

The Effectiveness of Focused Attention on Pronunciation and Intonation Training in Tertiary Japanese Language Education on Learners' Confidence: Preliminary Report on Training Workshops and a Supplementary Computer Program

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Abstract: This is a preliminary report of a study pertaining to the effectiveness of specific training in pronunciation and intonation for students studying Japanese as a foreign language at university. The study involved weekly sessions across a 1 month period for volunteer participants interested in improving their pronunciation. Each session was conducted workshop-style in a small group headed by a native speaking instructor. Two groups of students were involved. Only one group was provided with a supplementary 'pronunciation-check' computer program. The study focused on those specific aspects of Japanese pronunciation and intonation considered especially problematic for native English and Chinese speakers. Surveys were conducted to explore the participants' self-evaluation of their improvement in pronunciation and intonation, and their perception and awareness of Japanese pronunciation and intonation in general. In addition, supplementary data was collected from recordings of all participants, both at the beginning and conclusion of the workshop program, in order to assess their degree of improvement in pronunciation and intonation. This paper discusses the data collected from this preliminary study and provides suggestions for potential usefulness of similar exercises in Japanese language classroom instruction.

Keywords: Japanese Pronunciation and Intonation, Japanese as a Foreign Language, Tertiary Language Education, Computer-Assisted Language Learning, Pronunciation Check Program

Introduction

COMMUNICATION OF IDEAS and thoughts is the purpose of learning second languages. To get the message across successfully, acquisition of phonological aspects, such as correct pronunciation and intonation, is one of the critical aspects of language learning, along with the acquisition of lexical, morphological, syntactical and pragmatic aspects of a language. In this globalized society, various types of foreign accents within a language are accepted and respected as its unique and independent characters, as occurs with English, Spanish, French and other languages. Accents that are too strong, however, could result in unintelligibility, miscommunication or even prejudice caused by misunderstanding. In spite of the importance of acquisition in pronunciation and intonation, this aspect of language learning is often lightly dealt with or even neglected in classrooms, compared with other aspects of language acquisition such as grammar. This neglect is partly due to time restrictions and partly due to resources restrictions, including teacher training.

With the advancement of technology during the past decades, speech technology has offered a new approach to the teaching of pronunciation and intonation. In this preliminary

study, a series of weekly face-to-face workshops was provided to participants for one month as a means of investigating its efficacy in terms of participants' awareness and confidence in their pronunciation and intonation. In addition, one of the latest pronunciation computer programs was also implemented to ascertain its efficacy as a supplementary resource and to determine whether the participants approved of it. In this report, a background of the project is introduced and the procedures are described. The analysis and findings are presented along with suggestions on how pronunciation and intonation can be implemented in the teaching of a second language in the classroom.

Background of this Project

Importance of Pronunciation and Intonation Focused Instruction: A Neglected Area

The teaching of pronunciation and intonation is somehow overlooked when learning foreign languages, with many language textbooks containing relatively little or even no mention of these aspects (Celce-Murcia, Brinton, & Goodwin, 1996). Additionally, survey responses provided by ESL learners show that the majority of them barely receive pronunciation and intonation instruction during the extended period of their learning (Derwing, & Rossiter, 2002). One of the reasons for this reality is the acquisition theory of phonological aspects of the language. In the first language acquisition, the critical period hypothesis (Lenneberg, 1967) was claimed during the 1960's. The hypothesis maintained that the acquisition of native level phonological aspects of a language cannot be achieved after puberty due to the stabilization of brain function in the area of language. Since this theory was once widely accepted in the 60's, it was often deemed that the acquisition of native level pronunciation and intonation of a foreign language would hardly be achieved.

