Incidences Prompting Shadowing Disruptions and Shadowing Efficacy in English-Japanese Interpreting

Omissions in Shadowing and its Relationship with Source Text Interpretation

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There has been a fervent debate concerning the idea that shadowing is merely a monolingual repetition of verbal output, rather than being a useful tool for enhancing content-processing capacity (Pöchhacker, 2004/2016). However, few studies have explicitly examined how a shadowing task can contribute to consecutive interpreting according to effectiveness evaluations based on empirical data. The present study aims to identify the most frequent incidences prompting disruptions in shadowing and to assess its correlation with the accuracy of source text interpretation. For this purpose, this study utilized data from 56 participants who took shadowing tests and the subsequently conducted English-Japanese consecutive interpreting tests in the interpreting courses at a Japanese university. Then the variability of the efficacy of shadowing was investigated. The results demonstrated a positive effect of shadowing on the group that administered intensive shadowing treatment while some provocative findings were also ascertained. Thus, this study elucidates the true nature of a shadowing activity.

1. Introduction

Shadowing refers to an exercise in verbal training for learning a new language that involves "the immediate repetition of auditory input in the same language with either minimal delay (ʻphoneme shadowingʼ) or at greater latencies (ʻphrase shadowingʼ)" (Pöchhacker, 2004: 184/ 2016: 200). To date, the usefulness of shadowing in the preliminary stage of interpreter training for increasing the awareness of sounds and cadences in the source language has been advocated in the arena of interpreting professionals as well as in academia. However, this is a controversial topic, and there has been a fervent debate concerning whether shadowing is really a useful tool that ultimately leads to enhancing interpretation skills and overall listening comprehension

skills, or if it is simply a mechanical repetition exercise (Lambert, 1989), which requires no effort to understand the spoken words. This contention dates back to the early 1990s. Pöchhacker (2004) invoked Lambert (1991) as a fervent advocate of the shadowing task, and Seleskovitch and Lederer (1989: 168) as staunch opponents, who argued that a shadowing task exemplified "the division between the holistic training approach and the 'cognitive approach' based on the identification and separate practice of component skills." Kurz (1992) cited neuropsychological findings and characterized "a monolingual repetitive speech production as a poor approximation to simultaneous interpreting" without having active analysis of the speech input (cited in Pöchhacker, 2004).

Thus, in recent years, shadowing has continuously been a target of heated debate, and there are divergent viewpoints on the usefulness of the task. However, this has not yet been discussed to a satisfactory extent based on the evidence obtained. In particular, few studies have empirically analyzed the effects of shadowing on source text interpretation. Interest in the relationship between shadowing and simultaneous interpreting has remained high over the last few decades (Pöchhacker, 2004/2016). However, few studies have explicitly examined how a shadowing task can contribute to the development of source text interpretation per effectiveness evaluations based on empirical data.

In this context, the present paper first identifies the incidences that prompt the disruptions or departures in shadowing and then explores the correlation between shadowing and post-task recognition of semantic source text information. The author argues that a shadowing task is trainable. If students are well trained in shadowing over a fair amount of time, and then undergo a certain stage of development, they will reduce the incidences promoting disruptions or departures in shadowing. They will also be able to shift their shadowing style from mere repetition focused on just prosody to content-based shadowing, acquiring the meaning-oriented processing approach, which ultimately leads to progress in English-to-Japanese interpretation. This study aims to obtain evidence that will yield the salient attributes of a shadowing task for bolstering and enhancing students' interpretation skills and overall aural comprehension skills when introduced in a university setting.

2. Literature review

Some previous studies have explored the attributes of interpreting and shadowing from the cognitive approach of language processing. Lambert (1989) compared the recall and recognition scores of participants after administering simultaneous interpreting, consecutive interpreting, shadowing, and listening tests, and found that the recall scores yielded no significant differences between listening and the two interpreting conditions, whereas shadowing resulted in significantly lower recall than listening and consecutive interpreting (cited in Pöchhacker, 2004/2016). A similar result for the recognition scores between shadowing and simultaneous

interpreting was also reported by Pöchhacker (2004/2016). Gerver (2002) explored the fundamental nature of simultaneous interpreting and shadowing performances from the cognitive approach by examining the effects of the source language presentation rate on both performances. He systematically varied the input rate of presentation of a source language, for both simultaneous interpreting and shadowing. The result confirmed the earlier findings of Carey (1968) and Treisman (1965): that is, significantly more words were correctly shadowed than correctly interpreted when input rate became faster. He then concluded that both shadowers and interpreters correct their errors, but interpreters tend to work more, which suggests that the unit of analysis is "phrase" for interpreters and "word" for shadowers (Gerver, 2004). Gerver (2002) also found that the ear-voice span for interpreting becomes greater than for shadowing not only because processing in interpreting takes longer but also because a phrase in interpreting may be the unit of storage, which is larger than shadowing.

