

**The Effectiveness of Guided Reflective Journals as
Autonomous Learning Tools to Develop Intelligible Features of
Pronunciation in Large English as an International Language
Classes**

Thesis submitted in fulfilment of the requirements for the degree of Doctor of
Education, October 2011

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ABSTRACT

There is much research evidence that in Japan, teaching pronunciation has been and still is marginalized in teaching English as an International Language (EIL). If pronunciation was taught at all in the past, it was restricted to minimal pair exercises and drilling of certain problematic sounds (Smith, 2005), which certainly did not improve significantly the communication ability of speakers. The need for global communication prompted changes in teaching English in Japan including the introduction of a learner-centred approach that involves authentic tasks and communicative opportunities to develop critical learning skills. However, one of the greatest challenges to implementing this new approach and to improving individual students' pronunciation is related to the problem of teaching language in oversized classes. In an attempt to address this problem, the critical theory and practice of reflective journal writing was introduced to an experimental cohort of students. It was hoped that this may provide students with the motivation needed to self-direct part of their learning outside the classroom and to assist them in developing intelligible pronunciation skills. In other words, this research is a case study including a quasi-experiment used to investigate whether reflective journal writing can improve Japanese university students' English pronunciation and whether phonological features in students' language output can be improved autonomously.

This case study included a total of 22 Japanese native speaker participants from two classes studying English at a university in Japan over the period of one semester. There were two groups formed: an experimental group and a control group. The experimental group used guided reflective journals to develop independently the following three phonological features: pausing, stress, and intonation. The control group did not use guided reflective journals. Both groups

otherwise experienced the same educational and environmental opportunities. Pre-test and post-test speech samples were collected at the beginning and at the end of the semester. This generated both qualitative and quantitative data to identify changes in pronunciation and intelligible speech. Additional data in the form of interviews and a questionnaire were also used to triangulate results.

The findings of the project revealed that the mean score for improvement in the intelligibility of pronunciation for the participants from the experimental group improved more than in the case of the control group. In particular, the experimental group showed significant improvement in word stress. Improvement was also noticeable in the domains of intonation and pausing, with less overall improvement in sentence stress. This difficulty with pausing was largely attributed to lack of fluency or confidence; possibly the fact that Japanese EIL learners have little opportunity to speak and interact with other native or non-native English speakers. The control group also made improvements in stress, intonation, and pausing, but this was not significant. Therefore, while it appears that the guided reflective journals had a positive impact on learning it cannot be concluded that this was exclusively as a result of this intervention tool. The experimental group also demonstrated increased use of learning strategies, which shows greater motivation for learning compared to the control group.

Finally, the guided reflective journals may have had a beneficial impact on motivation and developing metacognitive awareness. Participants were asked to record and listen to their own speech. They also received teacher feedback on their pronunciation at the beginning and at the end of the semester. All participants in both groups responded positively to this activity and many students in the interview commented on the worthwhile effects. Some participants continued to record their voice as one strategy to improve their pronunciation further. While the

participants did not use learning strategies much beyond the scope of their own prior learning experiences, Japanese students in large EIL classes often endeavoured to work autonomously outside the classroom to improve the intelligibility of their pronunciation.

In this study, it was particularly evident that despite the encouragement to take responsibility for their own learning and work autonomously, the students' expectation of the teacher and the students' perceptions about the role of the teacher did not change. The teacher continued to play a crucial role in the classroom to support learning; ongoing feedback was necessary. Also, the students not familiar with linguistic metalanguage, the genre of reflective journal writing, or goal setting, needed additional support, guidance, and direction in order to facilitate autonomous learning strategies and habits.

The study found that this learning tool, although an introspective cognitive method, also has the potential to be integrated within other communicative activities in the classroom environment, including reflexive learning activities and integrated learner-centred activities to develop metacognitive awareness. The teacher also needs adequate training and support to develop the necessary pedagogical skills and confidence to be able to integrate pronunciation into the curriculum. Taking into account all the findings and the evidence in the data, it can be concluded that guided reflective journals have the potential to be an effective intervention strategy to improve the intelligibility of Japanese EIL students' pronunciation in large classes.

STATEMENT OF ORIGINALITY

I certify that the thesis “The effectiveness of guided reflective journals as autonomous learning tools to develop intelligible features of pronunciation in large English as an International Language classes,” submitted for the degree of Doctor of Education, is the result of my own research, except where otherwise acknowledged, and that this thesis has not been submitted for a higher degree at any other institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed:

Emmaline Louise Lear

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LIST OF ACRONYMS

LFC	Lingua Franca Core
AUTC	Australian Universities Teaching Committee
MEXT	Japanese Ministry of Education, Culture, Sports, Science and Technology
CALD	Culturally and linguistic diverse backgrounds
EFL	English as a Foreign Language
ELF	English as a Lingua Franca
EIL	English as an International Language
CALL	Computer Assisted Language Learning
WE	World English
L1	First language, mother tongue
L2	Second language
NS	Native Speaker
NNS	Non-native speaker
C	Consonant
V	Vowel
AMTB	Attitude/Motivation Test Battery

ACKNOWLEDGEMENTS

I am grateful to my co-supervisors, Dr Maria Dobrenov-Major and Dr Chiharu Tsurutani, for their ongoing patience, advice, and support throughout the duration of the project, in particular, while I was in Japan collecting data and then on my return to Australia for the completion of this project. I would particularly like to mention Dr Maria Dobrenov-Major who helped formulate this project topic and inspired me to continue my research. Both Dr Maria Dobrenov-Major and Dr Chiharu Tsurutani offered their linguistic and pedagogical expertise, and this has proved invaluable. I would also like to express sincere thanks to Dr Steven Nisbet for his ongoing support and encouragement for the duration of my doctoral studies, and Professor Billett as the following incoming coordinator of the doctoral program. Advice on methodology and quantitative data analysis from analysts from the University of Canberra, particularly Judith Ascione, and from Griffith University, Peter Grimbeek, and advice on qualitative data analysis from Bill Metcalf at Griffith University, proved invaluable for the development of my own knowledge and for writing the methodology and results section. The Griffith Graduate Research School has also been an invaluable support for their administrative support, patience, kindness and efficiency. Finally, I would like to thank Sue Prentice and Elizabeth Stevens for their assistance with editing this thesis.

While I was working in Japan, the University expressed their utmost support to undertake this research. Also, Mr Trane DeVore and Junko Takefuta from the Faculty of Language and Culture both gladly and willingly contributed their time and energy to evaluate the speech samples despite the ongoing demands of their own life, work, and research. Their comments, kindness, and interest expressed in the project were always encouraging and sustaining. Finally, the students who participated in the study are to be congratulated and commended. Their positive

attitude, enthusiasm, and willingness to learn English has been an ongoing example for my life and without them, this project would not be possible.

My parents, brothers, and sisters have earned my deepest gratitude for their practical example, encouragement, support, understanding, and willingness to extend boundaries of patience and kindness that gave me the incentive to pursue my interests in education. I express gratitude to all, particularly my mother, who made time to explore and challenge ideas, support my weaknesses and help me acknowledge my strengths; all that which allowed me and gave me the courage and determination needed to fulfil the demands of this project, and complete the requirements for this degree.

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND

The changing need for global intelligibility in English as an International Language (EIL) demands students develop the necessary skills needed for communicative competence so that they can use English in a variety of communicative settings. To achieve communicative success, students must also gain, among others skills, intelligible proficiency of speech. Research agrees that intelligibility, or the degree to which an individual's speech can be understood by familiar or unfamiliar listeners, is the most appropriate goal for teaching and learning a foreign language in today's global context (Celce-Murcia, Brinton, & Goodwin, 2007; Fraser, 2006; Jenkins, 2000). Despite the fact that little is known about the characteristics that make the speech of a language learner intelligible (Field, 2005), it is agreed that pronunciation is an important element that impacts greatly on intelligibility and is integral to communicative competence.

In response to the global demand for good English skills, the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT) introduced the new Courses of Study standards, also aimed at improving the quality of English education in Japan. Based on the educational principles expressed in the revisions to the Basic Act on Education, the Foreign Languages section of the document aims to “develop students’ communication abilities and to deepen their international understanding” (MEXT, 2009, p. 7). In the form of strategic guidelines, these reforms, also applicable to higher education in Japan, stipulate that English be a compulsory subject. Therefore, to meet the national standards of education in Japan and develop communication competency, teachers have made a conscientious effort to “foster a positive

attitude toward communication through the English language” with due attention to intelligibility of speech (MEXT, 2009, p. 4).

However, despite the genuine interest in teaching language for communication and applying the Communicative Language Teaching approach (Harmer, 2007), there are a number of challenges facing the classroom teacher in Japan. First, pronunciation instruction focuses mainly on segmental elements, developing phonemic awareness at the segmental level through drilling and choral repetition (Takako, 2008). There has been “no real [global] attempt to explicitly or systematically cover all of the main features of the phonology of English” (Couper, 2003, p. 53). In other words, current English pedagogy in Japan does not focus on the teaching and learning of pronunciation to develop global intelligibility as part of an integrated curriculum, nor do the large language classes that typically exist in Japan allow a strong focus on oral performance. Teachers continue to implement a hidden exam-orientated curriculum using a largely grammar-based approach (Taguchi & Naganuma, 2006). Therefore, Japanese learners studying English in Japan continue to have problems with intelligibility because of their pronunciation. Typically these problems with pronunciation are associated with the difficulty with sounding the phonemes /l/ and /r/. However, many other difficulties in pronunciation exist because of the differences that stem from the English and Japanese language systems. These pronunciation problems include not only segmental features, but also features such as stress, intonation, and pausing.

In addition, the demands of teaching large classes have meant that pronunciation has received little attention over the years. Large classes are a common feature of the Japanese education system and there are a number of obstacles to overcome in order to maximise teaching and learning opportunities. First, anonymity is the greatest challenge of large classes (Australian

Universities Teaching Committee (AUTC), 2003). According to the AUTC (2003), teachers need to remember all their students' names, monitor the individual progress of their students, extend high-achieving students, and identify students at risk. Anonymity is also associated with personality type (Krashen, 1981). This includes “students who take a more passive role and are less likely to participate with in-class activities, hoping that their lack of involvement will ‘go unnoticed’” (AUTC, 2003, p. 8). These students intend to disappear into the background and allow more confident students to take the active role. Also, these students have little opportunity to receive individual attention and the feedback needed to notice and develop intelligible pronunciation. In Japan, providing feedback and identifying errors in public can cause students embarrassment and “loss of face” (Katayama, 2007).

