An effective way to improve listening skills through shadowing

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While improving listening comprehension skills has been one of the most difficult areas for language teachers and learners, shadowing has been playing a sensational role in improving learners' listening skills in Japan in recent years. Most studies reported the effectiveness of short-term shadowing training in terms of learners' listening skill improvement. However, how teachers can improve the skills effectively has not been fully examined. In order to explore a more effective procedure for teaching through shadowing, this study examined the shadowing procedure as a method of teaching listening. The research question was to determine whether the use of a combination of two levels of materials for shadowing improves learners' listening comprehension skills better than materials of similar difficulty levels. The results show that a combination of the two different difficulties of materials improves learners' listening comprehension skills more than offering materials at only one level of difficulty.

リスニング力向上は教師・学習者にとって最も難しい分野であるが、近年シャドーイングは日本で重要な役割を担っている。多くの研究では、短期間のシャドーイング訓練の効果自体は報告されているが、どのように効果的に向上させるかについては十分には深められていない。シャドーイングを用いた、より効果的な指導法を研究するために、本論ではその方法を追及する。本論の目的は、難易度の異なる教材を組み合わせた場合と同程度の難易度の教材を使用した場合のどちらが効果的かを検討することである。その結果、難易度の異なる教材を組み合わせた場合の方が効果的だということが確認された。

Listening is one of the most important but difficult areas to teach English learners, although the role of listening in English education is more emphasized than it was in the previous decades in Japan. Listening sections were finally introduced to the national center entrance examination but introducing the listening section to the examination has yet to produce positive results. For example, Takeuchi and Kozuka (2010) examined how university students' listening scores on the Test of English for International Communication (TOEIC) changed from 2005 to 2008. The data do not show a major improvement after the listening test was brought into the center entrance examination.

Under these circumstances, the development of effective teaching techniques for listening is highly necessary. This decade has seen a surge in researching shadowing as an effective listening technique in Japan. Although the effectiveness of shadowing has been affirmed, the critical limitation of past studies is that the learners' individual differences were not dealt with. In addition, there is a widespread common understanding that limits appropriate materials for shadowing to be at the *i-1* level (*i* is the current learner's proficiency level, *i+1* is the slightly higher level and *i-1* is the slightly lower level.) . Thus, this paper will explore a more effective method to improve learners' listening comprehension skills as a way to deal with individual differences and difficulties with material.

Definition of shadowing

Shadowing was originally used for training interpreters. It is in the current decade that shadowing has captured language instructors' attention and been incorporated into teaching a foreign language.

Lambert (1992) defined shadowing as a paced, parrot-style auditory tracking task, conducted with headphones. Rather than a passive activity, however, shadowing is an active and highly cognitive activity in which learners track the heard speech and vocalize it as clearly as possible while simultaneously listening (Tamai, 1997). This process of repeating incoming speech and monitoring the shadowed material engages many areas of the learners' brains, especially the language centers (Kadota, 2007). According to Shiki et al., (2010), shadowing is the on-line immediate process of repeating speech, while repeating is an off-line task because it provides learners with silent pauses to reproduce the sounds.

Shadowing benefits students' listening processes as follows: The bottom-up processing at the micro level is activated, and this bottom-up processing helps more information to be passed on for macro-level analysis, thereby activating top-down processing (Tamai, 1992). Then, echoic memory, "which stores the information one hears for a short period" (Kadota, 2007, p. 255), is activated to retain incoming sound information more accurately. Learners can spend more time analyzing incoming information. This reinforcement of the bottom-up process appears to benefit learners most.

Effectiveness of shadowing

The effectiveness of shadowing on improving listening comprehension skills has been examined in classroom research. Tamai (1992) compared shadowing with dictation in a three-month study with 25 university students. Shadowing was shown to improve students' listening skills faster than dictation in the short term. Tamai (2005) observed two groups of 45 students (one shadowing group and one dictation group) and concluded that shadowing assists lower level learners. He divided each group of 45 students into three different proficiency levels. After 13 lessons, the results of the shadowing groups showed that the low and middle groups improved significantly. Suzuki (2007) examined 112 participants to show practical and effective ways to use shadowing in the classroom by using a high school textbook. Onaha (2004) trained 43 university students with shadowing and dictation practice and concluded that the combination of the two exercises was effective in improving learners' listening comprehension skills.