Although during recent decades the application of this theory to second language acquisition is not always straight forward, the difficulty of learning phonological aspects within a foreign language has been supported as a sensitive period (Johnson & Newport, 1987; Scovel, 1988). There is, however, some evidences indicating that phonological acquisition is possible for adult learners (Snow & Hoefnagel-Hohle, 1977). Tsurutani (2008a) suggests that in order to attain native level pronunciation and intonation, the following conditions should be fulfilled: 1) plenty of input where a learner always listens to the target language; 2) strict judgement where unclear pronunciation and intonation cannot be understood nor accepted; and 3) consistent practice where a learner is attentive to pronunciation and intonation and keeps practicing with the intention of improvement. These three points of suggestion are ideal practices for the teaching of foreign languages. It is emphasized that focused instruction is useful for learners to improve their pronunciation and intonation. In actual classrooms, however, there are various restrictions which make this often difficult to achieve.

Contextual Difficulty in Pronunciation and Intonation Teaching and Learner's Anxiety

One of the difficulties in realizing the above conditions is the context of classroom instruction today. Under the current educational environment, learners have competing multiple requirements and commitments in both their studies and daily life. Additionally, the requirements

with regard to financial viability and efficacy in educational institutions do not always meet with a suitable classroom teaching environment. In recent years, the increase in student numbers within classrooms, together with the fewer number of class hours has become problematic. For example, at the institute where the present study was conducted, the number of hours of weekly teaching is a third less than it was a decade ago, and lecture-style teaching of hundreds of students in a large theatre has also been implemented.

The cohort of students is another obstacle to spending time on pronunciation and intonation within the classroom. Institutions within multicultural societies often have a diverse cohort of students with various language and educational backgrounds, not only among local students, but increasingly including international students from all over the world. The other difficulty often pointed out is learners' affective factors, such as anxiety, confidence and motivation. The influence of these affective factors has long been discussed in language acquisition (Horwitz, 1986 & 2010; Phillips, 1992; Price, 1991; Shams, 2006). Learners often feel nervous when speaking in a foreign language in a classroom environment. A lack of confidence in pronunciation and intonation is one of the reasons for their anxiety. As a result, instruction focused on pronunciation and intonation can contribute towards reducing anxiety and increasing levels of self-confidence.

Recommendation for more Classroom-Relevant Research to be Undertaken

Vast amounts of research has been conducted in the area of phonology and speech perception among various languages. These findings, however, are not always able to contribute directly to language-teaching classrooms. The favourable link found in research between phonology in linguistics and actual pronunciation and intonation instruction in foreign language teaching is often criticized for its lack of contribution towards any real benefit. Derwing and Munro (2005) discussed the necessity of researching a link between pronunciation and intonation in applied linguistics and teaching it in a classroom environment and applying it to the issue of marginalization of pronunciation within applied linguistics.

Speech Technology: Pronunciation Computer Program

Latest advancements in technology have played a definite role in reducing learners' anxiety, allowing them to be more confident. Some studies indicate that, as a result of technology, learners feel less anxious and more comfortable when speaking, and are not as afraid of making mistakes (Nakazawa, Muir, & Dudley, 2007; Poza & Isabel, 2005). This is salient, especially with regard to pronunciation and intonation practice. Learners use the computer program to practice their own pronunciation and intonation without being made the centre of the attention in the classroom. Students can concentrate on their own utterances and use the feedback provided by the program. It should be noted, however, that a realistic way of using technology is essential (Garrison & Anderson, 2003). When technology emerged in an educational context a few decades ago, there were over-expectations of its use; it was considered a miraculous teaching tool. Technology should be supplementary to a good teaching program rather than being relied upon for a sole solution as observed in Tsurutani's study (2008b).

Research Question

In the previous section, the current issues and problems concerning the teaching of pronunciation and intonation in an institutional context and the potentiality of speech technology are discussed. Based on these, this preliminary study was conducted to explore the following questions:

1. Is one month of pronunciation training effective in raising learners' awareness and confidence in their own pronunciation?
2. Is one month of pronunciation training effective in improving learners' pronunciation?
3. How is a computer program evaluated by learners, and what is the role of the computer pronunciation program?

In exploring these questions, this study offers insights and suggestions into to how research in applied linguistics can be linked to real classroom teaching situations, and how classroom instruction and practice in pronunciation and intonation can be implemented.