Another issue worth discussing is whether shadowing is a trainable activity. In this context, a shadowing task was analyzed from the so-called expert-novice paradigm. Moser-Mercer et al. (2000) conducted an experiment on various language-processing skills that are assumed to be part of expert proficiency in interpreting for both professional interpreters and students. She found that neither the shadowing task nor the verbal fluency tasks yielded evidence discriminating between expert and novice performance. In a comparable study, Sabatini (2000, 2001) stated that near-professional student subjects in her experiment adopted a meaning-oriented approach to the shadowing task, which made the difference between shadowing and simultaneous interpreting obscure (cited in Pöchhacker, 2004/2016).

3. Research Questions

The research questions addressed in this study are as follows:

1) What is the most serious incidence that prompts disruptions or departures in shadowing performances?

2) Could intensive shadowing treatment, applied to research participants over a certain period, enhance the accuracy of their shadowing performances?

3) Could intensive shadowing treatment, applied to the research participants over a certain period, ultimately increase the participants' ability to interpret the source text?

4. Method

4.1. The Research Participants

The present research was conducted during spring semester in 2015 at the university where the author was teaching. Research participants constituted third- and fourth-year students registered for introductory courses in English-to-Japanese interpreting. None of them had ever undergone interpreter training. The subjects were enrolled in three different classes in the interpreting

course, and the majority were English majors, with two non-major students in each class. The intensive shadowing treatment was administered to the experimental group of 19 students for about 30 minutes during every lesson (90 minutes), twice a week. A total of 30 lessons were conducted in the whole semester. On the other hand, 37 students from the other two classes combined were classified as "the control group" to which no particular intensive shadowing treatment was applied, but merely simple shadowing tasks, without any distinction between prosody and content, were applied three times, just after listening to the source materials once with textbook closed. The 90-minute lesson was provided to the control group once a week, which accounted for 15 lessons in the whole semester. In addition, almost equivalent verbal consecutive interpreting training from English to Japanese was administered shortly after shadowing training to both the experimental and control groups. All lessons were given in the CALL room or simultaneous interpreting room.

4.2. Procedure for Intensive Shadowing Treatment

The textbook used in the intensive shadowing activity was entitled "Shadowing" (Kadota & Tamai, 2004). The treatment was administered for about 30 minutes in each lesson just before consecutive interpreting was undertaken. The task entailed the following steps, conducted in the following order, with the students wearing headsets in the CALL room.

1) Listening (textbook closed)

2) Prosody shadowing (textbook closed)

3) Content shadowing (textbook closed)

4) Time lag or time delay shadowing (textbook closed)

5) Checking (textbook open)

6) Recording the students' shadowing performances in their own computers (textbook closed)

7) Listening to their own recorded performance while checking the errors in shadowing (textbook open)

8) Wrap-up with the final goal to output 100% of words correct

Tamai and Kadota (2004) distinguished content shadowing from prosody shadowing when administering shadowing practice to the students. Indeed, if a teacher does not give them any instruction about these two distinctive elements, they perform shadowing without any concern about whether it is prosody-oriented or content-oriented, and simply do it "parrot-like" —that is, mechanically (Lambert, 1989).

Therefore, in the present study, first, the students performed prosody shadowing, in which they had to be attentive to the stress, pitch, tone, speed, rhythm, intonation, pause, and other prosodic elements of a speaker. As they were wearing headsets in the CALL room, they could focus their attention on the prosody without being disturbed by other students' voices or their own voices. In the second stage, they performed content shadowing in which they had to be

attentive to the content of the text.

Next, the students were instructed to perform "time lag shadowing" in order to acquire the processing components needed to prepare for the simultaneous interpreting training intended for administration at the end of the semester. In this activity, the students were not supposed to output verbally what they heard word for word almost simultaneously, but when listening to one semantic chunk (phrase), they were to retain it in their memory, and then verbally output what they had just heard very quickly before the start of the next chunk.

The production of the target message usually lags behind the source message by a few seconds or a number of words, which is called *decalage,* or the time delay in translation. It is estimated that there is a lag of about five words for interpreting and of about two to three words for shadowing between the input and the corresponding output (Christoffels & De Groot, 2004). Time lag shadowing is a challenging and demanding task for students in an introductory interpreting course, as they usually cannot wait for more than three words after hearing them; thus, it is considered that a delay of a maximum of four words would be appropriate for them. In this training, instructors should be careful about the text selection and have their students try this activity after administering enough training in normal shadowing. If the same source text that has been already used in normal shadowing is also used for time lag shadowing, the load imposed on short-term memory may be reduced. Much of the empirical evidence suggests that an interpreter uses short-term memory to retain the words just heard and long-term memory to put the information into context (Phelan, 2001: 4-5). In this respect, time lag shadowing would be effective in enhancing content-processing strategy in both short-term and long-term memories.