The choice and range of teaching, learning, and assessment methods are directly and indirectly influenced by class size and affect the development of English communication. Teachers may find it difficult to plan and prepare authentic materials, communicative topics, and interactive student-centred activities that meet the needs of all members of a large heterogeneous group and pitch learning at the right level (Ur, 1996). Furthermore, issues such as physical space, resources, and workload can have a direct impact on these aforementioned teaching and learning choices used to improve pronunciation. Therefore, the major issues encountered in teaching large language classes include student and teacher interaction, the heterogeneity of the group, and coordinating and managing teaching and assessment and course design (AUTC, 2003). The influence of these factors, in addition to a lack of skills, resources, confidence, or knowledge, has meant that some teachers focus just on developing segmental features or that they avoid teaching pronunciation altogether (Yates, 2002). As such, the success of curricular reform remains under debate as limited target language input, large class sizes, and the limited communication abilities

of teachers seem to cause undue difficulties in implementing a learner-centred communicative approach to language teaching and learning. As a result, most Japanese students acquire good reading and writing skills and achieve only limited or, in a best-case scenario, fair ability in speaking or communicative competence after graduating from high school (Yano, 2008). This may contribute to the malaise and the reluctance to speak when students reach university (Peacock, 1999), despite years of learning English.

1.2 STATEMENT OF THE PROBLEM

Communicative competence remains an essential focus of the tertiary curriculum in Japan. Students are given opportunities to select from a range of units that focus on developing the four macro-skills—listening, speaking, reading, and writing—and a range of sub-skills such as vocabulary, grammar, and pronunciation, using an integrated approach. In particular, listening and speaking skills are considered core skills that are required to develop intelligible pronunciation. It is generally assumed that developing speaking skills implies the automatic emergence of pronunciation skills as well. In reality, this is not the case: pronunciation needs to be taught explicitly. Improving pronunciation, in the first instance, needs to be promoted in the classroom where teachers can initiate opportunities for good practice. However, universities in Japan tend to have large heterogeneous classes in which it is very hard to teach pronunciation using a student-centred and individualised approach. Classes generally include both compulsory and elective units, aimed at developing writing, reading, listening, and speaking. Speaking classes are usually assigned to a native English speaker (Kubota, 2002). Most language classes have approximately 45 students; speaking classes have up to 30 students in each class. There is usually no coordinated syllabus or teaching program organised within the faculty. Instead,

teachers are expected to develop their own course content. This might cause a discontinuation in the language acquisition process of individual learners. It also raises the question of the delivery of quality content. Another issue is the amount of time available when attempting to align unit outcomes and objectives. Language classes are offered only once a week for 90 minutes. While the classes consist predominantly of Japanese native speakers, the growing international population means that it is not uncommon now also to have more heterogeneous classes, including students from various language backgrounds and of differing linguistic abilities. Faced with these challenges, teachers do not readily adopt a student-centred approach to teaching and learning.

Another challenge faced by teachers in implementing a student-centred curriculum is the identification and realistic matching of the learning goals and preferences of the students (Katayama, 2007; Miller, 2000). While students' objectives are not static, they impact greatly on the students' learning outcomes at every stage of the learning process. Teachers need to find out what the students think and feel about what and how they want to learn (Nunan, 1995). This is also true for the learning of pronunciation. To achieve this, teachers at the outset of a course need a strategy to effectively diagnose, instruct, and monitor students learning in large classes.

1.3 PURPOSE OF THE STUDY

In order to address the aforementioned difficulties and with the aim of improving current practices, this study examines the use of guided reflective journals to develop and improve pronunciation independently while studying English in large classes in Japan. A recent opening to teach EIL at one of Japan's elite universities provided the author of this thesis with the opportunity to work and teach in large classes, and to explore the validity of guided reflective

journals for both teachers and learners as an effective strategy to improve pronunciation so that learners develop key linguistic competencies and acquire the global intelligibility in English needed to communicate with both native speakers (NS) and non-native speakers (NNS). It was a favourable environment in which to determine whether reflective journals indeed help overcome the difficulties encountered in meeting the needs of students and providing them with the linguistic skills necessary to become competent and intelligible EIL speakers, and to establish whether students can use this method for independent learning beyond the classroom.

1.4 SIGNIFICANCE OF THE STUDY

The use of reflective journals is one intervention strategy that may address the problems inherent in large classes in Japan and allow both learners and teachers to better position themselves within the context of learning and teaching intelligible pronunciation. Reflective journals shift the common pedagogical focus away from accuracy and towards meeting individual learner differences, individual learning styles, and language learning strategies, in order to develop pronunciation (Morley, 1991), so teachers are able to identify and realistically match the learning goals, learning strategies,¹ and learning preferences of the students. In addition, the journals can help teachers to find out what the students think and feel about what and how they prefer to learn (Nunan, 1995). In order to achieve this, students need to adopt a greater independence in the language learning process. According to Harmer (2007), to teach communicative skills in large university classes, learning must also take place outside the classroom. Therefore, this cognitive tool of student reflection can be used to inform methodology, receive feedback on students' own practice, and reduce the anonymity of large classes. This activity can also help students become

¹ In this study, learning strategies refers to “goal-directed action that [is] used by learners to mediate their own

aware of their pronunciation strengths and weaknesses and help them to establish realistic and achievable pronunciation learning goals. Prior research further indicates that reflective journals equip students to become more autonomous, motivated, and confident foreign language learners (Pennington, 1992). Therefore, once familiar with the skills of this cognitive tool, Japanese students and teachers of large EIL classes could greatly benefit from the use of guided reflective journals. This study also informs curriculum designers about a new approach which incorporates pronunciation instruction in a blended learning mode in tertiary foreign language classrooms and offers a solution for dealing with oversized classes in an individualised manner.

1.5 RESEARCH QUESTIONS

This mixed methodology case study incorporating both qualitative and quantitative methods aims to address the following primary research questions:

1. Are guided reflective journals an effective intervention strategy to improve the intelligibility of students' pronunciation in large EIL Japanese classes?
2. Are guided reflective journals an effective intervention strategy to improve segmental features?
3. Are guided reflective journals an effective intervention strategy to improve features such as stress, intonation, and pausing?

1.6 TERMS AND DEFINITIONS

The terminology used throughout this document can be defined as follows unless otherwise stated.

Accents	An accent is a way of pronouncing a language.
Blended learning	Blended learning means a combination of online and face-to-face teaching. This can mean the best use of online learning to enable classroom activities to be active and engaging learning experiences (Graham, 2006).
Communicative competence	Communicative competence is the ability to use the language correctly and appropriately to accomplish communication goals.
English as an International Language (EIL)	The primary focus of EIL is on the development and use of English among native and non-native English varieties, as a global means of communication. In this study, EIL is used to refer to its use as a vehicle for communication between NS and/or NNS (Berns, 2008).
Intelligibility	Intelligibility is “the extent to which the acoustic and phonetic content of the message is recognisable by a listener” (Field, 2005, p. 401). It is important to note that intelligibility involves both the speaker and the listener, and is the actual understanding of speech production.
Intelligible pronunciation	Intelligible pronunciation is an essential component of communicative competence (Morley, 1990). Morley states that with an increasing focus on communication, it is important students become not “perfect pronouncers” of English, but intelligible, communicative, confident users of spoken English

for whatever purposes they need (p. 489).

Learning strategy

“Learning strategies are the special thoughts or behaviours that individuals use to help them comprehend, learn, or retain new information” (O’Malley & Chamot, 1990, p. 1). This thesis uses O’Malley and Chamot’s model which classified learning strategies into three groups including metacognitive, cognitive, and social/affective strategies used to learn a second language.

Learning style

Learning styles refer more broadly to a learner’s natural, habitual and preferred way(s) of absorbing, processing, and retaining new information and skills (Reid, 1995, p. 7).

Segmental features

Segments, usually phonological units of the language, refer to vowels and consonants.

Suprasegmental features

In linguistics, prosody refers to intonation, rhythm, and vocal stress in speech. The prosodic features of a unit of speech, whether a syllable, word, phrase, or clause, are called suprasegmental features. In this thesis, these suprasegmental features refer to stress, intonation, and pausing.

1.7 OVERVIEW OF THE THESIS STRUCTURE

This dissertation is divided into six chapters. Chapter 1 includes the introduction, the statement of the problem, the research questions, and the significance of the study. Chapter 2 provides a review of relevant literature. Chapter 3 describes the methodology and includes a justification of the approach taken to collect and analyse the research data. Chapter 4 presents the data and

results, and Chapter 5 critically and analytically discusses the findings and outcomes of the research. Chapter 6 provides the conclusions of the study, its limitations, and recommendations for further research.

CHAPTER 2 LITERATURE REVIEW

This study aims to investigate guided reflective journals as an autonomous learning tool to develop intelligible features of pronunciation in large EIL classes. The general aim of Chapter 2 is to provide a critical and analytical overview of the literature, identify research gaps, and clarify the position on which this research is based. The first section explores the historical changes, role, and status of EIL. These changes have impacted on EIL pedagogy globally. Significantly, there has also been a consequent shift in how pronunciation is taught in Japan, and the focus is changing from imitating native speakers to communicating intelligibly with people who have different native languages. However, there are phonological differences between English and Japanese which naturally challenge the second language speaker. There are also other factors that influence pronunciation and intelligibility of speech. These linguistic, attitudinal, motivational, and environmental factors are explored in the second section. The final section of the literature review focuses on technology and reflective journals as possible intervention strategies for Japanese learners to overcome the aforementioned challenges, support the action learning process, and develop as competent and intelligible speakers of EIL. Therefore, the literature is reviewed according to the following key themes:

- English as an International Language,
- Intelligibility,
- A cognitive phonological approach to learning pronunciation,
- Pronunciation,
- Factors influencing pronunciation development,
- Computer assisted language learning (CALL), and
- Reflective journals.

2.1 ENGLISH AS AN INTERNATIONAL LANGUAGE

English is used for different purposes to communicate across the globe. It is often referred to in both research and teaching contexts using terms such as:

- Culturally and Linguistically Diverse backgrounds (CALD),
- English as an Additional Language (EAL),
- English as a Second Language (ESL),
- English as a Foreign Language (EFL),
- English as a Lingua Franca (ELF) (used among non-native English speakers), and
- English as an International Language (EIL) used as an interaction tool among NS and NNS.

The literature distinguishes these terms historically, geographically, and methodologically (Jenkins, 2000; Kachru, 1992; Crystal, 2003). However, over time, the meaning of these terms has become somewhat blurred as the terms are used synonymously. For the purpose of this study the term English as an International Language will henceforth be used. EIL can be set apart from the other terms by its primary focus on the development and use of English among native and non-native English varieties, as a global means of communication. In this study, EIL is thus used to refer to its use as a vehicle for communication between NS and/or NNS (Berns, 2008).

Clearly, the globalisation of English has influenced the changing nature of the language and its use. The changing use of English is clearly illustrated through Kachru's theory of English, which represents "the types of spread, the patterns of acquisition and the functional domains in which English is used across cultures and languages" in terms of three concentric circles, namely the Inner, Outer, and Expanding circles (Kachru, 1992, p. 356) (see Figure 1). Importantly, Kachru's theory explains the domains of English usage as interdependent circles

with English NS as the core users. However, Kachru and Smith (2009) argue that English is spreading rapidly across borders and has been integrated in different linguistic, cultural, and regional contexts to emerge as varieties of English, or World Englishes (WEs). As a result of constant contact and convergence, languages have undergone perceptible changes. With the growing number of English speakers, Crystal (2003) speculates that English will continue to divide and unite, with local variants becoming non-standard and less mutually intelligible.

