日本人EFL英語上級者の英語聴解力の分析 ― ケーススタディ ―
An Analysis of English Listening Comprehension of an Adult Advanced Japanese EFL Learner: A Case Study *

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ABSTRACT

　これまで上級英語学習者の聴解力の問題はあまり注目されてこなかった。上級者なら英語聴解力は自律的に伸ばしていけると一般に考えられているが，高度な聴解での問題点は実はあまり知られていない。本研究では，英語聴解力が伸び悩んでいる一人の日本人EFL英語上級者をケーススタディとして取り上げ，何が問題なのかその要因を，音声，文法，語彙，意味の言語学的側面と方略的側面から分析した。その結果，参加者がメタ認知的方略を既に十分行っている一方で，音声，特に弱形に対する聞き取りの弱さが，聴解の阻害原因となっていることが判明した。本研究は，EFLという学習環境で出会う高度な聴解に対して，上級者でも特に弱形を明示的に意識したボトムアップ対策の比重を高め，認知的，メタ認知的なトップダウンの方略を包摂した双方向からの対策が必要と考察した。

　Advanced English learners have rarely been given serious attention regarding the further development of their second language (L2) listening comprehension. The present study aimed to identify factors involved in advanced listening and to ascertain how those factors affect listening comprehension. The inductive nature of the research required the researcher to adopt the method of a case study which focused on the listening comprehension of an advanced Japanese EFL learner. The participant's listening behavior was examined from bottom-up and top-down perspectives in terms of strategies, and by evaluation of linguistic factors, i.e.,

phonological, syntactic, lexical, and semantic factors. Investigations revealed that top-down strategies were well executed by the participant, but real challenges existed in bottom-up phonological factors involved in connected speech. This finding revealed the factors involved in listening at the higher level, which calls for explicit emphasis on strengthening phonological perceptive skills in an integral relation with top-down, cognitive and metacognitive strategies.

Introduction

The majority of research on listening strategies has been directed at groups with lower L2 proficiency in classroom situations, leaving groups with higher proficiency less well studied in terms of the strategies needed to improve listening comprehension. It has been assumed that higher proficiency groups have acquired skills for self-directed or independent language learning. However, in reality, some advanced learners still struggle in developing their listening comprehension to achieve their targeted goals, because they face more challenges in syntactic, phonological, lexical, and semantic analyses in higher L2 listening.

1. Existing listening strategies and their efficacy

Listening strategies are often explained in terms of the psycholinguistic framework of cognitive processing, i.e., bottom-up or top-down processing. An approach which draws on top-down processing was proposed by O'Malley and Chamot (1990), who emphasized top-down metacognitive awareness in listening. The research on L2 listening strategies based on cognitive psychology has redefined listening comprehension as an intention-driven activity for decoding spoken messages, and listening skills have come to be viewed no longer as the mere mastery of the subskills of listening comprehension (Lynch & Mendelsohn, 2002; Rost, 2005, 1990; Flowerdew & Miller, 2008; Buck, 2001). The top-down approach has prevailed in second language

acquisition listening research as the main construct of instruction-based strategies. Before that, a bottom-up approach focusing on linguistic subskills for segmentation and word recognition had been proposed by Richards (1983) and was subsequently reinstated by Field (1998). More recently, Vandergrift (2004) tried to reconcile these two different standpoints with an integrated model.

The listening strategies advanced by O'Malley & Chamot (1990) were designed based on observations of the listening strategies employed by skillful listeners versus less skillful listeners (Vandergrift 2007). Researchers found that skilled listeners seemed to have easier access to global understanding of contents because they analyze the background knowledge more schematically than less skilled listeners, while less skillful listeners seem to process largely with local textual information (Conrad 1985; O'Malley & Chamot, 1990; Shohamy and Inbar, 1991). However, Berne (2004) pointed out that little empirical research had been conducted to prove the efficacy of the existing listening strategies. Vandergrift (2007) noted that empirical research on the efficacy of metacognitive strategies is just a recent development. Berne (2004) also suggested that most of the research simply described the gap between skillful and less skillful listeners rather than prescribing how to overcome the difference, calling for more specific ways to close the gap.