As a summary of the series of shadowing activities, the students record their shadowing performances into their own computers, and listen to them with their textbook open to check for the part they did not correctly shadow. Recording their performances is repeated several times to reduce the number of errors they commit.

4.3. Data collection

Data were collected from 56 students in total from the mid-term examination, which was conducted after 17 lessons for the experimental group, and after 7 lessons for the control group. The final examination was conducted after all lessons were completed (30 for the experimental group, and 15 for the control group). A total of 56 research participants took the mid-term and final examinations, in which the students were first assigned the shadowing condition and then the consecutive interpreting condition, both using the same source text. Their performances of shadowing and consecutive interpreting from English to Japanese were recorded in their computers. In addition to these tests, other consecutive interpreting tests were administered, which were irrelevant to this experiment, between the shadowing and interpreting conditions to

reduce the practice effects of two conditions. Thus, the total amount of time consumed by the mid-term or final examinations reached around 50 minutes each. The author obtained written consent from the students to use the test results as data.

4.4. Material

The source text used in the mid-term examination consisted of 233 words, which were extracted from the text of "Japanese Ancient Capitals, Nara and Kyoto" (Ohata, Okuda, & Tanimoto, 2009), while the one used in the final examination consisted of 197 words, which were extracted from a text entitled "Internet" (Mizuno & Kagimura, 2005).

1) Excerpt of the shadowing text for the midterm examination.

> The most popular sightseeing spots are Todaiji Temple and Kasuga Shrine located in the extensive Nara Park where many deer can be seen. The deer in Nara Park are said to be divine messengers of the Kasuga Shrine. They are so internationalized that they understand English, believe it or not.... Todaiji Temple is the largest wooden building in the world, and it houses the Daibutsu, or big Buddha, which measures about 15 meters in height.... (Ohata, Okuda, & Tanimoto, 2009)

2) Excerpt of the shadowing text for the final examination.

> As you probably know, the Internet is said to have originated from the computer system in the Pentagon. After this system was adopted by research institutes and universities, it became widely used in the United States. Today, it is said that more than one hundred million people are using the Internet for e-mail around the world. When I met a business consultant in Washington DC, he told me that in his opinion, there were three important things for a businessman to do right now.... (Mizuno & Kagimura, 2005)

4.5. Measurements

When analyzing shadowing performances, incidences resulting in disruptions or departures can be categorized based on five events: omissions of words, substitutions, corrections, additions, and distortions (Gerver, 2002). The author also referred to the categories of translation departure established by Baric (2002: 80–81), and the error category made by Gerver (2002). Then the author created the following classification for the present research.

Incidences as an assessment criteria of this study
1) "Omissions of words" involve skipping omission, comprehension omission, and delay omission. Skipping omission refers to a single word present in the original version, which is left

out of the verbal output text by the shadowing performer. Comprehension omission involves the omissions in longer stretches of input of eight words or more—that is, a single lexical item such as a qualifier or short phrase—owing to the participant's inability to comprehend the original text. Delay omission means the omission of a large unit of text seemingly and primarily because of a delay in the output speed compared to the input one (Barik, 2002).

2) "Substitutions" involve approximate or less precise responses. Although they are grammatical and meaningful, they alter the meaning of a sentence in some way (Gerver, 2002).

3) "Additions" refer to items not found in the original text, which are added to the output text (Baric, 2002).

4) "Corrections" occur whenever a speaker interrupts his output to correct previous words and phrases (Gerver, 2002).

5) "Distortion" is an error or inaccuracy in the output of a word, which distorts the intended meaning (Gerver, 2002).

In the present research, the number of words that were not correctly shadowed was counted based on the above-mentioned classification. This was a straightforward task. However, in contrast to counting incidences in the shadowing performances, assessing the interpreting performances requires a more complex approach. In this process, paraphrase should be considered because word-for-word translation was not expected, and indeed, such would not have been a good translation from the interpreter's point of view (Gerver, 2002). Rating the paraphrased translation and yielding the specific score for it in the criteria-referenced test are not easy tasks for average university instructors. Therefore, employing the scoring rubric created by this author (Yamada, 2015) is recommended.

In the scoring rubric, for each phrase (semantic chunk) in one sentence, specific points were allocated according to difficulty in translation. To ascertain the difficulty level in translating words, a "word frequency list" in an academic area (http://www.wordandphrase. info/frequencyList.asp) was used. Additionally, based on the error classification (Cary, 1968, and Balzani, 1990, cited in Gerver, 2002), the author created the error categories in interpreting. They are as follows: "word omissions," "word substitutions," "additions of words," "meaning errors of words," "distortions of words," "errors in rendering figures and proper names," and "others." This scoring rubric can expedite the assessment process and accurately measure consecutive interpreting performances with facility. Hence, in the present research, this scoring rubric was employed to assess the interpreting performance.