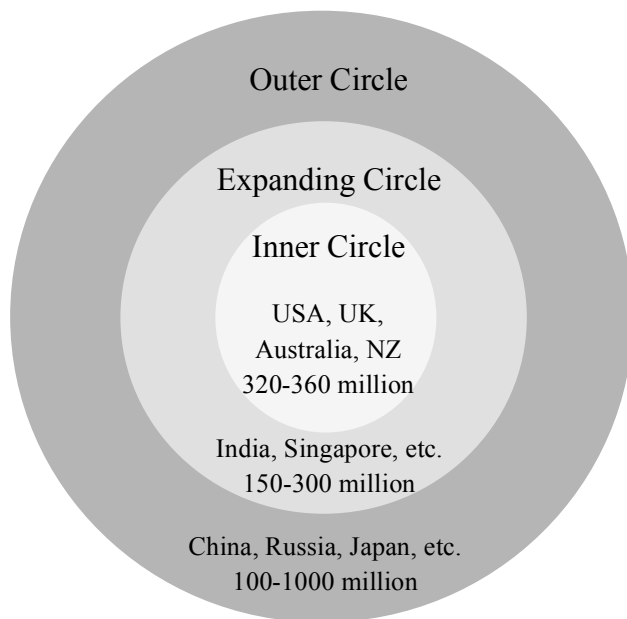


Figure 1. Kachru's Three Circle Model. Adapted from "The three 'circles' of English" in *English as a global language*, by D. Crystal, 2003, p. 61. Copyright 2003 by Cambridge University Press.

English is conceivably recognised as a changing phenomenon in our globalised world and as a vehicular language alongside other languages to "fulfil a great variety of functions which reflect the multiple facets of human interaction" (Smith, 2005, p. 57). Kachru and Smith (2009) agree that variations exist within a national variety and that this is also the case for Englishes

within the Outer and Expanding Circles. Harmer (2007) notably states that all speakers of English need to become aware of these natural and fluid dynamics of language change, which have been in existence for years. On the other hand, a linguistic debate is emerging as Jenkins (2000, 2006) and Seidlhofer (2004) predict that a local variant will emerge largely from the Outer circle; This variant has empirically been identified as English as a Lingua Franca, or ELF (Jenkins, 2000). Jenkins (2000, 2006) defines ELF as an emergent variety of English oral communication among NNS.

The above mentioned linguistic debate about the future trends of the spread and functions of English has resulted in varied acceptance and support for numerous varieties of WE and their likely future construct (Kachru & Smith, 2009). Distinctive elements of ELF include the focus on the NNS and the increased demand on the NS for greater flexibility to accommodate grammatical inaccuracy. Also, the most significant outcome of the ELF debate lies in acknowledging the specific needs of the ELF learner and “challenging [Inner Circle] stereotypes of correctness” (Prodromou, 2007, p. 47). Jenkins (2000) argues that as ELF speakers constitute the majority, they themselves should direct the emerging trends of ELF. On the other hand, Harmer (2007) proposes that trends of English usage should not be viewed in terms of “the majority rules” but in terms of high- and low-proficiency users. This means that although the number of NNS outweighs the number of NS, “language affiliation and ethnicity is less important than speakers’ proficiency” (Harmer, 2007, p. 18). Even though Kachru’s (1992) purposeful theory still appears to be the most commonly accepted premise in explaining the changing use of English in different countries, it is rapidly becoming outdated, as values such as the number of speakers from a country do not determine the linguistic ownership of English nor do they represent significant determiners for linguistic theoretical orientation. Where once it was

perceived to be essential for NNS to achieve as closely as possible to the Inner Circle native standard, the globalization of English challenges traditional notions of English. Undoubtedly, the aforementioned changes in the use of English as a lingua franca and the need for communicative competence to fulfil the dominant and global role of English cannot be ignored; however, as Kuo (as cited in Harmer, 2007) states, a degree of inaccuracy may be tolerated in communication but it does not provide a model for learning.

2.2 INTELLIGIBILITY

In general, intelligibility is a dynamic and nebulous term, which focuses on what competent and effective speakers do in context (Rajadurai, 2007, p. 96). In line with Field (2005), this research agrees that intelligibility is “the extent to which the acoustic and phonetic content of the message is recognisable by a listener” (p. 401). Zielinski (2006) further defines the term as “the extent to which the speech signal produced by the speaker can be identified by the listener as the words the speaker intended to produce” (p. 23). While both these definitions are relevant in the context of this study, it is also important to note that intelligibility involves both the speaker and the listener, and is the actual understanding of speech production. Intelligibility studies (Jenkins, 2000; Munro & Derwing, 1995; Nelson, 2008; Varonis & Gass, 1982) also agree that pronunciation is a vital element in effective communication. Therefore, this study directly relates pronunciation, or the production of sound used to make meaning, to intelligibility.

When discussing intelligibility, Jenkin’s new model for pronunciation and intelligibility cannot be ignored (2000, 2006). In the context of a lingua franca core (LFC), ELF defines intelligibility in relation to NNS alone (Jenkins, 2000). This contrasts with the generally accepted view that intelligibility is the preferred pedagogical goal achieved by NS and NNS. Jenkins

(2000) defends her position in the context of ELF speakers' right to ultimate independence from the top-down imposition of notions of correctness by NS in the Inner Circle who will, on the other hand, need to accommodate this emerging English variety. As such, intelligibility is viewed as something to be negotiated and developed by the ELF NNS themselves. While Jenkins (2000) states intelligibility is something to be constructed among NNS alone, literature more convincingly stresses that intelligibility is negotiated meaning among NS and NNS, and "needs to be complemented with a view of discussion as interaction and talk and ideas as co-constructed" (Basturkmen, 2002, p. 235).

While there is limited research in the area of intelligibility, a number of studies have made a considerable contribution to the understanding of pronunciation and its effects on intelligibility. Research from Munro and Derwing (1995), in particular, highlights the relationships among interpretability, or the degree to which the interlocutor can understand the message; perceived comprehensibility, or interlocutor load, including the level of difficulty the hearer has in understanding the utterance; and foreign accent. In terms of the impact of these concepts directly in relation to Mandarin L2 learners, results showed that although the strength of foreign accent indeed correlates intelligibility and perceived comprehensibility, a strong foreign accent does not necessarily cause L2 speech to be low in intelligibility or comprehensibility. Later, Derwing, Munro, and Morton (2006) defined these concepts in relation to intelligibility as;

...the extent to which a speaker's utterance is actually understood and emphasizes the importance of distinguishing this notion from comprehensibility, which refers to the listener's estimation of difficulty in understanding an utterance, and from accentedness, the degree to which the pronunciation of an utterance sounds different from an expected production pattern. (Derwing et al., 2006, p. 112)

Research by Derwing et al. (2006) showed that the interlocutor and the listener both have equal responsibility in the communication process; interlocutors experienced difficulty

understanding speech that differed from the L1 patterns of oral production to which they were accustomed. The study concluded that accentedness may impede intelligibility. However, researchers and teachers alike argue that accent and comprehensibility do not necessarily act as communicative barriers to intelligible speech and these notions are based on the extent and variety of the active exposure of the speaker and the interlocutor (Nelson, 2008). In fact, when translating these notions of pronunciation and intelligibility into the classroom, Derwing et al. (2006) stress that foreign-accent reduction or elimination should not be a focus for teachers, if comprehensibility and interpretability are also regarded as important notions when teaching pronunciation. Therefore, the notions of intelligibility, accentedness, interpretability, and comprehensibility can be considered interdependent features of pronunciation and “being able to do well with one does not ensure that one will do well with the other” (Smith, 1992, p. 88). Further research by Deterding and Kirkpatrick (2006) found that the interlocutor may exhibit a tolerance for certain variations of pronunciation features, particularly those not shared by the interlocutor, and that these may only occasionally impede intelligibility. Therefore, familiarity or degree of exposure to another language or variety can make speech more accessible, reduce resistance, and evince greater intelligibility. This is what Catford (as cited in Nelson, 2008) refers to as the “intelligibility threshold.” That is, interpretability can affect perceived attitudes and greater familiarity can lower the intelligibility threshold, making speech more intelligible.

Intelligibility is also shown to impact greatly on many aspects of an L2 speaker’s life as L2 language learners aim to be understood in their L2 by a wide range of interlocutors in a variety of contexts (Munro & Derwing, 2006). If NNSs are unable to communicate in spoken English effectively they may be at risk educationally, occupationally, professionally, and socially (Fraser, 2000). As aforementioned, intelligible, confident, and effective oral communication can

influence many areas of a NNS's life, including a speaker's psychosocial identity and the need for acceptance in the speech community. One of the key factors of communicative success is pronunciation (Nelson, 2008). Pronunciation has a serious effect on a speaker's ability to communicate in English; it is immediately salient, and may determine whether a speaker is successful. On the other hand, a speaker may be perceived as unsuccessful, incompetent, uneducated, or lacking in knowledge. Learners with good pronunciation are more likely to be understood, even if they make errors in other areas; however, learners whose pronunciation is difficult to understand will not be understood, even if their grammar is perfect (Yates, 2002). Pronunciation includes attention to sounds, or the segments including both vowels and consonants, and prosodic features such as intonation, stress, and pausing (Yates, 2002). Such features of pronunciation are believed to render a speaker intelligible, or can be a threat to the mutual understanding of spoken communication. For the purpose of this research, the term "segmental" refers to vowels and consonants and "prosody" refers to stress, intonation, and pausing, unless otherwise stated.

Intelligibility is clearly a complex concept, difficult both to define and measure; however, cogent results show that although aspects of intelligibility, accentedness, interpretability, and comprehensibility are features that can be assessed individually, pronunciation may be the most important criterion for the assessment of intelligibility. This study identifies the extent to which features of pronunciation are intelligible to the trained listener. Despite significant contributions in the literature, there are no empirical studies which research the effect of pronunciation using a lengthy text that focuses on the intelligibility of individual lexical items as well as the entire sentence. Nor is there any evidence to show the influence of intelligibility on NS and NNS listeners. To remedy these gaps in the literature, this study aims to record participants' speech

using a lengthy text, and to evaluate the intelligibility of pronunciation of Japanese speakers using both NS and NNS listeners.

Derwing et al. (2006) broadly define intelligibility as the extent to which a speaker's message is actually understood by a listener, but there is no universal way of assessing intelligibility. Research shows varied approaches to the measurement of intelligible speech (Couper, 2003; Derwing & Munro, 2005; Field, 2005; Fraser, 2000; Wajnryb, Coan, & McCabe, 1997). For example, Couper (2003) used a pre-test and a post-test as an awareness-raising diagnostic tool to measure the effectiveness of a teaching methodology which explicitly and systematically taught pronunciation. A survey was also used to elicit student responses to the syllabus and beliefs about the teaching and learning of pronunciation. This research showed the overall improvements in accuracy of pronunciation; there was also individual variation in attitude and response to the teaching and methodological approach. This small-scale research is an example of other research in this area, which concludes that explicit teaching of pronunciation impacts on language acquisition (Derwing & Munro, 2005; Fraser, 2000; Wajnryb, Coan, & McCabe, 1997). While there has been no further research to extend this study, Gay and Airasian (1992) consider the use of pre- and post-testing a generally reliable source of data. A longitudinal project would confirm whether teaching pronunciation this way has enduring effects. Importantly, we can conclude that cognitive-based methodologies that explicitly "instruct and raise learners' consciousness" may have a greater impact on adult learners than mere implicit exposure (Couper, 2003). Couper's study also highlights the importance of identifying learner attitudes and the need to refine methods used to measure proficiency, including the use of inter-rater reliability.