Method

Participants and the Study Design

This preliminary project was conducted outside of class hours with volunteer participants. All were studying intermediate or advanced level Japanese at an Australian university. The call for participation in the project was made through the unit websites, offering intermediate and advanced level Japanese students a book voucher in exchange for full participation in the program. All procedures were approved of by the university ethics committee and the study was conducted following the conditions set by the committee. Consent forms were signed by the participants. Modifications of the project design were made following the advice of the committee. Originally 3 groups were to be formed, each containing 15 participants, however a total of 15 volunteer students participated in this project, resulting in only 2 groups. A similar cohort of participants was chosen for each group by determining their Japanese language level and first language. Among the 15 participants, 12 completed all workshop training sessions, while 3 did not. Of the 12, 6 were at an intermediate level of Japanese (in their second year of study) while the other 6 were at advanced levels (in their third or fourth year of Japanese - or longer if studying since high school). The number of participants was unfortunately smaller than expected, resulting in the creation of 2 groups instead of the 3 initially planned. Both groups attended 1 hour face-to-face workshops weekly over 4 weeks. One group containing 7 students (3 advanced and 4 intermediate) attended only face-to-face workshops, while the other group comprising 5 participants (3 advanced and 2 intermediate) attended workshops plus had access to extra self-training hours every week using a computer program called 'Pronunciation Check'. This program was installed on a computer within a university computer lab or on the participants' home computer. The participants in the group without access to 'Pronunciation Check' were allowed access to the program after the training period. In the current study, the first language of the volunteer participants was either English or Chinese, with 9 native English speakers and 3 native Chinese speakers. The 3 native Chinese speakers were all fluent in English. All 3 spoke English extensively

at home, at work and at university, although the face-to-face workshop offered focused lessons for Chinese speaking learners and English speaking learners as extra practice.

The face-to-face training instructor was a male native Japanese speaker, with experience in teaching ELS in Japan and about one year of experience in teaching Japanese at a tertiary institution in Australia. Because he does not teach intermediate or advanced level Japanese units, no teacher-student relationships existed with the participants. The instructor did not have any special training in teaching pronunciation and intonation of Japanese. A brief meeting with a project investigator was held with the teacher, with instruction sheets given out before each face-to-face training session.

Selection of the Computer Program ‘Pronunciation Check’

A selected computer program known as ‘Pronunciation Check’ was used as a supplementary tool (Tsurutani, 2008) in this study. The software was developed as a result of collaboration between engineers and language educators. The program uses Automatic Speech Recognition and offers a self-assessment function for Japanese pronunciation, detecting speakers’ pronunciation errors and providing feedback. There are 5 functions of the Pronunciation Check program: 1) detection of pronunciation errors; 2) assessment of pronunciation; 3) feedback; 4) an editorial system; and 5) monitoring. The error detection and feedback are conducted based on an Automatic Speech Recognition system. The speaker’s error is categorized in pre-programmed error patterns which are based on research conducted by English speaking learners of Japanese. As this program is still in its developmental stages, the accuracy of error detection is around 80 to 90 percent. According to Tsurutani (2008), although the error patterns were created based on English speaking learners, the list of errors covers the majority of those learning other languages. As a result, this program can be used for learners of languages other than English.

Practice Materials

Two types of practice sheets were used during each face-to-face workshop. One contained a list of 20 to 30 sentences showing intonations. These sentences were derived from those used in the selected Pronunciation Check computer program. Although practice sentences can be programmed into the software to cater for individual instructor’s needs, the material used in this preliminary study was directly taken from the analysis conducted by Tsurutani (2008). This is because the level of learners was about the same, and the degree of difficulty of sentences and grammatical expressions in Tsurutani’s study corresponded with the language level of participants in the current study.