Not only in EFL contexts, but also in Japanese as a Foreign Language (JFL) contexts, a small number of studies have been conducted with the aim of creating a listening-based curriculum for schools. Mochizuki (2006) studied 50 university exchange students and reported that 49 out of 50 participants agreed on the effectiveness of shadowing training. Toda and Liu's (2007) small study with five Korean university students suggested material for shadowing training should be read at a natural speed and contain natural pauses in JFL contexts.

These studies support the theory that shadowing is effective for improving bottom-up processes in listening, leading to acquiring more successful listening comprehension skills. Furthermore, learners appear to improve prosody, gain more concentration, and become used to natural speed as well (Takizawa, 2002). Thus, learners are able to receive a variety of benefits and listening improvements from shadowing.

Varieties of shadowing usage

A variety of shadowing usages have been reported in language teaching contexts. For example, Murphey (2001), Kadota and Tamai (2005), and Takizawa (2002) describe the varieties in ESL/EFL teaching contexts (Tables 1, 2, and 3). Kurata (2007) shows how she used shadowing techniques in JFL contexts (Table 4). How shadowing is used varies from researcher to researcher and there are no unified sets for shadowing training.

There are a few points to note to use shadowing for listening comprehension improvement. First, regarding English acquisition, producing output in Japanese is not recommended (Shizuka, 2001), although some of the activities mentioned above involve translation. Hamada (2011a) warns that some learners believe that they should translate everything they hear instantly, which results in decreasing self-efficacy through translation failures. Second, to improve learners' listening comprehension skills, practicing shadowing along with other activities such as reading silently and simply listening is recommended. Shiki et al., (2010) report that practicing only with shadowing hits a ceiling after four

Table 1. Murphey (2001)

Procedure	Procedure
Complete shadowing	Listeners shadow everything speakers say.
Selective shadowing	Listeners select only certain words and phrases to shadow.
Interactive shadowing	Selective shadowing + listeners add questions and comments from the listener into the conversation to make it more natural.

Table 2. Kadota and Tamai (2005)

Procedure	Procedure
Mumbling	Listeners shadow by focusing not on their own pronunciation but on the incoming sounds they are listen to.
Synchronized reading	Listeners shadow the audio, reading aloud the script, simulating every sound and intonation.
Prosody shadowing	Listeners try to shadow as they do in the synchronized reading without a script.
Content shadowing	Listeners shadow as well as focus on the contents of the speech.

Table 3. Takizawa (2002)

Procedure	Details
Listen to the audio	Don't read the text but only listen
Slash reading	Read by slashing, comprehending by chunks and check unknown words
Full shadowing	Practice repeatedly till reproducing 70% to 80%.
Repeating and shadowing	Repeating with the text and shadowing after that
Translation	Translating slash by slash
Repeating (reproduction)	Repeating, pause by pause
Translation	Translate, pause by pause
Delayed shadowing	Shadow, delaying by 3 or 4 words
Contents shadowing	Shadowing, thinking about the meanings
Translating while listening	Listening and translating simultaneously

Table 4. Kurata (2007)

Types	Procedure
Full shadowing	Listens to input then tries to repeat the auditory input as soon as it is heard.
Slash shadowing	The speaker purposely delivers their speech with pauses between phrases to give the shadower more time to recognize the words.
Silent shadowing	Full shadowing done in the head, sub-vocalization.
Part shadowing	The shadower picks up the last word or the stressed words and just shadows these.
Part shadowing + comment	The shadower adds their own comment.
Part shadowing + question	The shadower adds a question.

or five times, which means that relying solely on shadowing would not best assist a learner's improvement.

As a practical report, Hamada (2011a, 2011b) followed the instructions recommended in Kadota and Tamai (2005) and showed that the procedure effectively improved learners' listening comprehension skills as follows. The procedure is the basic instruction to be used in this study.