5. Results

5.1. Incidences Prompting Shadowing Disruptions

5.1.1. Comparison of the Incidences

Each student's shadowing performances were recorded in his or her computer, were recovered through USB flash drive, and then assessed. The number of words including these incidences was counted, and is shown in Figures 1–4.
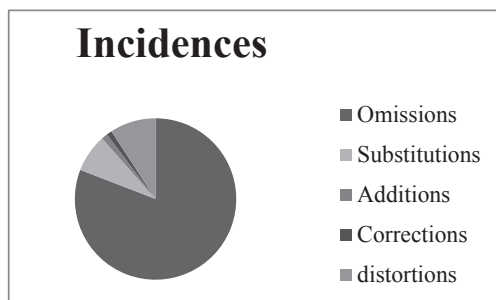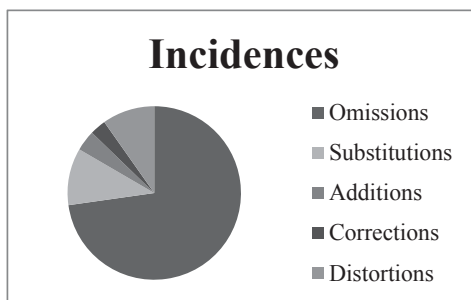

Figure 1. The experimental group in the midterm.
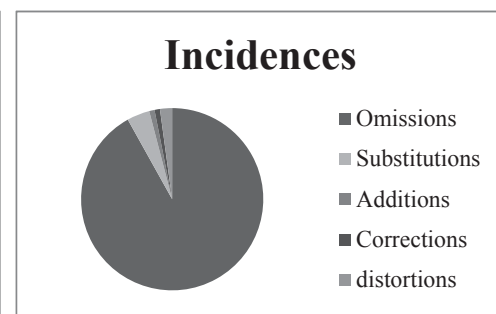

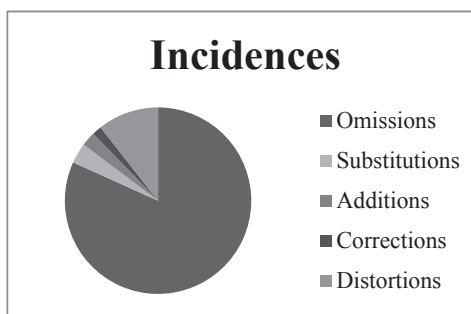*Figure 2.* The control group in the midterm.

Figure 3. The experimental group in the final exam.

Figure 4. The control group in the final exam.

5.1.2. Qualitative Data Analysis

Upon closer examination, specific natures held by respective incidences were observed as follows.

1) "**The omission of words**" was the most frequent incidence that caused shadowing disruptions compared to the other four incidences. When the input words were unfamiliar to the students, comprehension omissions occurred because of their inability to understand the meaning of the uttered words. Further, delay omissions occurred when the speaker uttered a short phrase very quickly−for example, "believe it or not" in the text shown in section 4.4. Omissions of longer stretches with input of eight words or more, which were caused by comprehension omissions or delay omissions, occurred more frequently in the control group than in the experimental group. Once speaking errors begin, the result is a snowballing effect

that causes a long stretch of omitted words (Gerver, 2002).

2) The frequency of "**substitutions**" was the second highest.

The most frequent error committed by the students in substitutions was skipping the "s" of the third-person singular, skipping the plural "s," or skipping the ordinal indicator "th" from the original words. Substitutions also involved errors stemming from confusion caused by homonyms or near-homonyms. For example, the word "extensive" was accidentally misheard and output falsely as "extended" or "extending." Confusing the sound of words in the text also caused substitutions: for example, in "I would like to talk about the Internet, which is one of the most important <u>themes</u> for the people nowadays," many students mistakenly pronounced the word "themes" as "things." These types of mild semantic errors are possibly less damaging than omissions in terms of the text's interpretation.

3) The most salient **"additions"** made by the students were adding definite or indefinite articles not found in the original text: for example, "High school students use the Internet even to get [<u>the</u>] information as part of their daily lives," and "Daibutsu... that measures about 15 meters in <u>(a)</u> height."

4) **"Corrections"** which was the least frequent incidence, occurred when the students heard words that were difficult to pronounce. For example, when the sentence "They are so <u>internationalized</u>" was heard, some students could not correctly and quickly pronounce the word "internationalized," and hence, they uttered it again. When they heard numerals, they often made a correction. Repeating numbers quickly appears to be difficult for some students: for example, "Kyoto was founded in <u>794,</u> and there are about <u>1,600</u> Buddhist temples." At this point, many students somewhat hesitated, which led to correcting themselves and to trying to speed up their output by catching up with the next phrase.

5) **"Distortions"** occurred when the students heard an unknown or unfamiliar word, and tried to imitate that sound without understanding the correct meaning of the word. One example is "the family shrine of the Fujiwara, the most powerful <u>clan</u> during the Nara and Heian periods." In this utterance, many students were unable to correctly pronounce the word "clan," and falsely pronounced it as "clown."