Inter-rater reliability is another aspect that is considered important when measuring speech. For example, both Munro and Derwing (1995) and Derwing and Munro (1997) considered the relationship between the intelligibility of connected speech and broad measures of both suprasegmental and segmental features of L2 speech production. In these studies, NS transcribed utterances selected from speakers' descriptions of a cartoon. Neither study found a strong relationship between intelligibility scores and non-standard phonological features; the number of phonemic errors, including deletion, insertion, or substitution, failed to correlate significantly with intelligibility scores for the majority of listeners. From this research, we can infer the importance for interlocutors of establishing criteria for measuring intelligible speech prior to assessment, and also moderating those criteria together to ensure inter-rater reliability, and improve the validity and the reliability of the results.

The testing instrument is also important when conducting research. According to Wajnryb et al. (1997), testing a student's spoken language by reading a passage aloud is qualitatively different from recording spontaneous speech. Reading a textual passage is also considered more effective than reading individual lexical items. Field (2005) qualifies this statement through his research, which investigated lexical stress and vowel quality. This research is of interest not only as it incorporated psycholinguistics to determine the impact of intelligibility on the listener, but also because the participants read only a list of individual words. Field's use of single lexical items may not reflect natural communicative speech forms. This testing instrument, therefore, detracted from an otherwise well-structured study in that the participants' speech was recorded and evaluated by both NS and NNS interlocutors for "prosody, accentedness and other features and rated for intelligibility" (Field, 2005, p. 404).

Natural speech may be a far more real measure of a student's communicative ability. However, while only a handful of studies has investigated the influence of phonological features on intelligibility, we can learn from the experiences of Munro and Derwing (1995) and Derwing and Munro (1997) who found that spontaneous speech is difficult to measure. More effective may be a carefully selected passage that provides the learners with lexical context and enables the researcher to "hold constant other issues that compound production, such as grammar, lexis and many of the unexpected spur-of-the-moment contingencies that characterize spoken discourse" (Wajnryb et al., 1997, p. 39). Kerr's research (2000) also identifies the considerable benefits of reducing cognitive load. For example, the cognitive load involved in attending simultaneously to accessing vocabulary, organizing syntax, and motor planning for the movements of the articulators can be reduced considerably. The aspect of cognitive load may be both beneficial when identifying an appropriate passage for the pre-test and the post-test and also considered relevant when applied to an interview situation. For example, a structured interview that provides the questions in advance to participants may reduce the cognitive load for non-native subjects if they need to formulate complex responses. In addition, Kerr (2000) suggests that using a passage is more effective to evaluate speech. This may usually form a limitation of the study; however, for a research-based EIL study this means that the resultant responses may be more valid. In summary, findings from the aforementioned research have direct implications for the methodology used in this research, which is outlined in Chapter 3.

2.3 A COGNITIVE PHONOLOGICAL APPROACH TO LEARNING PRONUNCIATION

According to Fraser (2006), once we have acquired an L1 phonological system as an infant, this system becomes an automated structure from which the phonological concepts are derived. Most

of these concepts are produced as unconscious behaviours, which expose our individual identities. Second language acquisition theory argues that these concepts of language that are developed from infancy are transferred to accommodate the L2 and segment speech from the mother language (Cutler, 1984). Interestingly, Fraser accords this theory with cognitive phonology and suggests that the conceptual learning of pronunciation features is more difficult in adulthood, "...not for any physical reason, but simply because changing existing concepts is more difficult than forming new ones" (Fraser, 2006, p. 87). Morley (1991) also proposes that modification of speech patterns towards intelligibility may be challenging as L1 speech patterns are likely to be entrenched and resistant to change. If Japanese students, particularly adults, are able to change their phonological concepts to fit EIL and then allow these new concepts to drive their pronunciation behaviour and their approach to linguistic competence, they will be able to cognitivize this new awareness and adjust to the physical demands of speaking EIL. For example, Couper (2003) states that learners need to raise their consciousness, develop awareness, and learn to monitor their own pronunciation. Therefore, as one strategy for language acquisition, cognition of pronunciation not only makes our students notice and become aware of different sounds and features and repair their own and others' errors, but also trains "our speech organs in new ways in order to produce learned sounds in a foreign language" (Kelly, 2000, p. 4). Translating the cognitive phonological theory into practice, Swain (1995) identifies four functions of output, or production, needed for successful communication:

1. Fluency; production provides opportunities to develop automatic output.
2. Hypothesis-testing; the comprehensibility and linguistic features on production can be assessed against feedback obtained from interlocutors.
3. Metalinguistic function; production allows learners to reveal their hypotheses and

reflect. This process of reflection on language may deepen the learners' awareness of forms, rules, and form-function relationships if the context of production is communicative in nature.

4. Noticing/triggering function; Noticing gaps in language output can lead to recognition of what learners do not know or only somewhat know. The recognition of problems may prompt learners to change production, which may in turn trigger linguistic development.

If learners fail to cognitivize these language skills, the communicative transaction may not be successful. On the other hand, this process of cognition can encourage learners to discover what they can do and what they cannot do. According to Swain's Comprehensive Output hypothesis, when forced out of their comfort zone learners may attempt to solve linguistic challenges by stretching their metalanguage and interlanguage, accessing their own cognitive constructs or "cueing themselves to listen for a solution in future input" (Swain, 1995, p. 127). Benefits from this process may impact on all areas of language learning and acquisition.

Awareness and cognition of phonology may also impact on intelligibility, as pronunciation constitutes important features of natural speech (Field, 2005; Fraser, 2006). However, Honna and Takeshita (2000) explain that English has a limited role in Japanese society and "...behavioural acculturation is a must" (p. 63). Also, the nativist goal, or the idea that an L2 speaker must sound like a native speaker, is impressed on learners from primary school level. As a result, Japanese speakers may have less opportunity to develop linguistic awareness, become passive about learning English, reluctant to speak and, therefore, achieve lower oral proficiency in later years. Therefore, the cognitive approach has implications for Japanese learners, pedagogy, and this present study.

The acquisition of language using a cognitive construct of speech and pronunciation can influence our perception, behaviour and production. According to Thompson and Gaddes (2005), adults can “improve their fluency and comprehension levels in both the segmental and suprasegmental areas of pronunciation as well as learn to self-monitor and self-correct” if aided by the right methods. This statement agrees with Morley (1991), who states that students need to develop the necessary skills to monitor and modify their speech patterns. In addition, the acoustic-phonetic content of the message will become more recognisable or intelligible to the interlocutor when students practise or are actively engaged in a learning process that applies concepts in reality (Fraser, 2000). It can be assumed that exposure alone does not improve cognition of pronunciation. Honna and Takeshita (2000) confirm that the conventional approach to learning English is unrealistic. A more communicative and learner-centred approach may assist the cognition of language acquisition, and in this case, intelligible speech patterns, to develop pronunciation even in large classes. Jesry (2005) also confirms that with cognition of pronunciation skills, students will:

- learn the proper articulation of the sounds of English;
- learn the correct pronunciation of words and practise using them in context;
- learn and practise how to use prosodic features appropriately, link sounds and words;
- with the classroom activities, demonstrate a greater understanding of the way stress and accent can affect the meaning in English;
- benefit from the constant awareness-raising activities followed by practical application exercises, and hence become able to note and correct identified problematic areas in their speech which interfere with comprehensibility, and by time, feel less inhibited about approximating English pronunciation (p. 5).

2.4 PRONUNCIATION

2.4.1 The Japanese and English language systems

While English has an alphabetic writing system, Japanese has a syllabic one. English, with its rich syllabic structure, is not easily transcribed into Japanese orthography. Both language systems share the consonant-vowel (CV) syllable, which is recognised as common to all languages and provides a basis for language acquisition (Flege, 2001). Linguistic rhythm is based on either the isochrony of inter-stress intervals or the isochrony of syllable, respectively (Abercrombie, as cited in Ramus, Nespore, & Mehler, 2000, p. 266). English is a stress-timed language; Japanese is syllable-timed (Pike, 1945). As shown in Ramus et al. (2000), further work in this area classified the Japanese language as mora timed and distinct from the English stress-timed language. Thus, while English divides words into syllables, the Japanese language system uses morae. Tsujimura (2007) explains that mora is a timing unit that may represent the internal structure of a syllable. As a result, Japanese speakers find the phonemic sounds of English challenging. The English language has in excess of 30 consonants and in excess of 12 vowels (Fromkin, Rodman, Collins, Amberber, & Harvey, 2009) and the way a consonant is produced in English depends on its position in the syllable (Stevens, 2002). The specific type of syllable and the position of the interval contained in any utterance influences the duration of inter-stress intervals. Some syllables are stressed, unstressed, or even absent. This is unlike the Japanese language system wherein all syllables remain equally salient or constant during production, occurring at regular intervals (Pike, 1945; Roach, 1982). In consequence, both Japanese and English belong to two distinct rhythmic classes that are acquired as part of their L1 phonological concepts, and which differ according to readily identifiable acoustic or phonetic parameters and syllable timing/stress timing dichotomy (Tsujimura, 2007).

The difference in the two languages requires a metalinguistic understanding in order to develop the concepts needed to learn EIL and positively impact on pronunciation. For example, the syllable structures in English include consonant clusters (see Table 1). The Japanese language system does not include consonant clusters, at syllable initial or final position. Japanese is phonologically represented by a small number of syllables, mostly of the open consonant-vowel (CV) type combination (Fromkin et al., 2009) commonly seen in the katakana and hiragana syllabic writing (see Table 2).

Table 1

English Syllable Types

Word	Phonetic Transcription	Syllable Type
I	/aI/	V
key	/ki/	CV
ski	/ski/	CCV
spree	/spri/	CCCV
an	/æn/	CV
seek	/sik/	CVC
speak	/spik/	CCVC
scram	/skræm/	CCVC
ant	/ænt/	VCC
pant	/pænt/	CVCC
stamp	/stʌmp/	CCVCC
striped	/staɪpt/	CCCVCC
ants	/ænts/	VCCC
pants	/pænts/	CVCCC
splints	/splɪnts/	CCCVCCC

Note. Adapted from “Syllabic writing” in *An introduction to language* (6th ed.) by V. Fromkin et al., 2009, p. 497. Copyright 2009 by Cengage Learning Australia Pty Limited.

Table 2

Japanese Syllable Types

Word	English Translation	Syllable Type ^a
ke	hair	CV
kan	see	CVN
<u>kitte</u>	we	CVC
ryo	stay	CjV

^a Adapted from *An introduction to Japanese linguistics* (2nd ed.) by N. Tsujimura, 2007, p. 59. Copyright 2007 by Blackwell Publishing.