Problems and research question

The previously conducted research has shown the effectiveness of shadowing on improving learners' listening comprehension skills but some problems do exist. First, there is a widely accepted principle that materials designated as *i-1* or below are considered to be appropriate for shadowing (Kadota & Tamai, 2005), and difficult materials at *i+1* are not recommended. According to Kadota (2007), shadowing materials should ideally contain no more than two or three unknown words per 100 words. However, limiting the materials to only the easy ones would take away teachers' opportunities to use the shadowing technique because in actuality more challenging materials are used in classrooms. No study has reported with empirical data that difficult materials are ineffective to improve learners' listening comprehension skills. Second, limiting the materials to solely easy or difficult ones does not account for individual learners' differences.

For example, a textbook that is easy for one student could be difficult for another student, or vice versa. Also, a supposedly easy textbook can be too easy for some students. Thus, a procedure to incorporate different levels of materials into the practice should be explored.

Third, the practicality of shadowing must be examined. While several methods of shadowing use have been introduced, no clear and effective sets or patterns have been provided. No studies have explored or compared which methods would be more effective for different purposes. Thus, finding an effective set of procedures is necessary for language teachers in classrooms.

To develop a methodology to make shadowing a more effective technique, this paper aims to pursue the following questions: Will using materials of a combination of two levels of difficulty improve learners' listening comprehension skills more than using materials of similar difficulty levels?

Method
Participants

Fifty-nine (37 male, 22 female) Japanese national university freshmen, majoring in education, nursing, and engineering participated in this experiment. In April, all the freshmen took a placement test and they were divided into three levels (basic, intermediate, and advanced). The participants belonged to one of the highest of the intermediate classes. The participants were divided into an experimental group (M11, F18) and a control group (M26, F4). The listening comprehension skills for the groups did not differ (t (57) = 1.02, ns), nor did the listening self-efficacy (t (57) = 1.92, ns) The mean listening score on the pre-test was 5.59 for the experimental group and 6.13 for the control group, out of a maximum of 13. Thus, the two groups are considered to be equally balanced.

In every lesson, the control group practiced shadowing by using materials of similar dif-ficulty levels; the experimental group practiced by using less challenging and more challenging materials alternately (Day 1, 3, 5, 7: Less Challenging materials; Day 2, 4, 6, 8: Challenging ones). Since the focus is combining two levels of materials, more challenging in this context means the materials are more difficult than the other set of materials.

Materials

The TOEIC test new official book (2009) was chosen for this study. This textbook was considered appropriate for the following two reasons. First, since the primary focus of this experiment is the difficulty level, creating the test items in the same way as the official TOEIC test maintained reliability. Second, since the learners came from different departments and majors, the TOEIC textbook was considered to attract more learners than other specialized materials which would be interesting for a limited number of learners.

The difficulty of the texts used in the training was measured from two perspectives: Psychological resource and readability. As the number of the sentences increases, learners need more psychological resource for its process and storage (Osaka, 2010), which makes listening to the passage more difficult. Though the concept of psychological resource is famous for reading span tests (Daneman & Capenter, 1980), the same should apply to listening processes because both listening and reading share the same process in this respect. In addition, a readability index, the Flesh-Kincaid grade, was used. While several readability formulae have been developed, the Flesh-Kincaid index is often used to measure the reliability of English examinations in Japan, e.g., research on the national center examination (Chujo & Hasegawa, 2004), and easily calculated using Microsoft Word. The Flesh-Kincaid is designed to index for which grade the passage is appropriate, based on schools in the U.S (Microsoft, 2011). While the data of both odd and even numbers of the control group are close, those of

Table 5. Materials used in the lessons

Group	Experimental group		Control group	
Times	Word average	Flesh-Kincaid average	Word Average	Flesh-Kincaid average
Odd (1, 3, 5, 7)	78	3.9	78.5	4.2
Even (2, 4, 6, 8)	105	4.7	74.5	4.6

the control group differ (Table 5), which means the control group used the same level of materials and the experimental group used a different level of difficulties alternately.

To assess the improvement of listening comprehension skills, the collection of sample listening questions that consists of 13 questions from the *TOEIC test new official book* (2008) was used for pre-and post-tests. The same test was used for its reliability because of the following two reasons. First, the difficulty of the collection of sample listening questions on the TOEIC (2008) and those of TOEIC (2009) differed statistically in the pilot study. Second, there was approximately one month between the pre- and post- tests, and because no explanation about the content of the tests was given to the learners after the pre-test. The details of each section are described in Table 6.