2. Proficiencies and listening problems

Despite descriptions of skillful listeners by researchers, studies of listening problems have

shown that advanced learners also have problems in low-level processing such as lexical discrimination, although the degrees of misperception are different from lower groups. In her study, Goh (2000) recognized that even advanced students were not spared from the issues of low-level processing. Peterson (1991) observed that international students from non-English speaking countries have problems with reduced speech despite their general advanced proficiency.

3. Causes of listening problems of advanced learners

What is advanced listening comprehension? The guideline of American Council on the Teaching of Foreign Languages (ACTFL) describes it as the ability of advanced listeners to understand main ideas as well as most of the details at the connected discourse from sources such as news broadcasts. The ACTFL guidelines state that the learners at the high intermediate level can understand a long stretch of connected discourse, but may fail to grasp the main ideas and details of the discourse. According to these guidelines, it seems likely that the proper comprehension of connected speech would be a cut-off point which demarcates advanced listeners from the rest.

Researchers suggest that low-level processing present implicit and persistent problems even for advanced learners. Vandergrift (2007) identified automaticity in L2 low-level processing as a fundamental difference between L2 listeners and L1 listeners. The issue was also considered from the deeper perspectives concerning language-specific differences. Strange & Shafer (2008) gave a clear account on fundamental difficulties of L2 listening. They point out that, despite years of experience with L2 phonological structures, learners continue to have difficulty with their phonetic categorization and word recognition.

4. Purpose and objective of the Study

The present study intends to ascertain variables involved in advanced listening, by examining issues that an adult advanced Japanese EFL learner faces in the process of enhancing her intermediate listening to a level-appropriate, advanced listening comprehension. The literature review showed that it is not uncommon for advanced EFL learners to have problems in comprehending connected speech, which does not exactly represent advanced listening proficiency in the proper sense of the word. Because the literature review suggested that the ability to effectively understand connected speech seems to distinguish intermediate from advanced listeners, the experience of the participant, who struggles when listening to connected speech, seems to have relevance for the listening comprehension of EFL advanced learners in general.

The examinations were aimed at identifying the most powerful and influential factors to clarify where the participant's efforts should be focused. In addition, her listening and learning strategies were examined to weigh their effectiveness and to consider how to incorporate the identified variables into the optimal listening strategies.

5. Research Questions

The present study attempted to identify crucial L2 participant listening factors from the pre-selected plausible variables drawn from phonological, syntactic, lexical, and semantic perspectives. The pre-selected variables are: 1) sound discrimination for reduced forms, 2) cross linguistic influence, 3) speech rate, 4) grammatical knowledge, 5) lexical knowledge, and 6) background knowledge. In addition, the present study sought to find how adequately the participant's learning strategies correspond to the crucial factors. These two issues were addressed in the following questions.

1. What are the crucial factors which contribute

to the incomprehensibility of the input for the participant?

2. How effectively does the participant's listening training address the participant's needs for better listening comprehension?

Method

1. Participant

The participant of the present study is a Japanese female in her late 40s and a native Japanese speaker. She is called 'Keiko' in the present research. Keiko has learned and practiced English for many years, although the degree of her commitment varied greatly as she went through different stages of her life. Her efforts earned her an EIKEN 1st certificate four years ago, and since then, she has gradually shifted her focus of learning toward acquiring higher aural skills to develop interpreting skills. However, despite her focused efforts on learning listening, she still feels that her aural skills are not yet satisfactory. Her concern was confirmed by DIALANG, an online self-diagnostic English proficiency test, which was administered at the onset of the present study. It indicated that her listening level was intermediate while her reading and structures were as advanced.

2. Materials

Praat, an online speech analyzing software was used for multiple functions as a voice recorder, player, spectrogram, and a device to manipulate speech rates. Listening tests for the bottom-up factors were mostly duplicated from preceding research on L2 listening. The sources include the listening tests presented by Asao (1979), Tanabe (1979), Ueda et al. (1979), and Henrichsen (1983). For testing the top-down factor, long passages were excerpted from audio recordings and videos of American TV news programs from CNN and PBS.

