside the classroom. Using web-based learning tools and applications enables foreign language students to stay connected with the material taught both inside and outside the classroom (Panagiotidis, Krystalli, & Arvanitis, 2023). Over the past decade, the use of technology for self-monitoring has increased, and its effectiveness in enhancing students' academic achievements has been approved in the educational process (Bruhn et al., 2020; Davis, Mason, Davis, Mason, & Crutchfield, 2016). Additionally, it alleviated some of the burden on the instructor, who was tasked with teaching several language skills during face-to-face classes.

## 5 Conclusion

This study aimed to provide empirical evidence examining the impact of self-monitoring tasks on improving the pronunciation of foreign learners of Korean, specifically in terms of lateralization and nasalization rules. A total of 39 students, all in their second academic year of the Korean/English B.A. program, participated in this experiment. A pre-test was conducted to assess the students' ability to apply the phonological rules correctly, followed by 5 weeks of explicit instruction on the phonological rules, which included online assignments based on self-monitoring tasks to raise students' awareness of these pronunciation elements. After the designated period, a post-test was conducted to determine whether there was an improvement in students' performance.

As a result, despite the limited time allocated for teaching the targeted phonological rules, there was a significant difference in students' performance before and after the intervention. After the designated period, students were able to identify and apply progressive lateralization, regressive lateralization, progressive nasalization, regressive nasalization, and double nasalization in communicative discourse.

Based on these findings, the study suggests incorporating self-monitoring tasks into the pronunciation teaching of Korean phonological rules, particularly in blended or online courses that provide students with sufficient time to learn independently outside the classroom. The study also emphasizes the importance of explicit instruction preceding the self-monitoring tasks in order to draw students' attention to the targeted elements. In conclusion, this study highlights the need for further research to investigate the impact of self-monitoring tasks on teaching other pronunciation elements of Korean at both the segmental and suprasegmental levels.