Table 6. Learners' tasks in each part (TOEIC, 2009)

Section	Procedure
Part 1 (2 questions)	Learners hear four statements about a picture and select the one statement that best describes in the picture from four choices. Neither the statements nor choices are given to the learners.
Part 2 (5 questions)	Learners hear a question or statement and three responses and select the best response to the question or statement. Neither a question or statement or choices are given to the learners.
Part 3 (3 questions)	Learners hear some conversations between two people and answer three questions about what the speakers say in each conversation, and select the best response to each question from four choices. The conversations are not printed but the question and the choices are given to the learners
Part 4 (3 questions)	Learners hear some talks given by a single speaker to answer three questions about what the speaker says in each talk, and to select the best response to each question from four choices. The talks are not printed but the questions and the choices are given to the learners. In each part, learners can hear each talk only once.

Procedure

A total of eight shadowing training sessions were conducted. Since the listening section of the TOEIC consists of 4 parts, Day 1 and 2 were assigned for Part 1, Day 3 and 4 for Part 2, Day 5 and 6 for Part 3, and Day 7 and 8 for Part 4.

The steps were revised based on the instructions recommended in Kadota and Tamai (2005) and shown in Table 7.

Table 7. Procedure of every lesson

Step	Procedure
1. Dictation cloze	Fill in the blanks of written scripts.
2. Mumbling	Silently shadow the incoming sounds without texts.
3. Parallel reading	Shadow while reading the text of the passage.
4. Check understanding	Check with the texts written both in English and Japanese for three minutes.
5. Shadowing	Shadow three times.
6. Check details	Check with the written texts for three minutes for sounds one could not hear or shadow, and meanings one could not understand.
7. Content shadowing	Concentrate on both shadowing and interpreting the meaning of the passage
8. Dictation cloze	Dictation cloze (same as step 1).
9. Check answers of dictation	Check the answers for steps 1 and 8.

There are three important points to be addressed in this procedure. First, these eight steps include two steps (4 and 6) in which comprehension checks are conducted by reading alone as well as purely shadowing. This is because practice using only shadowing hits a ceiling (Shiki et al., 2010), and training that relies solely on shadowing was not considered to be the best way to assist learners' improvement. Second, step 8 was set to check how much they have improved from the first time (step 1) and was thus a self-comparison step. Third, in steps 1 and 8, the learners tried the dictation cloze. In order to provide learners with repeated success and

personal accomplishments, which are considered to improve self-efficacy (Bandura, 1993), tasks by which learners can check their progress were incorporated. The learners were not given a chance to check the answers from step 1 in order to avoid focusing only on the words in the blanks.

Before starting the training, the pre-test was conducted. After all the training lessons, the post-test was conducted.

Analysis

To measure which group improved more, an analysis of covariance (ANCOVA) was conducted for the results of the listening pre- and post-tests with pre-test being a covariate.

Results

The descriptive statistics for both groups, as seen in Table 8, show that the mean scores of both groups improved and that the experimental group appeared to improve more than the control group. The descriptive statistics of material difficulty, as seen in Table 5, show that the experimental group used different difficulties of materials alternately, while the control group used materials of similar difficulty levels each time.

The ANCOVA results show a significant differences between the two experimental and control groups' test results ($F(1,56) = 6.86$, $p = .01$). This means that the group with the combination of two levels of difficulty improved more than the other group.

Table 8. Descriptive statistics of listening tests of the experimental and control groups

Material	Mean	SD	Min	Max
Pre-test of the experimental group	5.59	1.92	2	10
Post-test of the experimental group	7.83	1.49	5	10
Pre-test of the control group	6.13	2.18	1	12
Post-test of the control group	6.90	1.86	3	10

Discussion

Effect of the combinations of different difficulties of materials

The finding of this study is that learners' listening comprehension skills improved more when combining different difficulties of learning materials alternately. At least four reasons are considered for this result. First, a combination of the two levels can deal with individual differences of listening proficiencies. Even though the class is grouped into a basic, intermediate, or advanced level, the listening ability of each learner varies in each class. Sticking to materials at a certain level can be too easy for one student but too difficult for another. In fact, the post-test scores for only three students decreased in the experimental group but those of nine did in the control group. One of the three students in the experimental group commented that sounds came to him more clearly even though his score decreased.