The duration of the sentence matches the number of syllables in the interval. The example below is evidence that the following two English sentences would be said in the same amount of time, regardless of the number of syllables:

Birds / eat / worms
 The birds / will have eaten / the worms

The same two sentences translated into Japanese would not take the same amount of time to complete as the timing and production of these sentences are dependent on the number of syllables in each Japanese sentence:

To/ ri/ ha/ mu/ shi/ wo/ ta/ be/ ru
 So/ no/ to/ ri/ ha/ so/ no/ mu/ shi/ wo/ ta/ be/ ta/ da/ ro/ u

These differences between English and Japanese impact on the phonological system and in particular, prosody, and are discussed later in this chapter.

2.4.2 L1 Interference

Types of pronunciation errors differ depending on the L1 background and the L2. With regard to Japanese L1 speakers of English, research reveals eight prosodic errors that affect pronunciation (Celce-Murcia et al., 2007; Raux & Kawahara, 2002):

1. Smaller pitch range than NS of English.
2. No tone-spreading phenomenon in required contexts.
3. Delayed final rise for a question.
4. One distinct pitch: a sharp rise followed by a sharp fall.
5. The same vowel length between stressed and unstressed words.
6. No secondary stress in multi-syllable words.
7. No deaccenting in contrastive situations.
8. Excessive use of pauses in long phrases.

The first four errors can be classified as relating to intonation; error 5 relates to lexical stress; error 6 relates to sentence stress; while error 8 can be found in the speech of any language learner; this error relates to pausing. Although it is difficult to determine individual reasons for these errors, it is assumed that most stem from Japanese L1 interference. For example, Japanese katakana has adapted the English language system and uses the syllable-timed, or pitch-accented Japanese language system (Raux & Kawahara, 2002) to represent thousands of borrowed words from English, which have been adapted from the English. Many Japanese speakers are aware that the language system has accommodated these foreign expressions largely stemming from the English language, and use this katakana lexicon when communicating in English. Also, word boundaries in English are marked by space or punctuation in writing. Although punctuation is used in Japanese in a similar way to English, Japanese does not use any space between words (Olinksy & Black, 2000). Inflectional endings and grammatical devices are further simplified

because of the combined use of hiragana, katakana, and kanji. Such differences may impact on the acquisition of the English language and contribute to the aforementioned prosodic errors.

On the other hand, Japanese EIL speakers may not be linguistically aware of the timing differences of the two languages, and this can directly impact on pronunciation, or intelligibility. Tsujimura (2007, p. 61) identifies a further six errors that stem from the differences between the Japanese mora-timed language and the English stress-timed system. These phonological differences contribute to a typical “Japanese-English” pronunciation and are apparent in the English pronunciation of most Japanese students (see Table 3). Differences in timing are a major influence on error in Japanese EIL speakers and may influence production of prosodic features. Although limited research has been conducted in these areas, these qualities cannot be understated when considering production of speech, and thus intelligibility. Zhang (2006) also states that changes in body tension of different muscles and proprioception can affect pitch training. In particular, breathing patterns and the demands for breath for speech production differ for each language. Retraining and cognitivising different habits starts at the breath. Although the scope of this study focuses on intelligible speech, being mindful of a variety of characteristics affecting voice production can inform pedagogical decisions, curriculum design, and autonomous learning outcomes.

Table 3

Speech Errors of Japanese Students of English

Error	Type	Actual English	Pronounced
1. Substitution	i. Anticipation	a reading list	a leading list
	ii. Perseveration	she can see it	she can she it
2. Transposition	Reversal	Hockett or Lamb	locket or ham
3. Omission		speech error	peach error
4. Addition		optimal number	moptimal number
5. Movement		dinner at eight	inner at date
6. Blend		Ross/Chomsky	Romsky

Note. Adapted from *An introduction to Japanese linguistics* (2nd ed.) by N. Tsujimura, 2007, p. 61. Copyright 2007 by Blackwell Publishing.

2.4.3 A comparison of English and Japanese phonetic inventory

2.4.3.1 Segmental features

Production of speech in English consists of vowels and consonants. This study uses the phonetic symbols as presented in Appendix A, such as /θ/ to represent ‘th’ sound. Vowels are primarily described in terms of tongue position and lip rounding. The significant places of articulations are the lips (bilabial), lips and teeth (labio-dental), teeth (dental), upper gums (alveolar), hard plate (palatal), soft plate (velar), and glottis (glottal), to produce different sounds in English (see Figure 2) and in Japanese (see Figure 3). The distinction between vowels and consonants is based on three main criteria: (a) physiological: airflow / constriction; consonants generally have a greater degree of constriction than vowels, (b) acoustic: prominence; consonants are generally less prominent than vowels, and (c) phonological: syllabicity; syllables commonly consist of a

vowel surrounded by consonants (Tsujimura, 2007). Sometimes, it is necessary to rely on two or three of the aforementioned criteria to decide whether a sound is a vowel or a consonant.

	front	central	back
high	i I		u U
mid	e ɛ	ə ʌ	o ɔ
low	æ	a	ɑ

Figure 2. The English vowel system. Adapted from “English Vowel System” in *An introduction to Japanese linguistics* by N. Tsujimura, 2007, p. 16. Copyright 2007 by Blackwell Publishing.

	front	central	back
high	i ika “squid”		u usiro “behind”
mid	e eki “station”		o oto “sound”
low		a asa “morning”	

Figure 3. The Japanese vowel system, including examples. Adapted from *An introduction to Japanese linguistics* by N. Tsujimura, 2007, p. 17. Copyright 2007 by Blackwell Publishing.

Consonants generally are not only less prominent than vowels, but also have a greater degree of constriction (Mannell, Cox, & Harrington, 2009). The way a consonant is produced can help the listener determine boundaries and may contribute to intelligibility. There are significant differences between the English and Japanese consonant systems. Tables 4 and 5 show that English has a greater variety of fricatives and affricates. Also, the English phonemes /f/, /v/, /θ/, /ð/, /ʃ/, /ʒ/ do not exist in Japanese (see Tables 4 & 5). On the other hand, the voiceless bilabial

fricative / Φ / which occurs in first sounds in words such as hukai (deep) and the voiceless palatal fricative / ζ / as in “hiroi” (spacious) do not exist in English. These sounds are often seen in connection with particular vowels and are dissimilar to the glottal fricative [h].

Table 4

English Consonants

	bilabial	Labio-dental	Inter-dental	alveolar	alveo-palatal	palatal	velar	Labio-velar	glottal
Stops	b, p			d, t			g, k		
Fricatives		v, f	ð, θ	z, s	ʃ, ʒ				h
Affricates					tʃ, dʒ				
Approximants				r, l					
liquid									
glide						y		w	
Nasals	m			n			ŋ		

Note. Adapted from *An introduction to Japanese linguistics* (2nd ed.) by N. Tsujimura, 2007, p. 12. Copyright 2007 by Blackwell Publishing.

Table 5

Japanese Consonants

	bilabial	alveolar	alveo-palatal	palatal	velar	uvular	glottal
Stops	p, b	t, d			k, g		ʔ
Fricatives	Φ	s, z	ʃ, ʒ	ζ			h
Affricates		ts, dz	tʃ, dʒ				
Approximants:		r					
liquid							
glide				j	w		
Nasals	m	n			ŋ	N	

Note. Adapted from *An introduction to Japanese linguistics* (2nd ed.) by N. Tsujimura, 2007, p. 15. Copyright 2007 by Blackwell Publishing.

For beginning and intermediate Japanese speakers, distinction difficulties in pronunciation between their native tongue and English lie in the consonants /l/, /r/, /θ/, /w/ and /v/ and consonant clusters (Tsuji-mura, 2007). Smith (2005) adds that additional distinctions lie in the consonants /b/, /f/, /h/, and /s/. It is important to note that more advanced learners are able to produce these sounds clearly. In particular, the /l/ and /r/ phonemes, which are usually neutralised in Japanese, do not interfere with intelligibility in the case of advanced English learners (Harmer, 2007).

Raux and Kawahara (2002) found that the intelligibility of Japanese speakers speaking EIL is influenced by their native L1 writing system, which finishes all lexemes with vowel sounds. Zielinski (2006) also found that Japanese speakers transferred the vowel differences from their L1 when speaking English; this study indicates that syllable differences may be attributed to the production of a pattern of non-native standard syllables. Flege (2002) supports this view and further states that if sounds in the L1 and L2 systems of a bilingual speaker share a “common phonological space” they are likely to influence and interact with each other (p. 132). However, L1 transfer has a stronger influence on L2 pronunciation as the phonological L2 concepts differ from those of the L1 and have an incontrovertible effect on L1 phonology.

EIL learners not only need to be able to hear a phonemic contrast correctly but also to cognitise and reproduce the sounds. It may not be surprising that one study conducted by Munro and Derwing (1995) identified the common phonemic errors of Japanese speakers of English as either deletion or insertion, or the substitution of a segment that was clearly interpretable as an English phoneme different from the correct one. On the other hand, while katakana represents the many thousands of borrowed words from English, consonants are considered significant indicators of intelligibility and represent an area of difficulty for Japanese learners of English.

Difficulties with vowel production also influence intelligibility for native Japanese speakers of English. In fact, Smith (2005) found that changes to consonants were less disruptive to listeners than changes to vowels in stressed syllables, or the primary or secondary stress placed on the syllable. Smith (2005) also confirms that almost all NNS have difficulty with English vowels “simply because they do not exist in their own languages” (p. 58). For example, unlike in Japanese, lip rounding is associated in English with the high back vowel (Tsujimura, 2007, p. 17). The lip rounding of vowels with similar features in Japanese are usually pronounced in English with more neutrality. For example, the word /púl/ is pronounced with rounded lips. In Japanese, long vowels require little movement of the tongue or muscular tension of the lips when producing sounds (Tsujimura, 2007). Alternatively, short vowels require greater muscular tension of the tongue, which generally moves to the front of the mouth. Generally, Japanese speakers of English have little problem pronouncing long vowels. These long and short vowel contrasts exist in the following pairs (see also Figure 5):

- /i/ and /I/,
- /e/ and /ε /, also
- /u/ and /U/.

In summary, Japanese phonemes are different from English and working on consonants and vowels alone may result in significant improvements in intelligibility. Furthermore, it may be possible to produce considerable improvement in functional intelligibility (Kerr, 2000). Therefore, although phonemes present a challenge for Japanese speakers, they play an important role in developing the sounds of English.

2.4.3.2 Prosodic structure

Prosody is the study of the prosodic features of the speaker or the utterance and how these features contribute to meaning (Mannell et al., 2009). According to Anderson-Hsieh (1990), in

addition to voice, breath, and gesture patterns, the fundamental aspects of English speech include prosodic features such as intonation, stress, and pausing. These features carry the “meaning of the message and establish cultural synchrony between the speaker and the listener” needed to develop intelligibility (Anderson-Hsieh, 1990, p. 197).

Intonation

Intonation is a complex system of meanings, which “involves the rising and falling of the voice to various pitch levels during the articulation of an utterance” (Celce-Murcia et al., 2007, p. 184).