3. Procedure

Because of the inductive nature of a thorough investigation of L2 listening, the case study method was adopted for the present study. The analysis was conducted to find the most influential variable, and hence the most crucial factor, for improving Keiko's listening skills from bottom-up and top-down perspectives. To answer question 1, concerning the bottom-up variables, five factors were examined by listening tests. The tests were conducted by asking Keiko to repeat sentence stimuli. Words were counted as being perceived or misperceived to analyze her listening. Her retrospect reports were added to the analysis of the listening tests results. The sixth factor, with a top-down rather than bottom-up perspective was studied using listening tasks that involved making summaries. To answer question 2, a variety of measures were employed, including, retrospect reports, observation, interviews, and questionnaires. The results of the examinations were quantitatively and qualitatively analyzed. To create conditions for advanced listening, the sentences in the listening tests were read out loud at about 200 words per minute (wpm) by a native English speaker. The specific procedures for studying each variable will be described later as necessary.

Results and Discussion

The research questions will be answered through the findings on the variables and strategies related to each question.

1. Sound discrimination of reduced forms

To quantify phonological influences on Keiko's listening, reduced forms were distinguished in the present study based on segmental and suprasegmental effects on the perception of running speech. These forms were labeled as reduced forms by co-articulation (RFCA), reduced forms by rhythm (RFR) and reduced forms by contraction (RFC).

The RFCA included assimilations, elisions, linking, intrusion, liaison, etc. The RFR covers weak forms caused by the isochronous rhythmic structure of English. RFRs were counted by actual intensities shown in a spectrogram. The RFCA words were identified according to taxonomies of consonant pairs developed by Yasui's (1992) and Takebayashi's (1996), plus obvious vowel linking. The current research found that RF, the total of the three reduced form categories, accounted for 70% of all Keiko's misperceived words in the listening tests. It seems plausible that such phonological obstacles play a major part in her speech perception. However, more studies were conducted to verify the causal relationship between Keiko's misperception and the RF words.

2. Cross linguistic influence

An experiment was conducted to ascertain the relationship between RFs and Keiko's misperception of L2 speech by using an artificially created L1 rhythm. Using the same text and maintaining the same speech rate, the original natural speech pattern was altered to make it resemble Japanese speech patterns which have nearly full pronunciation and little phonetic overlap between adjacent words. The present study labeled this pattern as a mora-like rhythm because the modification was modeled after the characteristics of the Japanese mora rhythm. The mora-like rhythm proceeds with the same length unit for each syllable, hence giving each syllable a duration long enough to allow for near full pronunciation. The two tests were administered one month apart to control for the effect of memory. The outcomes of the listening tests with two different speech patterns were compared to see how the removal of English phonological obstacles affected listening comprehension. Although the attempt to eliminate RF from the original speech was only partially fulfilled, the misperceived words were reduced by about the same percentage as the

decreased RFs (about 32% each). This result shows that Keiko's misperception in listening had a very close connection to RFs. The finding also implies that she seems to listen to English with Japanese phonological patterns.

3. Influence from speech rate

As there are multiple factors that complicate listening comprehension of connected speech, there is a need for clarification. Especially, the effects of RF factors must be separated from those of speech rate. The following study examined the relationship between the two.

Listening tests were performed with faster (200 wpm) and slower (133 wpm or 1.5 times slower than the original) speech rates using the same texts and the same RFs. The slower speech was digitally created by lowering the speech rate of the first test, leaving all the RF factors intact. The comparison between the two results showed that, Keiko misperceived 26% fewer RF words in the slowed speech compared to the first test, while her misperceived non-RF words decreased by 36%. This means that the slower speech rate had a greater effect on non-RF words than RF words. In other words, connected speech poses persistent and deep-seated problems that slower speech rate alone cannot solve.