In addition to the practice sentences offered by the computer program, extra guidance focusing on pronunciation issues specific to the learner’s first language was provided. For English native speakers, selected areas included the pronunciation of diphthongs, high and low pitch, loan words into Japanese and sentence intonation. The areas selected for native Chinese speakers included voiced sounds, unvoiced sounds, accent and the pronunciation of ‘da’, ‘na’, ‘la’ and ‘hu’ in Japanese. During the workshops, the comparisons of these areas of focus between the Japanese language and participants’ native languages were highlighted to raise awareness of pronunciation. These materials were created based on the study by Toda (2004).

Data Collection

Data collected for this preliminary study was taken from questionnaires and the recordings of words and sentences read aloud both before and after the training. Reading material was obtained from the practice material programmed into the computer. A questionnaire asked participants what Japanese courses they were undertaking at the university, their first language, what other foreign languages they spoke, the number of years they had been studying Japanese, the types and frequency of authentic Japanese resources they had access to, their use of audio materials accompanied with textbooks during Japanese classes and their reasons for participation in the project. They were also asked to self-rate their confidence in pronunciation and to rate the usefulness of the workshop along with provide open comments regarding the project. Self-rating of confidence in pronunciation and intonation was rated from 1 to 5, with 5 being strong. Answers were compared between pre and post training assessments. For those students offered the Pronunciation Check computer program, evaluation of the program was rated between 1 and 5, and open comments were included.

Data Analysis and Discussion

Due to the small number of participants, 12 in total, statistical analysis was not conducted. Instead, a close examination of the questionnaire responses and a comparison between responses before and after training were analysed. In addition, voice recordings of participants' reading words and sentences were compared before and after training to find any implication of the training's efficacy.

Point 1. Participants' Awareness and Confidence in their Pronunciation and Intonation Shown in a Pre-Training Questionnaire

It is often noticed that classroom instruction is a source of learner's anxiety, and pronunciation instruction especially has been identified as a main source of anxiety (Horwitz, 1986 & 2010; Phillips, 1992; Price, 1991; Shams, 2006). This is particularly evident in a university classroom environment, as students are not always close to one another and, depending on the learner's personality, could feel embarrassed when their pronunciation and intonation is corrected by a teacher. In the questionnaire provided, this tendency was also found. One of the participants explicitly commented in the pre-training questionnaire, stating: "I get embarrassed when speaking because of mistakes in pronunciation". A non-threatening environment such as the out-side classroom was the reason why they took part in the workshops. A comment from another participant in the post training questionnaire read, "It was very enjoyable. Small groups allowed easy interactions of one-on-one help." This comment implies that the participant was not afraid of making mistakes or feeling embarrassed and enjoyed the interaction with an instructor and other participants.

Regardless of their foreign language level, it was found that some learners did not have confidence in their own pronunciation and intonation and revealed there were not many opportunities to practice this during their long years of language instruction. Most participants were aware of their pronunciation problems: "I think my accent is strong when speaking Japanese." One advanced level participant with 8 years of study experience at both school and university wrote, "I have no idea if I'm actually pronouncing something right and don't really know how to improve." This comment indicates that participants studying Japanese

for several years may have developed strong habits in their own pronunciation influenced by their first language which had stabilized as a result of a lack of instruction. This enabled them to be more aware of their pronunciation and increased their desire to improve it. Participants felt a need for instruction in the classroom environment.

Point 2. Pronunciation and Intonation Specific Instruction

Participants expressed their satisfaction of the face-to-face workshops which specifically focused on pronunciation and intonation. The detailed pronunciation instruction and especially the instructor's immediate feedback received by each participant received a good response. One participant's commented that: "The face-to-face class addressed some of my problems so I know where to improve from." However, in spite of focussed instruction, it seemed difficult for some students to practice, as one comment reveals: "I feel I can understand what was explained and understand the differences, but feel it will take time and practice to speak fluently and pronounce at such a level." This same participant requested in a post-training questionnaire for a longer period of face-to-face workshops, saying: "I found the training useful and beneficial but also maybe a little short, 4 weeks went quickly. I think maybe it may be beneficial for those who learn Japanese as non-background speakers if there were classes like this training during semester break for those that are keen."