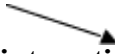




Intonation provides not only syntactic or semantic information, but also a number of functions in English:

- grammatical, as in different types of questions and statements;
- status of information, as in main or subordinate clause, finished or unfinished;
- attitude, as in whether we are certain or not, have doubts or reservations;
- emotion, as in whether we are confident, happy, enthusiastic, sad, or bored;
- relational, as in how “open,” friendly or “closed” we are towards a listener (UTS: ELSSA Centre, 2010).

As shown in Table 6, discourse content influences the choice of intonation contour. Changes in the signals of intonation can change the meaning of an utterance even when the same words are used (UTS: ELSSA Centre, 2010). Therefore, intonation is strongly influenced by personal interpretation from both the speaker and the listener although intonation in both Japanese and English is similar in their rising and falling patterns, for example, in questions and commands.

Table 6

The Influence of Intonation Contours on an Utterance

Example	Communicative purpose and function
 It was <u>interesting</u>	Statement: You are giving information. You are certain and confident about the information.
 It was <u>interesting</u> (?)	Question or incomplete statement: This intonation could indicate that this is a question even though the grammar indicates a statement. It could also indicate that you aren't sure or that you haven't finished yet.
 It was <u>interesting</u> ...	Incomplete statement: You have more to say.
 It was <u>interesting</u> ...	Reference, qualification: You have some doubts or reservations or you want to qualify this with more information. You may also be referring to what has already been said or will be said.
 It was <u>interesting</u>	Exclamation: You want to emphasise this. Depending on the context, you may feel enthusiastic, happy or surprised. Or you may want to contrast this strongly with what someone else has said.

Note. Adapted from UTS: ELSSA Centre. (2010). *What pronunciation features are most important*. Retrieved from http://www.elssa.uts.edu.au/docs/2_important_features.pdf

Intonation is a complex and important aspect of speech. Jenkins (2000) highlights the reluctance of teachers in teaching intonation because of the intricacies pertaining to individual interpretation. The intonation patterns are usually experienced as being more difficult to perceive and produce than the segmental differences; however, they also have a significant effect on the intelligibility of speech. This complexity can be found not only in the formal aspect of

intonation, including stress, rhythm, chunking/phrasing (intonation units), and pitch movements, but also in the function of intonation. These two aspects are closely interrelated, especially in attitudinal and emotional expression, and affect other speech functions such as the context, the speech situation, lexis, and paralinguistic features (Celce-Murcia et.al., 2007; Goh, 1997).

However, intonation impacts on more than a speaker's personal attitude or emotion; this phonological feature also signals grammatical structure and clarifies the contrasts between different question types and the ways in which questions differ from statements (Celce-Murcia et al., 2007). In fact, Jenkins (2000, 2006) and Seidlhofer (2004) argue that it is no longer necessary to teach many segmental and suprasegmental features of pronunciation because of the multiple interpretations that could be inferred from discourse, including cultural and social innuendos. In practice, this clearly contradicts the importance of exposing NNS students to a range of texts and speech varieties to raise linguistic awareness. Excluding intonation from the classroom curriculum would have resounding implications for Japanese speakers who, in Jenkins' view, may not need to improve a "Japanese-English" accent nor be concerned that consonants, vowels, and other phonological features are intelligible. Therefore, the view taken in this research is that prosodic features have a major impact on intelligibility and the classroom teacher therefore continues to have responsibility for raising students' awareness regarding these phonological attributes.

Stress

Stress plays an important role in stress-timed rhythm in English and demands increased muscular energy and respiratory activity as "the speaker expels air from the lungs and articulates syllables" (Celce-Murcia et al., 2007, p. 131). Celce-Murcia et al. define stress as "those syllables within an utterance that are longer, louder, and higher in pitch ... but in any given stressed syllable this entire combination of features may not be present" (p. 131). While Japanese does not have stress,

the Japanese language system naturally marks accent by pitch changes. As aforementioned, unlike English, time used to complete an utterance is not dependent on stressed vowels or syllables.

English has a pattern of primary stressed (or strong) syllables and secondary stressed (or weak) syllables; primary syllables contain full vowels and secondary syllables are unstressed short vowels. Therefore, vowels carry accent and signal whether a syllable is strong or weak. The presence of stress deems that other syllables in the same utterance become less significant and their reduction process is facilitated (Pike, 1945). A great number of English content words contain the primary stress on the initial syllable, although “stress can occur on virtually any syllable depending in part on the origin of the word” (Celce-Murcia et al., 2007, p. 132). The example in Figure 4 highlights the difference between stressed and unstressed syllables, and shows in this case that the first and the fourth syllables carry greater stress.

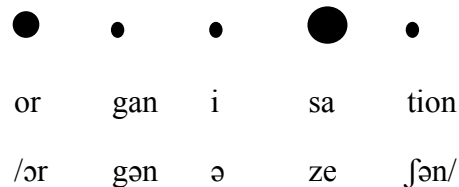


Figure 4. English stress pattern for the word “organisation.” Adapted from *Teaching pronunciation: A reference for teachers of English to speakers of other languages* by M. Celce-Murcia et al., 2007, p. 132. Copyright 2007 by Cambridge University Press.

Celik (2001) explains that stress is used to focus the attention of the interlocutor to meaningful chunks. He identifies four major types of stress:

1. Unmarked primary stress,
2. Emphatic stress placed on content words,

3. Contrastive stress. No distinction exists between content and function words, and
4. New information stress.

These factors make stress challenging for EIL speakers, particularly as listeners and interlocutors use stress patterns as an indicator to initiate lexical search. In fact, if the primary or secondary stress is incorrectly placed, NS may process the message as something completely different (Cutler, 1984). Roach (1982) also concluded that stress is important for speech perception and that NS of English draw heavily on information about stress patterns, as a normal and efficient way of understanding speech. If primary stress is pronounced weakly and the secondary stress strengthened, intelligibility may be lost, or at least severely impaired. That is, if word or sentence stress is not produced clearly in English, the listener may have difficulty reconstructing the message, or at worst, not understand it at all. For example, Zielinski's research (2006), focusing on Vietnamese speakers, concurred that changes in pausing and stress patterns, accompanied by vowel changes, changes to single consonants, and consonant clusters, impacted on intelligibility as measured by NS interlocutors. Most research in this area focuses greatly on stress at the word level compared to the sentence level. Zielinski (2008) summarises some of the key findings from research in this area and emphasises that English listeners rely on listening strategies tailored to their native English phonology. Listeners draw on both prosodic and segmental features in the speech signal; consonant, vowels (particularly those in primary stressed syllables), and the rhythmic properties of the speech signal are all important to English listeners in the process of identifying a speaker's intended words. Cutler (cited in Setter & Jenkins, 2005) also asserts that rhythm based on word stress is a key factor in English speech segmentation and word stress patterns are an integral part of the phonological cognition of language. As such, stress is a central component of English, characterizes pronunciation and influences intelligible speech production.

Pausing

In spoken discourse, pausing, or the time intervals where there is temporary inactivity, can also change the meaning of the message. In fact, certain pauses in a stream of speech can have significant meaning variations in the message to be conveyed (Celik, 2001). Without chunking and correct pausing, it may be difficult for listeners to comprehend the meaning of the utterance. Consider the examples in Table 7, in which changes in the placement of pausing can impact on the meaning of an utterance. If Japanese learners of English are not able to cognitivise this phonological feature of intelligibility, speakers may face difficulties both physiologically, in how to produce authentic sounding intelligible speech, and semantically when deciding how to use these features meaningfully in their speech (Raux & Kawahara, 2002).

Table 7

The Influence of Pausing on an Utterance

Utterance	Phonetic translation including stress marks ^a	Meaning
Those who walked quickly / became healthy.	ðóz hú wókt kwíkli / bíkém hélθi.	They became healthy by walking quickly.
Those who walked / quickly became healthy.	ðóz hú wókt / kwíkli bíkém hélθi.	They quickly became healthy by walking.

Note. Adapted from “Teaching English intonation to EFL/ESL students,” by M. Celik, 2001, *The Internet TESOL Journal*.

^a Slashes [/] are equivalent to pauses. Marks ['] above the vowels are stress marks.

When the stress speech signal is not clear, native English listeners may also depend on other rhythmic properties, including pausing, to identify word boundaries. Anderson-Hsieh’s work (1990) concurs with other research in this area and concludes that the interlocutor draws on

these prosodic features to recognize individual words in connected speech patterns. Instead of placing the major stress in the final content word on the stressed syllable to establish meaning, Japanese emphasise accent at the word level. Wei (2002) found that changes in stress patterns, combined with lack of pausing and little attention to pitch change, can create typical Japanese monotonous intonation contours. Wei's study confirms that pausing and other prosodic features of pronunciation are crucial to intelligible speech and provide valuable information for lexical interpretation. These elements are important for the production of successful speech patterns, production and perception.

2.5 FACTORS INFLUENCING PRONUNCIATION DEVELOPMENT

2.5.1 Motivation

Motivation is one of a large number of variables having an impact on L2 learners' ability to confidently produce intelligible speech. Motivation is a driving factor of the language learning process and is described as a multifaceted construct (Dörnyei, 1998; Gardner, 1985a) that is difficult to define. It is also difficult to determine evidence and perspectives, as researchers themselves do not specify the kind of motivation they are investigating. Dörnyei (1999) advises "in the analysis of motivational research, researchers need to be explicit about which aspects of motivation they are focusing on and how those are related to other, uncovered dimensions of the motivational complex" (p. 527). In response, this study defines motivation as "the combination of effort plus desire to achieve the goal of learning the language plus favourable attitudes toward learning the language" (Gardner, 1985a, p. 10) and focuses on three different views of motivation including intrinsic-extrinsic, integrative-instrumental, and amotivation.

Intrinsic motivation corresponds to an activity that is carried out because of the spontaneous satisfaction derived from undertaking it inspiring feelings like self-determination

(Deci & Ryan, 1985; Ryan & Deci, 2000). In relation to L2 learning, Dörnyei (2001) relates intrinsic motivation to the inherent enjoyment and interest in an activity. For example, when learning pronunciation, a learner's motivation and attitudes are paramount to how well they speak, how well they hear, and how motivated they are to strive to achieve their goal (Harmer, 2007). However, phonological concepts need to be already in place. That is, learners need the appropriate metalinguistic and linguistic knowledge to appropriate new learning. Also, learners need to be motivated to learn. They also need the opportunity to practise actively and reflect on new learning. Harmer (2007) argues that without these physiological, neurolinguistic, and physical elements, the language learning concepts for developing pronunciation are not fully appropriated to the new language. Limited opportunity for practice, on top of the impact of large classes, leads to apparent hesitation to interact with English speakers and may counteract the motivation of NNS to “acquire proficiency for intercultural communication” (Honna & Takeshita, 2000, p. 63). Other factors that may influence uptake or the development of communicative competence and impact on motivation for learning include age, the number of years the learner has learned EIL, the learner's L1, prior learning experiences, and so on. On the other hand, extrinsic motivation is the desire to engage in an activity with the expectation of receiving a reward from an outside source (Deci & Ryan, 1985; Ryan & Deci, 2000). It is argued that by combining the constructs of integrative and instrumental with intrinsic and extrinsic motivation, a more complete understanding of the development of particular orientations and their role in language learning motivation can be achieved. In this present study, these factors are incorporated in the design and development of the qualitative research instruments and further outlined in the next chapter.