This observation was consistent with the result of another study in the present research which sought to find how the cognitive load on each phrase affected Keiko's listening performance. In the study, the cognitive load was categorized into items including speech rate and RF ratio (a ratio of RFs to the total number of words in each phrase). This study collected and quantified all the phrases which were either perceived or misperceived in Keiko's summary of a CNN news piece. The study showed the mixed relationship between speech rates and Keiko's listening performance, but more importantly, it found that Keiko perceived phrases whose RF ratios were below 70% regardless of speech rates

(Figure 1). Figure 1 indicates that the difficulties associated with rapid connected speech seem to depend on the RF factors, not the speech rate itself. Thus, this study concluded that RF elements have a greater effect on Keiko's speech perception than speech rates.

The results of the above two studies mean that advanced learning efforts should focus more on how to decode the RFs in order to enhance listening comprehension in rapid speech rather than on how to cope with speech rate.

4. Grammatical knowledge

Several factors seem to be involved in the relation between listening comprehension and syntactic complexity. Examinations of Keiko's listening comprehension show that syntax could actually be broken into several variables, such as the cognitive load on a structure itself and the quantity as well as quality of referents in the structure. Additionally, the present study found that clear phonological perception of constituents was essential to secure robust comprehension of structures. The magnitude of RF effects in Keiko's speech perception was also confirmed in her parsing. In listening tests, she sometimes showed an inability to perceive structurally important constituents such as auxiliary verbs. She acknowledged that her attempts to reconcile the ill-formed sentence she constructed from her listening with what she knew to be grammatically correct ended up causing confusion for her. It was not insufficient grammatical knowledge but rather insufficient perception of words that confused her parsing. To improve the robustness of her parsing, easy accessibility to grammatical knowledge through clear phonological perception seems to be imperative in her case.

5. Lexical knowledge

Although the phonological factor was deemed to have a very strong influence on Keiko's listening comprehension, some evidence suggested that lexical familiarity/unfamiliarity may be an even stronger factor. Lexical familiarity seemed to overcome the obstacles by reduced forms, and conversely lexical unfamiliarity hindered the listening comprehension of even a simple sentence with few reduced forms. It is important, however, to distinguish the listener's knowledge of lexicons from her ability to access them. Even though Keiko knew the words, she could not connect the incoming sounds with her sound inventory, and the mismatch caused her to misperceive them.

6. Background knowledge

Keiko's listening comprehension of a CNN news piece and the spoken discourse of a panelist on a PBS news program should be marked for its higher
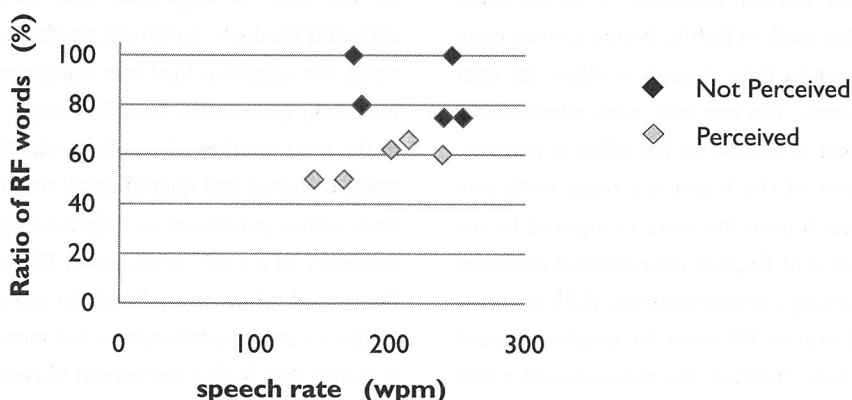

Figure 1 The relation between reduced forms and speech rate

attainment in content analysis than the previous listening tests. The studies showed how she was able to accommodate the difficult elements of a long passage spoken at a high speech rate. Each summary exhibited a good grasp of the gist of the passage. This result showed an interesting contrast from the previous listening tests. Typically, in the previous listening tests, Keiko was prone to misperceive individual words when they were uttered in connected speech.