The results showed that omissions of words markedly stood out from the other four in both the experimental and control groups, and in the mid-term as well as final examinations. This result indicates that omission is the most serious incidence that prompts shadowing disruptions and departures.

5.2. Comparative Analysis of Shadowing Performance (Experimental vs. Control)

As the omissions of words was the main factor that prompted shadowing disruptions, the number of omitted words was compared between the experimental and the control groups by

employing the F test and t test. The results are shown in Table 1.

Table 1

Descriptive statistics of the number of omitted words in shadowing in the mid-term and the final examinations (Experimental vs. Control)

	Omissions in the Mid-term Exam				Omissions in the Final Exam			
	N	Mean	SD	*t*	N	Mean	SD	*t*
Exp.	19	18.00	12.38	-2.57	19	20.74	12.53	-2.97
Cont.	37	33.11	23.96	-2.57	37	35.89	20.32	-2.97

Note: For the mid-term examination, *p < .05, **p < . 01*. The total number of words to be shadowed was 233.

For the final examination, *p < .05, **p < .01*. The total number of words to be shadowed was 197.

The results indicate that the difference in the number of omissions between the experimental group and the control group in the mid-term examination was statistically significant at the 0.05 probability level: $p < .05$, $t(54) = -2.57$, $p = .013$. Similarly, in the final examination, the number of omissions was significantly different between the experimental and the control groups: $t(54) = -2.97$, $p = .004$, $p < .01$. With respect to the number of the omissions, the experimental group had significantly fewer omissions than the control group. Regarding the standard deviation, the control group is much higher in value than the experimental group for both examinations, which indicates that the accuracy of shadowing performance varied significantly among students in the control group compared to those in the experimental group.

Considering the result of this study, the intensive shadowing treatment administered to the students is most likely to be effective for enhancing the accuracy of their shadowing performances. However, in this case, the fact that the total number and frequency of lessons varied between the experimental and the control group should be carefully examined.

5.3. Comparative Analysis of Consecutive Interpreting (Experimental vs. Control)

Consecutive interpreting tests from English to Japanese were administered following the shadowing tests. The results are shown in Table 2.

Table 2

Marks Obtained in Consecutive Interpreting from English to Japanese in the Mid-term Examination and the Final Examination (Experimental vs. Control)

	Interpreting in the Mid-term Exam				Interpreting in the Final Exam			
	N	Mean	SD	*t*	N	Mean	SD	*t*
Exp.	19	75.77	15.15	2.02	19	59.63	16.92	2.64
Cont.	37	61.27	28.51	2.02	37	46.02	20.87	2.64

Note: Mid-term Exam *p* < .05   Note: Final Exam *p* < .05

Table 2 indicates that the difference in the marks obtained in interpreting between the experimental and the control group was statistically significant: for the mid-term examination: $t(52) = 2.02$ $p < .05$; and for the final examination: $t(54) = 2.64$ $p < .05$ This result suggests that the experimental group was far better able to perform consecutive interpreting than the control group. In addition, the standard deviation value that varied in quality in terms of each student's performance was much smaller for the experimental group than the control group.

5.4. Shadowing or Interpreting Performances Related to the Length of Treatment

Next, when the lesson proceeded from the first lesson to the seventeenth lesson (at the mid-term examination), and to the thirtieth lesson (at the final examination), variations in the experimental group's shadowing and interpreting accuracy level were investigated. Similarly, with respect to the control group, the results of the shadowing and interpreting performances were compared between the first and seventh lessons (at the mid-term examination) and the fifteenth lesson (at the final examination), respectively. For this purpose, the number of omitted words was compared between the mid-term examination and the final examination, and consecutive interpreting scores were also compared between the mid-term and the final examination for both groups. The findings are presented in Table 3.

Table 3

Comparison in Omissions in Shadowing between the Mid-term and the Final Examination, and Comparison in Interpreting Scores between the Mid-term and the Final Examination.

The experimental group

	Mean	SD	*t*	*df*	*p*
Omissions (Mid – Final)	-2.74	11.65	-1.02	18	.319
Interpreting (Mid – Final)	16.14	21.26	3.22	17	.005**

Note. *p* < .05, **P* < .01

The control group

	Mean	SD	*t*	*df*	*p*
Omissions (Mid – Final)	-2.78	14.74	-1.15	36	.258
Interpreting (Mid – Final)	15.27	28.54	3.21	35	.003**

Note. *p < .05, **p < .01

The finding observed in these descriptive tables is that the omissions were not significantly different between the mid-term and final examinations in either the experimental group or the control group. However, the accuracy of consecutive interpreting between the mid-term and final examinations was statistically different at the 0.005 probability level for the experimental group: $t(17) = 3.22$, $p < .01$, and at the 0.003 probability level for the control group: $t(35) = 3.21$, $p < .01$. The marks obtained in consecutive interpreting in the mid-term examination were significantly higher than those in the final examination for both groups.