Second, the combination can have a positive influence on learners' psychology, especially on anxiety. As discussed in Gass and Selinker (2008), anxiety can be positive and negative— "low levels help, whereas high levels hurt" (p. 400). The learners naturally felt practicing with a challenging material difficult; they naturally felt practicing with a less challenging material easier in the next lesson. Thus, even if learners could not perform as successfully as they expected with challenging material, they knew they could perform at least better in the next lesson with less challenging material, which could provide the learners with relief. Practicing with only materials of similar difficulty levels does not provide the learners with this challenging and relieving opportunity. Optimistically, this comparatively successful experience with a less challenging material could help learners gain self-efficacy, a strong influential factor on motivation (Bandura, 1993).

Third, lending support from research on psychology, the theory of attribution retraining treatment can explain the result. Dweck (1975) conducted experiments, in which success was ensured in one group, and failure and success were ensured in the other group. The latter group outperformed the former group. Applying this theory to the current shadowing experiment, the learners eventually managed to

handle failure, through training with two levels of textbooks. They consequently improved their overall listening comprehension skills.

Fourth, borrowing from Krashen's (1985) second language acquisition (SLA) theory and Kadota and Tamai's (2005) theory on shadowing, the less challenging materials are possibly at i-1 level because the materials used were easily comprehensible. The more challenging materials are presumably at i+1 level because the materials used were within reach of the learners. From the point of SLA theory, tasks should be challenging but attainable, while recommended shadowing materials should be less challenging so that learners can focus on phonology tentatively. The materials used in this experiment appear to meet both conditions. However, this interpretation needs further study. Factors that make listening difficult or easy vary and determining the difficulty is quite challenging. Additionally, this study cannot tell whether the materials were challenging or less challenging for the learners. Krashen's i+1 theory lacks in empirical data as well. Thus, several studies should be conducted to verify this inference.

Limitations of this study

There are three limitations to be further investigated. First, this study did not investigate whether either challenging or less challenging materials for the learners were more effective or not, but explored the effectiveness of combining materials of different difficulty levels. Although the length and Flesh-Kincaid index indicate the difficulties of the materials, other factors such as vocabulary and speakers' accents should be also taken into account. Second, as Iwashita (2008) points out, most studies did not examine the pure effectiveness of shadowing but that of instructions collaborated with shadowing, this claim is true of the current study. More research that focuses on the pure effectiveness of shadowing will also benefit advancement of practicality of shadowing in classrooms. Third, although the data show that a combination of different difficulties of materials benefits more learners, the theoretical support for this result should be further investigated.

Conclusion

The data gathered in this study show that learners can improve their listening comprehension skills more quickly when using a combination of different difficulties of materials. Since not all learners possess high motivation and high proficiencies, improvement of their listening skills in a short period should be encouraging and motivating for the learners. Although factors such as learners' motivation and interests could also affect the results, this research is of value in finding a way to use shadowing while addressing individuality is also valuable for classroom teaching.

In terms of practical implications, in order to avoid learners' confusion or misunderstanding learner beliefs, instructors need to inform the learners of the brief theoretical background of shadowing. Since shadowing requires learners to fully activate cognitive processes in the brain, learners' understanding and motivation are necessary. The function and benefits of shadowing should be taught as well. I hope this study can provide new insights into research on shadowing, and that more students will be able to maximize the benefits of shadowing.

References

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational psychologist, 28*(2), 117-148.

Chujo, K., & Hasegawa, S. (2004). Goi no cover sitsu to readability kara mita daigaku eigo nyushi mondai no nanido [Assessing Japanese college qualification tests using JSH text coverage and readability indices]. *Bulletin of Nihon University of Industrial Technology* B, *37*, 45-55.

Daneman, M., & Carpenter, P.A. (1980). Individual differences in working memory and reading. *Journal of Verbal Learning and Verbal Behavior*, *19*, 450-466.

Dweck, C.S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of personality and social psychology, 31*, 674-685.

Educational Testing Service. (2008). *TOEIC test new official book (vol. 3)*. Tokyo: International Business Communication Association.