Point 3. Satisfaction from Individual Attention

With a decrease in learner's anxiety and satisfaction of focused instruction and practice opportunities, participants explicitly approved of individual feedback and attention given to each of them during the workshops, as well the use of the computer program. One of the comments revealed: "I received a lot of immediate personal feedback about my pronunciation/intonation and was able to immediately practice and correct any mistakes." Another states, "It was interesting to learn about high and low pitch, syllables as opposed to stress in English. In class there isn't usually enough time to spend on pronunciation or intonation. Face-to-face interaction is more enjoyable than computer learning, but both are helpful." Both comments indicate that focused instruction and immediate personal feedback, that is, individual attention regardless of whether it is provided by an instructor or a computer, is the main reason for participants' satisfaction.

Point 4. Satisfaction of the Computer Program as a Supplementary Program

Many participants showed appreciation of the series of workshops run over a period of one month. The participants in the group given access to a supplementary computer program valued this speech technology. Their responses are shown below:

- I still have a few problems with some of my pronunciation, but the computer program is good in that it teaches you how to fix the problem.
- It was very useful to see the way that pronunciation can be broken down into pieces, that way I can understand it better. The program was really useful as well but there was a glitch last time I tried to use it. I think the way it analysed your voice was very helpful and showed your problem areas clearly.

- It was good to study with the teacher face-to-face, then reinforce what we learnt with the computer program.
- The computer program was good to use in my spare time (used about 4 times), although the feedback sometimes was the same. The face-to-face classes addressed some of the problems I had but was a bit short.
- It's essential to hear Japanese native speakers talk. The language computer program helped me find my weaknesses. I used the program once a week for about 1 hour each session.
- Face-to-face is really beneficial. The teacher was there to correct my mistakes. Memory practice and a better consciousness of proper mouth movement with the program was helpful, yet assistance when I tried re-doing it was difficult. For example, my first try scored 98% but my second try scored 72% with no comment on what went wrong.

The comments above reinforce the suggestion that the computer program should be used as a supplementary learning tool; not a primary learning tool (Muir, Dudley & Nakazawa, 2007). The participants' comments suggest that having the computer program as a supplementary teaching tool was well accepted as a means of reinforcing their learning, as long as human instruction was also provided, preferably entailing individual attention given by the instructor. In terms of technical support, in most cases this worked well, but there was an instance of a glitch and unreliability. A few comments indicated that participants became autonomous in terms of regulating the use of the computer program for their own practice through this project. Consequently, the use of such a program provides an opportunity to nurture autonomous learning, which is well emphasized in language learning. (Benson, 2009).

Point 5. Improvement of Awareness and Confidence Shown in a Post-Training Questionnaire

Self-rating of levels of confidence in pronunciation and intonation illustrate that even small numbers of training workshops, as in this project, could contribute towards the improvement of participants' awareness and self-confidence. Ten out of the 12 participants marked a higher confidence rating (by 1 scale or greater) in a post-training questionnaire when compared with their pre-training questionnaire. It is possible that some of them did not remember which scale they chose in the pre-training questionnaire over a month prior. It is therefore interesting to note that the majority of participants felt that they had improved.

A reduction in anxiety is thought to be a primary reason for an increase in confidence. Reduced anxiety was observed in a study for which a web-based recording facility was used for supplementary speaking activities (Poza & Izabel, 2005; Nakazawa, Muir, & Dudley, 2007). In the same way, the use of computer programs is one of the factors contributing to a reduction in learners' anxiety. The period of one month was enough for learners' to become more aware of their pronunciation and intonation, and to gain more confidence in their acquisition. This is consistent with the results of a study where focused training was conducted for only 2 days (MacDonald, Yule & Powers, 1994). It is also supported in the present study that even a short period of training is effective in helping learners to improve their pronunciation.

Two participants selected the same scale in both pre and post-questionnaires. These participants were both advanced level learners, having studied Japanese long-term over a number of years, and both having experienced studying in Japan. This indicates that advanced level learners may not feel an improvement in confidence due to their long years of learning and experience. The following comments are related to the changes in participants' self-confidence:

Still not very confident with my intonation when using sentences outside of practice and in different contexts; however I definitely think I improved, especially when pronouncing individual sounds.