Following the trends in motivation research, a third motivational construct, amotivation, is discussed. According to Noels (2001), these three terms—intrinsic, extrinsic and amotivation—coexist on “a continuum of self-determination” (p. 49). Amotivation, however, is seen as opposite to intrinsic types of motivation. Learners are described as feeling helpless in the learning situation that is imposed on them. As a result, students may not value the activity, do not feel competent, and do not expect it will necessarily lead to a desired outcome. Learners are described as passive and longitudinal participation is likely to evoke anxiety, apathy, and even depression. Ryan and Deci (2000) attribute this to the mismatch between their behaviour and the outcome of the activity. In the context of this present study, amotivation could be used to describe the majority of Japanese learners by the time they reach university to study English. Honna and Takeshita (2000) confirm that current Japanese EIL pedagogy can be demotivating and does not encourage use of English in an active intra-national and international global sphere. This is despite the fact that current policy aims to develop global communicative literacy in Japanese EIL learners from primary level onwards. Therefore, the appropriate production of phonological features of pronunciation is of a high degree of importance, and undoubtedly difficult for NNSs, including Japanese EIL speakers. Without developing knowledgeable, proficient, and confident teachers and pedagogy that motivates students and promotes linguistic proficiency and cultural awareness, the concomitant result may not be international and intercultural education and global communicative proficiency in EIL. The education system may benefit from an intervention strategy based on cognitive theory, such as the use of guided reflective journals, so that students also become confident and independent learners able to interact and communicate intelligibly in a global EIL setting.

Other motivation theories have been proposed by Dörnyei (1994), including the Learner Level Component of motivation which includes goal-setting theory, attribution theory, and self-efficacy theory. Dörnyei (2001) refers to social cognitive theory to describe the importance of self-efficacy when discussing goal setting, motivation, and behaviour to achieve success, self-improvement, and growth. Goal-setting theory argues that performance is closely related to a person's accepted goals (Oxford & Shearin, 1994). Attribution theory claims that the way people explain their own past successes and failures will significantly affect their future achievement behaviour (Weiner, 1985). Self-efficacy theory suggests that people's judgement of their capabilities to carry out specific tasks will affect their choice of the activities attempted (Dörnyei, 1998). To assess these various individual difference variables, Gardner developed the Attitude/Motivation Test Battery (AMTB) (2004). Gardner (1985b, p. 26) states, "Motivation must be understood with reference to social context and in relation to the multiple changing and contradictory identities of language learners across time and space." Results from the AMTB show that motivated learners will be more successful in language production than those who are not so motivated. Therefore, the aforementioned theories, in particular, impact on the development of the reflective journal tasks and also they may serve later to explain the effectiveness of the guided reflective journals.

In summary, motivation is complex in nature and results from a combination of different influences. Some are internal or intrinsic, coming from the learner, while others are external or extrinsic, such as the influence of other people. The themes of motivation most commonly referred to in current second language acquisition research relate to integrative-instrumental, intrinsic-extrinsic, and amotivation. Both intrinsic and extrinsic motivation are key factors impacting on language acquisition. However, while these theories mentioned above have

significant relevance for this study, more attention must be paid to the individual learner who studies EIL at a university in the social context of Japan to determine the factors that motivate language learners.

2.5.2 Language learning strategies

Language learning strategies used in EIL are an intentional means to employ specific actions, behaviours, steps, or techniques to improve progress and develop communicative competence (Oxford, 2008). The use of language learning strategies facilitates the uptake, internalisation, storage, retrieval, and use of EIL comprising visible self-directed behaviours or techniques. However, many language learning strategies are well internalised and therefore, constitute invisible behaviours including cognitive and affective or emotional processes which involve information and memory. Research in this area is largely influenced by O'Malley and Chamot (1990) who defined learning strategies as a complex cognitive skill that constitutes the special thoughts or behaviours that individuals use to enhance comprehension, learning, or retention of new information" (p. 1).

Effective learners use metacognitive strategies, including organising, evaluating, and planning, in their learning. Further, cognitive strategies such as analysing, reasoning, transferring information, taking notes, and summarising are also considered necessary for successful learning (O'Malley & Chamot, 1990). Affective and social strategies are also used to control emotion, cooperate, seek assistance, endure, and maintain motivation (O'Malley & Chamot, 1990; Oxford, 2008). O'Malley and Chamot suggest that effective L2 learners are conscious of the strategies that they employ and why they use them. Effective learners select language learning strategies that work well and that meet the requirements of the language task. Oxford (2008) notes that high-achieving learners most often cite cognitive and metacognitive strategies. However, Horwitz (1990) argues that affective and social strategies are also powerful language learning

tools. Lower-achieving learners employ language learning strategies less consciously and without the careful consideration that targets the task. Also impacting on learning and uptake are the lack of time to learn the strategy, the explicit use and need for the strategy, the ease or difficulty of the task, and finally the relevance of the task (Oxford, 2008).

There are a number of factors that influence the choice of language learning strategies for the learner. According to Gardner (1985b), these include metacognitive awareness, gender, level of language learning, language being learned, affective factors (including attitude, motivation, learning goals, personality, learning style), and teaching method. Literature also identifies motivation, career, academic specialisation, gender, cultural background, age, the stage of learning, the number of years that the learner has learned the language, and finally, the nature of the task (O'Malley & Chamot, 1990; Oxford, 2008). While not all these factors are incorporated in the scope of this study, attitudes and motivation are identified as key elements that determine the choice of individual learning strategies (Gardner 1985b; O'Malley & Chamot, 1990). For example, typically, more motivated students use more strategies; females make greater use of strategies than males; rote memorisation is more prevalent among Asian students; more sophisticated strategies are used by advanced students. On the other hand, it was also reported that learning styles also influence the use of language learning strategies. That is, as Oxford (2008) states, visually oriented learners employed strategies such as listing, while auditory learners prefer strategies that allow them to use tapes and practise aloud. More importantly, language learning styles are strongly linked to culturally inculcated values (Oxford, 2008).

Acknowledging individual learning styles when students learn new strategies or use known strategies can reveal deeply held values and increase cross-cultural understanding (Oxford, 2008). Discovery of learning styles and strategy use may be consciously achieved through

reflective journals, questionnaires, or interviews. Oxford (2008) states that the application of language learning strategies needs to meet the real communicative needs of the learners.

2.5.3 Accent

In English second language acquisition, most adult learners find pronunciation to be one of the most difficult areas to master and there are additional factors that can influence both the linguistic and non-linguistic outcomes of learning and language development. First, identity is partly formed by our accent. This salient part of speech represents who we are or aspire to be, how we want to be seen by others, the social communities with which we identify or seek membership, and whom we admire or ostracise (Setter & Jenkins, 2005). Also, accents can become a feature that some learners want to retain as part of their own cultural identity, ethnicity, gender, race, or socioeconomic class to create a sense of belonging. Therefore, language is a powerful tool used to convey personal, social, and cultural characteristics concerning the speaker's national, ethnic, and cultural identity.

Vitanova and Miller (2002) confirm that the acquisition of pronunciation cannot be separated from the second language social identity formed when learning a language. Pronunciation also represents, if only for some, a subconscious connection to our mother tongue and this is portrayed by the sounds, rhythm, and intonation while speaking a second language. The development of an L2 accent therefore, to some degree may involve breaking away from these old ties and developing a new ego. On the other hand, some learners choose to maintain various features that are recognised as belonging to a particular community. Any particular pronunciation model, therefore, should allow the speaker's identity to be distinguishable from his or her pronunciation, and "certain features of the indigenous phonologies may be retained where they do not impede intelligibility" (Brown, 1991, p. 41). Prior expectations for language acquisition state that learners were generally required to "conform to the features of cultural

discourse accent and the shared standards of appropriate communication in context” (Kramsch, 1998). This view is juxtaposed with the Japanese education system, which in the past strongly emphasised the importance to sound like a NS of English; this study refers to this as the native speaker goal. Therefore, the evaluation process used in this study aims to separate accentedness as one of the notions of intelligibility (Derwing et al., 2006) from other features in order to determine the effectiveness of guided reflective journals.

Japan is a country that is economically or politically inclined to educate its learners using the General American (GA) English model variety. This bias has naturally infiltrated the education system. As Japanese learners have largely been exposed to the Inner Circle GA accent and culture (Kubota, 2002), students have readily accommodated the perceived attitude that they need to sound like a native speaker of American English. These aspirations sounded appealing to many learners and their teachers and may have represented high-level performance and achievement. However, Setter and Jenkins (2005) agree learners’ aspirations for a NS accent and their failure to acquire one may result in feelings of linguistic insecurity and inadequacy regarding pronunciation. Morley (1991) further states that the “perfectionist performance goal” can be demotivating, even devastating, for learners and teachers who “do not measure up” or fail to achieve this unrealistic expectation (p. 481). Yano (2008) explains that Japanese learners, in particular, are “bound by the deep seated idea that only native speaker English is real, natural, authentic and worthy of learning” and relegate non-native varieties as imperfect. Japanese speakers need to adjust their sights to a more realistic measure, aiming not for English used by NS but rather English used by educated speakers (Yano, 2008). In other words, traditional pronunciation goals that direct learners to strive for perfect pronunciation or near-native pronunciation are no longer valid for the majority of learners who should be aiming to achieve

communicative competence and intelligible speech (Seidlhofer, 2001). A necessary shift from traditional views is seen to empower the learner, encouraging a more realistic and achievable goal of intelligibility.

Where once it was perceived to be essential for NNS to achieve as close as possible to the Inner Circle native standard, the globalization of English challenges these traditional notions of English and language teaching has shifted from focus on form to focus on forms integrated in meaning (Ellis, 2001); in other words, interlocutors now place more emphasis on communicative proficiency (and fluency) and intelligibility rather than accuracy. All speakers are potential participants in international communication. In an international context, a speaker needs linguistic and metalinguistic knowledge to use language accurately and produce communicative features. Berns (2008) also emphasises the need for all speakers to engage in a greater degree of communicative tolerance, irrespective of their accent, or their linguistic, social or economic background, to listen, negotiate meaning and develop strategies for closer understanding, and ultimately mutual understanding. Speakers need to become proficient users of English, or EIL, so that they are intelligible to both NS and NNS and are able to meet their communication goals. However, successful or effective international communication also draws on a broader social and cultural familiarity with ways of speaking and patterns of discourse. Kachru and Smith (2009) agree that familiarity with as many Englishes as possible is also a linguistic priority. Therefore, curriculum needs to reflect the global trend and changing use of English and become more closely oriented to the international goals and needs of the NS and the NNS of EIL to develop intelligible speech. In response to this apparent global objective, the Japanese national curriculum has been slowly integrating a broader cultural approach to language learning with the

understanding that Japanese speakers of EIL need to be able to understand a range of accents to adapt to the changing world of English speakers and the diversity of accents (Kubota, 2002).