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## References

- Brown, R. A. (2005). The paradox of Japanese self-esteem. *Information & Communication Studies*, 32, 1–12. [https://www.researchgate.net/publication/269405959\\_14\\_Brown\\_R\\_A\\_2005\\_The\\_Paradox\\_of\\_Japanese\\_Self-Esteem\\_Information\\_Communication\\_Studies\\_32\\_1-12](https://www.researchgate.net/publication/269405959_14_Brown_R_A_2005_The_Paradox_of_Japanese_Self-Esteem_Information_Communication_Studies_32_1-12).
- Bruhn, A., Gilmour, A., Rila, A., Van Camp, A., Sheaffer, A., Hancock, E., & Wehby, J. (2020). Treatment components and participant characteristics associated with outcomes in selfmonitoring interventions. *Journal of Positive Behavior Interventions*, 24(2), 156–168. doi: 10.1177/1098300720946651.
- Davis, J. L., Mason, B. A., Davis, H. S., Mason, R. A., & Crutchfield, S. A. (2016). Self-monitoring interventions for students with ASD: A meta-analysis of school-based research. *Review Journal of Autism and Developmental Disorders*, 3(3), 196–208. doi: 10.1007/s40489-016-0076-y.
- Grant, L. (2014). *Pronunciation myths: Applying second language research to classroom teaching*, (pp. 1–33). University of Michigan Press.
- Hasan, E. (2021). A Study on Pronunciation Teaching Methods for the Jordanian Learners of Korean. (Ph.D. dissertation). Seoul, South Korea: Hankuk University of Foreign Studies. [https://www.riss.kr/search/detail/DetailView.do?p\\_mat\\_type=be54d9b8bc7cdb09&control\\_no=ee9c4dc54fc9e28effe0bdc3ef48d419&keyword=%EC%9A%94%EB%A5%B4%EB%8B%A8%20%ED%95%99%EC%8A%B5%EC%9E%90](https://www.riss.kr/search/detail/DetailView.do?p_mat_type=be54d9b8bc7cdb09&control_no=ee9c4dc54fc9e28effe0bdc3ef48d419&keyword=%EC%9A%94%EB%A5%B4%EB%8B%A8%20%ED%95%99%EC%8A%B5%EC%9E%90).
- Hasan, E., Ahn, Y., & Altakhaneh, A. R. M. (2024). A study on intelligibility, comprehensibility and accentedness based on the application pattern of lateralization and nasalization rules in foreign-accented speech of Korean. *Cogent Arts & Humanities*, 11(1), 2384708. [https://www.researchgate.net/publication/382597380\\_A\\_study\\_on\\_intelligibility\\_comprehensibility\\_and\\_accentedness\\_based\\_on\\_the\\_application\\_pattern\\_of\\_lateralization\\_and\\_nasalization\\_rules\\_in\\_foreign-accented\\_speech\\_of\\_Korean#fullTextFileContent](https://www.researchgate.net/publication/382597380_A_study_on_intelligibility_comprehensibility_and_accentedness_based_on_the_application_pattern_of_lateralization_and_nasalization_rules_in_foreign-accented_speech_of_Korean#fullTextFileContent).
- Heo, Y. (2012). A phonological analysis on pronunciation errors of Korean language learners- on phonological processes. *Korean Studies*, 46, 201–232.
- Hong, J. H. (2018). A Study on Korean Pronunciation Education for Laotian Learners. (Ph.D. dissertation). Seoul, South Korea: Seoul National University. [https://www.riss.kr/search/detail/DetailView.do?p\\_mat\\_type=be54d9b8bc7cdb09&control\\_no=9fb5459bfb70dd9ffe0bdc3ef48d419&keyword=A%20Study%20on%20Korean%20Pronunciation%20Education%20for%20Laotian%20Learners](https://www.riss.kr/search/detail/DetailView.do?p_mat_type=be54d9b8bc7cdb09&control_no=9fb5459bfb70dd9ffe0bdc3ef48d419&keyword=A%20Study%20on%20Korean%20Pronunciation%20Education%20for%20Laotian%20Learners).
- Hur, Y. R., & Park, D. Y. (2012). A study on the methods of pronunciation education in Korean language textbooks for foreign beginners- focused on the rules of phonemic variation. *The Academy for Korean Language Education*, 90(9), 363–388. <https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART001650662>.
- Krashen, S. D. (1982). *Principles and practice in second language acquisition*. United States: Pergamon Press. [https://www.sdkrashen.com/content/books/principles\\_and\\_practice.pdf](https://www.sdkrashen.com/content/books/principles_and_practice.pdf).
- Lee, H. (2017). Components of teaching Korean language pronunciation. *Journal of Korean Language Education*, 28(3), 105–126. <https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART002255686>.
- Luo, R., & Zhou, Y. (2024). The effectiveness of self-regulated learning strategies in higher education blended learning: A five years systematic review. *Journal of Computer Assisted Learning*, 40(6), 3005–3029. <https://onlinelibrary.wiley.com/doi/10.1111/jcal.13052>.



- Morley, J. (1991). The pronunciation component in teaching English to speakers of other languages. *TESOL Quarterly*, 25(3), 481–520. <https://onlinelibrary.wiley.com/doi/abs/10.2307/3586981>.
- Official Website of the Study Plan of the Korean and English B.A. Program in the University of Jordan. (2024). [https://languages.ju.edu.jo/Lists/ProgramSpecifications/School\\_ProgSpic\\_last.aspx?prog=36&categ=18](https://languages.ju.edu.jo/Lists/ProgramSpecifications/School_ProgSpic_last.aspx?prog=36&categ=18).
- Official Website of ‘Standard Pronunciation Rules of Hangeul’. (1999). [https://www.korean.go.kr/front/page/pageView.do?page\\_id=P000101&mn\\_id=95](https://www.korean.go.kr/front/page/pageView.do?page_id=P000101&mn_id=95).
- Panagiotidis, P., Krystalli, P., & Arvanitis, P. (2023). Technology as a motivational factor in foreign language learning. *European Journal of Education (EJED)*, 6(1), 69–84. <https://eric.ed.gov/?id=EJ1417303>.
- Yan, L. (2021). A study on the setting types of the application of multiple phonological rules for Korean language education. *Journal of Korean Language Education*, 32(1), 73–108. <https://www.kci.go.kr/kciportal/ci/SereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART002687759>.
- Yang, S. (2013). Classifying phonological phenomena related to ‘ㄷ’ and teaching method of rules related to syllable initial ‘ㄷ’. *Journal of Korean Language Education*, 24(1), 155–176. [https://www.riss.kr/search/detail/DetailView.do?p\\_mat\\_type=1a0202e37d52c72d&control\\_no=674648e8304f5bcb36097776a77e665&keyword=Classifying%20Phonological%20Phenomena%20Related%20to%20%E2%80%98ㄷ%E3%84%B9%E2%80%99%20and%20Teaching%20Method%20of%20Rules%20Related%20to%20Syllable%20Initial%E2%80%98ㄷ%E3%84%B9%E2%80%99](https://www.riss.kr/search/detail/DetailView.do?p_mat_type=1a0202e37d52c72d&control_no=674648e8304f5bcb36097776a77e665&keyword=Classifying%20Phonological%20Phenomena%20Related%20to%20%E2%80%98ㄷ%E3%84%B9%E2%80%99%20and%20Teaching%20Method%20of%20Rules%20Related%20to%20Syllable%20Initial%E2%80%98ㄷ%E3%84%B9%E2%80%99).
- Yule, G., Hoffman, P., & Damico, J. (1987). Paying attention to pronunciation: The role of selfmonitoring in perception. *TESOL Quarterly*, 21(4), 765–768. <https://www.jstor.org/stable/3586994>.
- Zhang, Y. N. (2016). A study on designing pedagogical task of Korean phonological rules for Korean advanced learners-focusing on the integration of pronunciation into listening and speaking. *Journal of Korean Language Education*, 27(4), 219–242. <https://www.kci.go.kr/kciportal/ci/SereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART002168150>.