- Of course I still make mistakes etc. I realise it isn't as bad as I thought before I started this program.
- I still think my pronunciation needs work, but this training has helped me to improve.
- I still have a lot to learn, but I think it has improved because of the training.
- I am confident enough to speak to Japanese people. There are still a lot of unknown intonation patterns.
- Because of the face-to-face training I now actively listen to my pronunciation of new words by my Japanese teacher. The computer program also helped me to put aside time each week and dedicate it to a pronunciation study that has helped me (I think).

In addition to the pre and post-training questionnaires, the analysis of data containing recordings of participants' pronunciation of words and sentences from the training material has also shown some implications. The same list of words and sentences was read aloud by each participant, both before and after training. Six Japanese native speakers listened to the recordings of 9 participants. They chose the better of 2 recordings, relying on their intuition and general impressions. Many studies show that native speakers' judgement is reliable even when they are not trained specifically in phonology (Flege, 1984). The results revealed that 5 out of the 9 participants' post-training recordings were selected for having improved pronunciation. Two participants' recordings of pre and post-trainings were evaluated as being at the same level, while the remaining 2 participants' pre-training recordings were rated better when compared to their post-training recordings. There was therefore not much difference found, but the native Japanese language speakers' overall impression was that there was a slight improvement in pronunciation and intonation. It is worth noting that 2 of the participants whose pre-training recordings were judged considered better than their post-training recordings, were advanced level learners and had lived in Japan for a number of years.

Limitations of the Present Study and Suggestions for Teaching Pronunciation and Intonation

Because of the small scale of this project as a preliminary study, there are limitations in terms of the time-period of the series of the workshops, the number of participants, material for workshops and statistical variable data analysis. With these limitations, results cannot be easily generalized and detailed, and further investigation is needed. With the small amount of participant data, the results in this study are taken only as indications.

With these limitations in mind, the present study indicates that pronunciation and intonation-specific focused training contributes to increasing a learner's awareness of their pronunciation and intonation and decreasing their anxiety in a classroom situation. This is partly due to the small size of workshops, where the instructor can provide individual attention and immediate feedback to each participant. The specific focus upon difficult areas of pronunciation based on the learner's first language is a factor contributing to the learner's improved awareness of and self-confidence in their pronunciation. Although it is most unlikely for L2 adult learners to attain native-like pronunciation and intonation if they started learning after early childhood, it is possible for them to improve their pronunciation and intonation with conscious learning and focused training. Since it is not a realistic aim for these speakers to acquire native-like pronunciation and intonation, it is important to provide focused instruction and encourage them to keep trying. The findings from this preliminary study are consistent with suggestions given by Tsurutani (2008a). It is therefore recommended that consistent input concerning correct pronunciation and intonation with focused instruction is provided, and that if a learner's pronunciation is not intelligible, constructive feedback is given. Focused instruction is needed to teach learners to be attentive to their pronunciation and intonation. Although the contextual environment and requirements of an institution make the realization of these suggestions difficult, it is worth trying to provide focused instruction for a short time within a classroom situation, together with the use of a suitable supplementary tool, such as a computer program. For the effective use of such a computer program, reliable and prompt technology assistance and support systems in setting up the program is of course indispensable in the institutional context.

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My major research interests are second language acquisition, computer assisted language learning, Japanese as foreign language acquisition, autonomous learning, task based teaching and kanji acquisition. I have been involved as a co-author development and implementation of Kantaro (CD-Rom for Kanji learning), Gengoro (CD-Rom for beginner level Japanese language), and WebCT content. I did investigation and study mainly in five areas; mechanism in second language learning, task study in second language learning, kanji acquisition in Japanese, use of technology to facilitate kanji learning, use of technology to improve distance education. In 2005 and 2006, I was involved in the project, "Whole Curriculum Approach to ICT Supported Teaching and Learning" trial conducted in Japanese Studies at Macquarie University.

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