5.5. Correlation between Omissions in Shadowing and Consecutive Interpreting

Next, the causal relationship between shadowing and the source text interpretation was analyzed. For this purpose, Pearson's correlation coefficients for the omission of words and the scores of consecutive interpreting performances were investigated.

Table 4

Pearson's Correlation Coefficients for the Omission of Words and Consecutive Interpreting Performances

Experimental group

	Interpreting Mid	Omissions Final	Interpreting Final	Omissions Mid
Interpreting Mid				
Omissions Final	.05			
Interpreting Final	.12	-.23		
Omissions Mid	-.12	.56*	-.13	

Note: N = 19

Control group

	Interpreting Mid	Omissions Final	Interpreting Final	Omissions Mid
Interpreting Mid				
Omissions Final	-.32			
Interpreting Final	.36*	-.48**		
Omissions Mid	-.44**	.79**	-.60**	

Note: N = 37 **p < .01

With regard to the control group, the coefficient of the obtained marks in consecutive interpreting and the number of omissions of words were significant at $r = -.444$ for the mid-term examination and $r = -.475$ for the final examination. However, the experimental group did not yield a significant correlation in terms of a difference in either of the examinations.

5.6. Comparison in TOEIC TEST between the Experimental and the Control Group

Finally, to examine the general versatility of the shadowing activity followed by consecutive interpreting training sessions in the classroom, the reduced version of the TOEIC listening test was conducted in the final lessons of the semester: during the fifteenth lesson for the control group and during the thirtieth lesson for the experimental group. The degree to which the students' comprehensive listening comprehension skills were enhanced through the shadowing and consecutive interpreting activities was examined by means of the F test and t test.

Table 5

Comparison in TOEIC Cut-down Version Test on a 50-point Scale Between the Experimental Group and the Control Group

	N	Mean	SD	t
Experimental Group	19	41.00	4.08	2.64
Control Group	37	36.84	6.20	2.64

*Note. *p < .05*

The above findings illustrate that the mean difference is significant, in which $t(54) = 2.64$ $p = .011, p < .05$
The experimental group obtained significantly higher scores on the TOEIC listening test than the control group.

6. Discussion

6.1. Incidences Prompting Shadowing Disruptions

First, the present research aimed to identify which incidences would cause inaccurate shadowing performances. Several findings related to the disruptions of shadowing performance were reported, which may have practical significance. One vital incidence that clearly affects the quality of shadowing performance was the "omissions." The results indicated that the frequency of omissions was markedly high among the other four incidences for both the experimental and the control groups. This result suggests that omissions can be interpreted as a rough index of the quality of a shadowing performance, and that the fewer the number of omissions in a shadowing performance, the fewer the disruptive occurrences in the performance.

Next, comparing the number of omissions in the experimental group with those in the control group, it was found that the experimental group made significantly fewer omissions than the control group. Despite the preliminary character of the research, the discrepancies in the number of total lessons, and the frequency of the treatment between the experimental and the control group, it is most likely that the intensive shadowing activities are effective in reducing the incidences that prompt disruptions or departures, which would result in more accurate shadowing performance. Furthermore, it makes sense that shadowing would be a trainable activity, and the ability to perceive and repeat the input message could be enhanced if the shadowing task is intensively applied to the subjects with extended time and frequency. In this respect, the results confirm the aforementioned "expert-novice paradigm" (Moser-Mercer et al, 2000 cited in Pöchhacker, 2016), which demonstrated that the shadowing task yielded no evidence that discriminated between expert and novice performance.

6.2. Shadowing Efficacy in English-to-Japanese Interpreting

The present study resulted in one of the most interesting findings, which concerned the effects of shadowing on the source text interpretation. To investigate how the shadowing activity contributes to the interpretation of the source text information, consecutive interpreting tests were administered after the shadowing test was applied, and the same source text was used for both tests. This experiment yielded significant results; the experimental group obtained more marks in consecutive interpreting than the control group by a considerable margin. This suggests that the experimental group developed abilities to interpret the source text information more effectively in the process of thirty lessons than the control group did. As the intensive shadowing training proceeded, the experimental group seemed more likely to have transitioned from mere repetition in another language to a meaning-oriented processing approach.

However, it is argued that any increment in interpreting performance for the experimental group might be from the effects of the intensive shadowing tasks or the consecutive interpreting training, which was administered after shadowing activities throughout the thirty lessons. Hence, this increment of marks obtained in interpreting performance needs to be carefully examined in the future. Nevertheless, some tentative conclusions may still be drawn from the results. It should be noted that the errors in shadowing committed by the experimental group were significantly fewer than those in the control group, and that the experimental group markedly exceeded the control group in interpreting, as well. Thus, it can be inferred that the students may have acquired content-processing strategies, which would facilitate source text input and target text output−that is, decoding from English to encoding into Japanese during the periods of intensive treatment. Given that the experimental group obtained far better scores in interpreting than the control group in both examinations, it is likely that the intensive shadowing treatment enhanced their abilities in interpreting the source text.