## Appendix 1 Sentences Used in Pre/Post-tests

1. 연락처 좀 적어 주세요.
2. 한국 교통이 편리해요.
3. 피부 관리를 매일 해요.
4. 학생이 아니라서 곤란해요.
5. 그녀는 진로에 대해 고민해요.
6. 한라산이 제주도에 있어요.
7. 신랑과 신부가 잘 어울려요.
8. 대결이 항상 가장 좋은 전략은 아니에요.
9. 본래 이곳에는 사람이 살지 않았어요.
10. 천 리 길도 한걸음부터 시작해요.
11. 그는 언론에 나왔어요.
12. 연료 값이 많이 올랐어요.
13. 설날에 뭐 해요?
14. 실내에서는 금연이에요.
15. 사물놀이 공연을 보러 갈까요?
16. 한글날은 10월9일이에요.
17. 한국에 온 지 칠 년이 되었어요.
18. 저는 생일날에 가족들과 저녁을 먹어요.
19. 이 동네에 물냉면 맛집이 있어요.
20. 일 년 동안 수고해주세요.
21. 준비 운동으로 줄넘기가 좋아요.
22. 이 소설은 오늘날에도 여전히 인기가 많아요.
23. 이번 주에 물놀이 하러 갈까요?
24. 돈을 내 주세요.
25. 이 사진은 잘 나왔네요.
26. 밥과 국물만 주세요.
27. 몇 학년이에요?
28. 콧물이 나서 못 먹겠어요.
29. 저는 천천히 걷는 편이에요.
30. 작년에 해외에 못 나갔어요.
31. 엘리베이터에 갇혀서 죽는 줄 알았어요.
32. 음악을 듣는 게 좋아요.
33. 앞 문으로 배달해 드릴까요?
34. 스케줄을 보니까 내일 시간이 있는 것 같아요.
35. 사십 명쯤 왔어요.
36. 어제 밥을 못 먹고 잤어요.
37. 새해 복 많이 받으세요.
38. 감기약 남았어요?
39. 저녁 먹고 합시다.
40. 대통령 취임식은 5월10일이에요.
41. 음료수 뭘로 시켰어요?
42. 가장 좋아하는 장르가 뭐예요?
43. 철수가 문제 해결 능력이 탁월해요.
44. 직장 동료들이랑 카페에 갔어요.
45. 일 마친 후에 정리해요.
46. 버스 정류장이 어디예요?
47. 건강 보험료를 얼마나 내요?
48. 음력 8월15일이 추석이에요.
49. 우리 배는 태풍 때문에 항로를 바꿨어요.
50. 등록금이 오른대요.
51. 너무 염려하지 마세요.
52. 아이스크림의 종류가 많아요.
53. 왕십리까지 어떻게 가요?
54. 요즘 학력이 중요해요.
55. 국립 박물관에 가 봤어요?
56. 요르단 독립 기념일이 언제예요?
57. 코로나 환자의 격리가 필요 해요.
58. 두 나라가 경제 분야에 대해 협력하기로 했어요.
59. 판사는 법률에 따라 공정한 재판을 하려고 노력했어요.
60. 오늘은 여유롭게 산책로를 걸어요.