The discrepancy between these performances may be explained by an element controlled in the previous tests, i.e., background knowledge or contextual familiarity. Her summaries and her retrospect reports of the listening tasks showed that Keiko heavily depended on background knowledge for interpreting the information of the passage. She seemed to replace bottom-up analysis with top-down analysis by dismissing unidentifiable clusters of words, adhering to the main points, and piecing together fragmental information. In this framework, her background knowledge seemed to offer a structural mapping with which she paralleled the perceived detailed pieces of information, and thereby she bridged the information gap. However, the analysis also indicated that the background knowledge still had a limit in perceiving the phonologically difficult words. This fact suggests that RF factors could pose significant problems in parsing that background knowledge cannot adequately overcome.

7. The participant's listening and learning strategies

Keiko's summaries of the long passages, observations, interviews and questionnaires all indicate that she has a strong tendency to employ top-down strategies rather than bottom-up strategies. Her interview revealed that she uses self-monitoring, identifying listening problems, schematic background knowledge, finding key words, inferencing, predicting, and paying attention to the main points. These top-down strategies are observed as typical tendencies of skillful listeners as many researchers have pointed out (O'Malley, Chamot & Kupper, 1989; Chamot, 1995; Vandergrift, 2003). However, it was found in her interview and listening tasks that such strategies were deployed as compensatory strategies to cover her listening inadequacy due to phonological problems. Although it seems to function well in some cases, her lopsided usage of top-down strategies does not ensure stable listening skills. The effects vary depending on the amount of prior knowledge that she can use for interpretation of the content. However, it must be added that Keiko's listening skills should be clearly understood as those of an advanced learner as observed in her parsing in highly linguistically demanding discourses. She has acquired top-down strategies quite well and there seems to be no need in further emphasizing the importance of metacognitive and cognitive strategies in her case.

Keiko has adopted dictation and shadowing for bottom-up listening training, but apparently they do not address her listening problems sufficiently. Although dictation and shadowing were effective in earlier years, the effectiveness seems to have waned. She has used CDs included in the CNN news magazine, *CNN English Express*, for her dictation and shadowing practice. In the CDs, there are two audio tracks for the same news piece; one presents the original broadcasted news and the other the same news in an altered speech pattern with fewer co-articulations. She listens to both the original and modified versions for shadowing, but uses only the modified version for dictation, causing her to be dependent on the modified speech in clarifying the word-sound relations. The modified speech of original CNN news, as an easier version, obviously catered to a Japanese readership. In fact, the wave forms of the modified speech exhibited Japanese-like segmentation patterns. In addition, she has listened to the modified version for extended

listening practice with a clear preference for it over the original version. Thus, the problem may be the material which she has used over the years. The overdependence on the less authentic material may have deprived her of enough exposure to natural connected speech.

Conclusion

Regarding question 1, the present study has found that the phonological factor seemed to be the most influential primary variable except for the lexical factor which showed potent effect to override the phonological problems. Although background knowledge was found to be very powerful in facilitating Keiko's overall comprehension, it did not render overriding efficacy to solve phonological problems, resulting in the occasional inaccurate comprehension of given statements.

Answering question 2, the present research has suggests that fortifying the bottom-up subskills is the most necessary training for Keiko at this moment. For the past five years, she has developed top-down skills in her training for translating English to Japanese, reaching an adequately high level. In contrast, her bottom-up processing skills call for more explicit refinement to withstand the highly demanding conditions of advanced listening of natural connected speech.

However, Keiko's learning strategies for strengthening subskills should not be pursued only by bottom-up exercises such as simple isolated sound discrimination practices. Rather, further training should be undertaken via paired top-down and bottom-up strategies. The phonological factor, or RF, should be learned in clusters of words with explicit attention to the subtle allophonic changes in a string of words, and at the same time, the identified sound representations should be checked by monitoring the syntactic and semantic structures. An integrated approach should also be promoted

to develop automatization by cutting the distance between the bottom-up and top-down listening strategies. In addition, memorizing formulaic expressions and collocations could help immediate perception of spoken discourse by increasing available lexical knowledge.

The present study has given some insight into the advanced-level listening by verifying the variables which impair L2 listening comprehension of the advanced learner. This observation confirms the importance of low-level processing in higher levels of listening. Future research should be conducted to verify the efficacy of the proposed approaches for a wider population of advanced EFL learners.

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Note

Acknowledgement