6.3. Effectiveness of Shadowing Activity Related to the Length of Treatment

The present study yielded interesting findings in shadowing performances in terms of the total number of times and frequency of the treatment. Considering the very fact that the accuracy in shadowing and in consecutive interpreting of the experimental group, which took thirty lessons during one semester, was much higher than those of the control group, which took fifteen lessons, it is assumed that the longer the duration and the higher the frequency of treatments in shadowing or interpreting, the more effectively the treatments work to enhance the quality of performances. Nevertheless, the findings show that this model does not fit the data very well. Neither the experimental group nor the control group yielded a significant difference in accuracy of shadowing between the mid-term and the final examination. This result may be attributable to the fact that after finishing the midterm examinations, the experimental group had only thirteen lessons to complete, and the control group had only eight lessons left by the time the final examinations were administered. Hence, the students' shadowing performances would not have improved markedly in such a short time span.

In a similar vein, Kurz (1992) conducted a longitudinal study in which she tested five first-year students on a shadowing task and administered two simultaneous question- and-answer tasks at both the beginning and end of one semester of regular training. Kurz found that the most pronounced improvements showed in the more demanding task: that is, answering the "why" question while listening to the next question rather than the shadowing task.

6.4. Interpreting Performance in Association with the Length of Shadowing Treatment

Next concerns the interpreting tests conducted subsequently. Perhaps this is the most provocative set of findings from this study. Surprisingly, the marks obtained in the consecutive interpreting during the mid-term examination were significantly higher than in the final examination for both groups. The author analyzed this unexpected phenomenon. A closer examination revealed that although the author had tried to suit the source texts of the mid-term and final examinations as much as possible to students' intelligibility and comprehension, the source texts of the mid-term examination were nonetheless likely to be easier to comprehend than those of the final examination in terms of familiarity with the source text information. In fact, the theme of the source text in the mid-term examination ("Nara and Kyoto") appeared to be more familiar to the students than the final examination's theme ("Internet"). It is possible that the students more easily adapted to the source-culture-bound message in the midterm examination than in the final examination.

Pöchhacker (2004) stated that comprehension is not a passive, receptive process; rather, it depends crucially on what is already known. Chernov (1978, 1979/2002) deemed expectation-based processing as fundamental to the interpreting process, and the predictability of contextualized utterances as crucial to the comprehension process, in which "probability

prediction" constitutes the core of processing.

In this context, this finding suggests that the quality of the shadowing performance is not significantly affected by the intelligibility of the source text information or by the duration of the shadowing training provided. Conversely, with respect to the consecutive interpreting, the intelligibility of the source text information would override the duration and the frequency of the training administered, and it would seriously affect the quality of interpreting performance. With regard to interpreting, as the unfamiliarity of source text information increased, comprehension, transfer, and production became correspondingly more difficult and disrupted. Hence, it seems likely that the decrement in interpreting performance for the final examinations was owing to the effects of the more difficult source text.

The result of this study implies that interpreting involves a more complex decoding and encoding process than shadowing, which simply transmits the speech. This supports Gerver's statement (2004), that "Unlike the interpreter, the shadower only has to repeat, not to understand, what he hears. In a sense, shadowers' scores (words correct) are similar to intelligibility test scores, while interpreters' scores demonstrate both intelligibility and comprehension."

6.5. Correlation between the Shadowing and Interpreting Performance

Another unexpected result concerns the different pattern of associations for correlation between the shadowing and interpreting performance shown by the control group and the experimental group, respectively. Regarding the control group, the omissions in shadowing and the quality of consecutive interpreting performances were inversely correlated; that is, the smaller the number of omissions, the higher the marks for interpreting. This applied to both the midterm and final examinations. Surprisingly, however, the experimental group yielded dissimilar results in the correlation between the shadowing and interpreting performance in both the midterm and final examinations. The experimental group did not yield a significant correlation between the shadowing and the interpreting in either examination.

It seems that in the process of the early stage of introducing shadowing activities, research participants may have increased their awareness of sounds and cadences, and may also have associated the sounds of words with their meanings. Consequently, the quality of their shadowing and interpreting performances were correlated with each other. This processing capability was possessed by the control group. However, in the experimental group, the processing effort seemed to proceed somewhat differently, and consequently the accuracy of the shadowing performance was not associated with the accuracy of interpreting performance. It is inferred that as the duration of the treatment was extended, participants acquired verbal dexterity by mere repetition in another language without needing to think seriously about the meaning of each successive word uttered by the speaker online.