Educational Testing Service. (2009). *TOEIC test new official book (vol. 4)*. Tokyo: International Business Communication Association.

Gass, S., & Selinker, L. (2008). *Second language acquisition* (3rd ed.). New York: Routledge.

Hamada, Y. (2011a). A study on a learner-friendly shadowing procedure. *Journal of the Japan Association for Developmental Education*, 6(1), 71-78.

Hamada, Y. (2011b). Improvement of listening comprehension skills through shadowing with difficult materials. *Journal of Asia TEFL, 8*(1), 139-162.

Iwashita, M. (2008). Nihongo gakushusha ni okeru shadowing kunrenno yukosei [The effectiveness of shadowing training on Japanese learners]. *Bulletin of Hiroshima University Graduate School*, 57(2), 219-228.

Kadota, S. (2007). *Shadowing to ondoku no kagaku* [Science of shadowing and oral reading]. Tokyo: Cosmopier.

Kadota, S., & Tamai, K. (2005). *Ketteiban Shadowing* [English shadowing]. Tokyo: Cosmopier.

Krashen, S. (1985). *The input hypothesis: Issues and implications*. London: Longman.

Kurata, K. (2007). Nihongo shadowing no Ninchi mechanism ni kansuru kisokenkyu [A basic research on cognitive mechanism of shadowing]. *Bulletin of the Graduate School of Education, Hiroshima University*, 56(2), 259-265,

Lambert, S. (1992). Shadowing. *Méta, 37*(2), 263-273.

Microsoft. (2011). Bunsho no yomiyasusa wo test suru [To measure readability of a passage]. Retrieved from <http://office.microsoft.com/ja-jp/word-help/HP010148506.aspx>.

Mochizuki, M. (2006). Nihongo shido ni okeru shadowing no yukosei [Exploring the application of shadowing to Japanese education]. *Shichokaku Kyoiku* [*Audio-Visual Education*] 6, 37-53.

Murphey, T. (2001). Exploring conversational shadowing. *Language Teaching Research*, 5(2), 128-155.

Onaha, H. (2004). Effect of shadowing and dictation on listening comprehension ability of Japanese EFL learners based on the theory of working memory. *JACET Bulletin*, 39, 137-148.

Osaka, N. (2010). *Nou imejing* [Brain image]. Tokyo: Baifukan

Shiki, O., Mori., Y., Kadota, S., & Yoshida, S. (2010). Exploring differences between shadowing and repeating practices. *Annual Review of English Language Education in Japan, 21*, 81-90.

Shizuka, T. (2001). *Eigo tesuto sakusei no testujin manual* [The special manual for how to make a test]. Tokyo: Taishukan

Suzuki, K. (2007). Shadoing wo moichita Eigo choryoku kojo no shido ni tuite no kensho [Investigation on the instruction for listening comprehension through shadowing]. *STEP Bulletin, 19*, 112-124.

Takeuchi, T., & Kozuka, Y. (2010). Center Shiken Eigo listening niokeru TOEIC tokuten ni kansuru chosa kenkyu [An analysis of TOEIC scores before and the introduction of listening test of the National Center for University Entrance Examinations.] *Bulletin of Aichi Kyoiku University Practical General Center, 13*, 127-131.

Takizawa, M. (2002). Gogakukyokaho toshiteno tsuyakukunrenho to sono oyorei [Interpreter training techniques and their application as a tool for language enhancement]. Bulletin of Hokuriku University, *26*, 63-72.

Tamai, K. (1992). *The effect of "shadowing" on listening comprehension*. Unpublished Master's thesis, School of International Training, Brattleboro, Vermont.

Tamai, K. (1997). Shadowing no koka to chokai process niokeru ichizuke. [The effectiveness of shadowing and listening process]. *Current English Studies, 36*, 105-116.

Tamai, K. (2005). *Listening shidoho to shite no shadowing no koka ni kansuru kenkyu* [Research on the effect of shadowing as a listening instruction metho]. Tokyo: Kazama.

Toda, T., & Liu, J. (2007). Shadoingukosu kaisetsu ni mukete no kisokenkyu [Basic research for the establishment of a shadowing course]. *Nihongo Kyoiku Hoho Kenkyukaishi* [*Japanese language education methods*], *14*(1), 8-9.

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