In shadowing, straightforward repetition is possible word by word, or even phoneme by phoneme, without translating the individual meaning of each successive word in the speaker's output (Pöchhacker, 2004/2016). Conversely, interpreting involves a much more complex series of cognitive activities than shadowing. Even though the error index is based on omitted words in shadowing, functionally, the number of correct words in a shadowing performance still appear to be independent of the degree or the nature of the interpreting accuracy. Without doubt, however, the nature of the message has a strong impact on the interpreter's processing activity (Pöchhacker, 2016), as was mentioned earlier.

In summary, shadowing activities might be effective for boosting interpretation skills from English to Japanese in the early stage of its introduction, but if the shadowing activities are continuously assigned for a longer time, they may not necessarily lead to further enhancement of interpreting abilities. In other words, the students would not be likely to successfully transfer the processing strategies from mere repetition to meaning-oriented approaches, and thereby the students' interpreting abilities would not be enhanced in correlation with their shadowing skills. However, in the present study, as aforementioned, the total number of classes and the frequency of the classes were different between the experimental and the control group; hence, the findings need to be carefully interpreted with these limitations in mind.

6.6. Effect of the Intensive Shadowing Treatment on Listening Comprehension Ability

The results of the TOEIC listening test was also investigated. The findings indicate that the experimental group obtained significantly higher scores than the control group. In this respect, the intensive shadowing treatment is most likely to be effective in enhancing listening comprehension abilities when the time and frequency are increased. However, this data may not be suitable for an overall statistical analysis of the positive effect of shadowing activities on listening comprehension because whether this advantage was because of the intensive shadowing tasks or the subsequently conducted interpreting training sessions was still uncertain. This aspect deserves greater scrutiny.

7. Conclusion

The present study attempted to examine the incidences prompting shadowing disruptions, and shadowing efficacies in English-to-Japanese interpreting. The data suggest several important observations concerning shadowing effectiveness. First, omission was identified as the vital incidence causing disruptions in shadowing. The findings indicate that intensive shadowing activities applied to the research participants with increased frequency over time would reduce the omissions in shadowing, which would ultimately prove the positive effect of shadowing on the decoding process of sound information. With respect to interpreting, intensive shadowing treatment would also contribute to enhancing the abilities in interpreting the source text.

However, other variables show mixed effects in terms of the nature of the source materials and the duration of training. Initially, it was anticipated that the incidences of errors in shadowing and accuracy in interpreting could be correlated with each other. Nevertheless, in the experimental group, the emerging pattern was not consistent with what was expected. More disruptions occurred in interpreting than in shadowing when the material was more difficult and unintelligible. This demonstrates that regarding interpreting, the intelligibility of the source text information would override the time and the frequency of the shadowing training administered, and it would seriously affect the quality of interpreting performance. The findings suggest that the interpreting process cannot be explained as a direct linguistic transfer of lexical units and syntactic structures, given that interpreting evidently involves a much more complex series of cognitive activities than shadowing.

8. Pedagogical implications

Part of the reason for the relative lack of expected results likely stems from the students' inabilities to undergo the transition from monolingual repetitive speech production to a meaning-oriented processing approach. In this context, the present study may offer some pedagogical implications. The shadowing training might function effectively in the early stage of its introduction, but it is possible that the students would not function any better, even if the administering period were unduly extended. As students become accustomed to the shadowing task, the efficacy of the shadowing activities might eventually wear off over time. Although it is impossible to discount this possibility, attempts to maximize the effectiveness of shadowing activities are worth pursuing. For instance, an instructor might give specific advice for further training based on an individual student's performance or provide mixed introductory exercises, including abstraction of ideas, message prediction, etc. Above all, time lag shadowing or delayed shadowing focused on memory constraints and predictability would be essential for facilitation in decoding the translation unit. Systematic approaches, including the use of principles derived from a large number of observations from various types of shadowing activities currently employed in university classrooms, are of crucial methodological importance. It is expected that shadowing activities in combination with various language-processing skills will be introduced in normal English language lessons at universities that currently deploy only didactic curricula.

8. Limitations

There are several limitations to this study. The present research reflects that the sample consists of two classes, which differ in the total number of administering time, and the frequency of the shadowing and interpreting lessons during a semester. The intelligibility of the source texts turned out to be not standardized between the two examinations, as well. In addition, regarding

the TOEIC listening test, no pretest was conducted before starting this experiment to investigate the students' initial capabilities in listening comprehension. Thus, limits should be placed on the generalizability of the research findings presented here. However, notwithstanding these limitations, the findings do suggest the positive effects of shadowing activities. In the future, the idea proposed in the present research should be tested more comprehensively and elaborated upon. Pöchhacker (2004/2016) stated that the effectiveness of shadowing still remains unclear, and this is possibly the most contentious issue in interpreting pedagogy to date. Nevertheless, however exploratory, this study may offer some insights into the efficacy of shadowing.

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About the author

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