2.5.4 The classroom teacher

The teacher's role as a learning facilitator is crucial to the learning process. Teachers should be enabled to help learners in setting realistic goals, and to provide a conducive learning environment so that students may develop self-confidence and self-efficacy for overall linguistic achievement. Seidlhofer (2001) also recommends that pronunciation teachers replace the goal of sounding native-like with that of intelligibility and linguistic appropriateness. Teachers, therefore, have a responsibility to motivate their students, promote communicative cultural awareness and linguistic proficiency, and to equip students with multicultural and multinational core attitudes so that they are "both intelligible and relatively easy to understand" to both NS and NNS of English (Yates, 2002, p. 1). The EIL teacher, being a native or non-native speaker, is the primary model for intelligibility and equally responsible for the development of intra-national and international communicative skills, and metalinguistic and linguistic competencies.

Regardless of a learner's goals and motivation for learning English, it is necessary for teachers to expose learners to a range of accents and use both native and non-native speaker varieties or standards to model intelligibility so that students are able to develop the L2 identity and the proficiency to discriminate among these accents. Wei (2002) suggests that exposure to a range of accents may also contribute to an important stage in second language acquisition, noticing, which allows learning and self-correction to occur and also complements a cognitive phonological approach to learning. The teacher plays a crucial role in developing students' ability to notice, distinguish, or cognitively realise realistic language concepts so that they become confident and are enabled to achieve their language goals. Gentle coaching and guided practice is needed to develop speech awareness, self-observation skills, self-monitoring and a positive

attitude (Morley, 1991). A more “bottom-up” learner-centred approach that promotes communicative intelligibility may improve the production and understanding of spoken English and overcome serious intelligibility problems (Harmer, 2007). Therefore, teachers need to adopt an integrated and learner-centred approach to the teaching of pronunciation that reinforces global and communicative intelligibility.

In terms of teaching and pedagogy, this paradigm shift in order to develop intelligibility includes numerous aspects relating to global communication (Setter & Jenkins, 2005). Teachers need to emphasise through the curriculum that pronunciation is interconnected with other language skills in the language learning process. If intelligibility is the goal rather than L1-speaker accuracy, then some pronunciation features will be more important than others (Harmer, 2007; Jenkins, 2000). However, even partial integration of new features into spontaneous speech can make an overall impact on intelligibility. Skills may first be learned in a controlled environment before they can be integrated into spontaneous speech. New skills are difficult to incorporate when communicative demands are high. While in the classroom, it is the teacher’s role to bridge the gap and facilitate the transition from controlled practice to communicative practice. Independent learning tasks outside the classroom may also facilitate this process so that students can conceptualise and contextualise pronunciation practice, and collaborate to blend form and meaning (Grant, 2000).

This autonomous approach can be considered the most appropriate for expectations for learning at the tertiary level of education. For example, learners too can be motivated to make independent choices to meet their individual EIL learning goals and expose themselves to and familiarise themselves with a range of accents, and choose any single experimental model of pronunciation to monitor and measure their own development. Learners can be inspired to self-

select features based on their own learning styles and preferences in order to achieve linguistic outcomes and independently improve their speech production by the amount of out-of-class practice they undertake (Grant, 2000). Therefore, the focus of teaching and learning needs to allow the student to develop independence both in a large classroom environment and in the learning process. Developing knowledgeable, proficient, and confident teachers as well as pedagogy that motivates students and promotes linguistic proficiency and cultural awareness is reflective of international and intercultural education or global communicative proficiency in EIL.

2.5.5 Feedback

Feedback remains an important part of the learning process. Quality feedback reinforces learning and allows the learner to comprehend the purpose and relevance of the task and evaluate performance (Cotterall, 1995, p. 223). Cotterall also supports the role of feedback not only for encouraging learner autonomy, but also as a public learning process in which social and reflexive learning can take place. While Japanese learners express a strong, positive attitude toward the correction of phonological errors, there are differences in learning styles and preferences toward error correction that may support or inhibit cognition, active engagement and uptake of self-monitoring strategies at the university level. In response, Katayama (2007) favours the use of more indirect methods in order to ensure that learners “save face” and define expectations for learning. In practice, feedback is thus used to encourage the autonomous learner to become an active participant in the learning process, both inside and outside the classroom, responding to opportunities rather than reacting to them. Morley (1991) agrees that when providing feedback to the student, the teacher needs to assume learners have greater responsibility and control over their own learning. In this way, Morley also suggests that teachers need to provide constructive feedback to their students so learners can begin independently to perceive changes in their own

speech patterns and move from dependent practice to independent practice in order to meet their own personal, social, educational, and professional needs so that they ultimately become intelligible, communicative, and confident speakers of EIL. During this process, the teacher needs to help learners develop awareness of their own learning preferences, learning styles, needs, and learning goals. Also, teachers need to provide relevant and timely feedback, allowing the learner to enhance cognitive, social, and reflective processes and attain optimal performance. Based on these factors, it is important that the independent learner receives feedback and is guided in his or her ability to develop realistic pronunciation goals and development plans (Florez, 1998).

2.5.6 Large classes

The issue of teaching large classes at universities has been explored extensively in the literature, although it has been investigated to a much lesser degree in an Asian ESL context, including in Japan. One major study was conducted in 2003 by the Australian Universities Teaching Committee (AUTC). This study revealed that size, organisation, motivation, maintaining quality of learning, and developing authentic tasks is paramount to any class. However, many of these issues seem to be magnified in the case of large groups. The United Nations Educational Scientific and Cultural Organisation (UNESCO) (2006) indicates that teaching large classes leads to increased diversity and complexity and is seen as one of the major obstacles to ensuring quality education in Asia. However, in many countries, large classes are the reality. Major problems related to personalising content, identifying learning needs, engaging and maintaining attention, and promoting interaction are just a few of the challenges facing a teacher of large classes. The AUTC (2003) recommends that inclusive learner-centred approaches that adopt strategies to manage, teach, and assess large classes to meet the diversity of students and learning styles can promote higher-order learning goals, encourage interaction, motivate learning,

improve communication and negotiation, link theory with practice, and develop metacognition and learner autonomy. This statement can also be applied to language classes. However, EIL learning and teaching styles in Japan have not been successful in implementing communicative or learner-centred pedagogy. Both teachers and students clearly need a method that effectively bridges the gap between class size and learner production, particularly when teaching and learning pronunciation. Therefore, EIL teachers in Japan need a method to be able to identify the goals and interests of their students, motivate and meet their pedagogical needs, and develop phonological skills in order to promote intelligibility. Importantly too, university learners need to develop learner autonomy within large classes.

2.6 COMPUTER ASSISTED LANGUAGE LEARNING (CALL)

At the same time as the profession shifted towards communication in foreign languages, CALL technology began to flourish (Egan, 1999). Today, CALL includes a wide range of technological applications and approaches to teaching and learning languages such as the proliferation of tools used in a virtual learning environment and web-based tools: search engines, e-groups, translators, online reference works, instant messengers, VOIP tools, blogs and wikis, learning and content management systems, social networking spaces such as Facebook, and mobile devices. Levy (1997) defines CALL as “the search for and study of applications of the computer in language teaching and learning” (p. 1). These tools provide space online, inside or outside the classroom, where students can be “individually-cognitive”, “socially-interactive” and interdependent in the freedom and choice provided by the technology (Murphy & Hurd, 2011). CALL provides an effective synchronous and asynchronous learning environment so that students can practise in an interactive manner using multi-media content, either with the supervision of teachers or at their

own pace in self-learning, to notice, pay attention to, and become aware of their own language development (Vinther, 2012); also, to organise and reflect on learning, monitor progress, identify gaps, and solve problems (Murphy & Hurd, 2011). In other words, CALL inherently supports a constructivist view of learner and teacher autonomy.

However, despite the potential learning opportunities provided by CALL to enhance collaboration and interaction between learners and teachers, Bennett, Maton, and Kervin (2008) argue that “technology plays a different role in students’ home and school lives” (p. 781) and students do not want to use technology for educational purposes. These online skills may not be transferable in the way that many educators assume. However, Lockley and Promnitz-Hayashi (2012) state that CALL is now an accepted and important part of Japanese university language curricula. Social networking and use of mobile technology is evidence that the “digital native” debate extends to the Japanese learners not only as social tools but also for educational purposes. For example, results from Lockley and Promnitz-Hayashi’s study show that 8.5% of students actually like to use their mobile phones as an educational resource; 9.4% like to use podcasts; 42.5% prefer to use chat services, including Skype and email; over 50% listen to online music and videos. The more active, communicative applications—blogs, social networking, chat/skype/email—were more popular among lower proficiency students. These results suggest an overall positive attitude to computers and ICT technology among these participants. It seems that students in Japan are not only using the internet as a source of authentic or entertaining material, but also to reproduce their English in either a spoken or written form. However, Lockley and Promnitz-Hayashi warn not to “expect that students can ‘transfer’ ICT skills from extensive social media use and mobile phones to the more formal academic sphere” (p. 11).

In addition to the reported benefits of CALL, its positive effects on students' motivation have been most frequently reported. Egan (1999) states that students are essentially motivated by the feedback provided by CALL to track mistakes and allow the student immediately to focus on specific errors for language development. Thus, learners need meaningful and validated feedback so that they can recognize, diagnose, and correct and improve speech. This is now possible with the deployment of computerized speech systems based on waveform digitization and playback, automated speech recognition (ASR) software, text to speech software, and applications for speech analysis, recognition, and synthesis. The increased emphasis on the acquisition of communicative language skills has also enabled language-learning software that is speech-enabled and engages learners in interactive speaking activities. CALL now allows students to develop intelligibility and receive feedback on segmental, prosodic, and lexical features (Egan, 1999). However, for computers to promote, measure, and assess intelligibility and proficiency of speech, we need CALL software that can emulate real speakers, in phonological accuracy, complexity of utterance, and adaptation to context.

The use of technology for the visualization of prosodic features is constituted as valuable feedback. Hardison (2005) states that not only is the visual display easily interpretable by non-specialists, but also visualization allows the learner to compare their speech with that of a native speaker. However, the scope of the research inquiry was to investigate individual scripted sentences. Studies have also shown that computer programs providing visual feedback such as pitch contours are effective tools for training L2 learners to produce more native-like prosody (e.g., Hardison, 2005; Spaai & Hermes, 1993). According to Thomson (2011), CALL training can also improve segmental accuracy. For example, pre- and post-tests of the learners' English vowel pronunciation also indicated that their vowel intelligibility significantly improved after

using CALL. Furthermore, Hardison's study summarises that auditory-visual feedback is significantly better for L2 speakers than auditory-only. Results comparing two multimedia tools showed increased awareness and perceived value of focused training programs to contribute to the production and development of L2 prosody at various stages of interlanguage development.

According to Chen (2011), a commercial web-based Taiwanese program, My English Tutor (MyET), is particularly strong in offering error diagnosis and feedback. MyET can analyze students' pronunciation, pitch, timing and emphasis, and even pinpoint individual problematic sounds. Chen investigated the impact of MyET on 40 college EFL students. The post-test scores showed that the ASR program helped students improve contrastive stress patterns. In addition, most students who used MyET commented positively about the program. Students enjoyed speaking and getting immediate feedback. Chen also reported that this CALL program created a less stressful learning environment for EFL students who do not dare to speak in public. With such emerging speech technologies, there is a paramount shift toward relating pronunciation to communication (Egan, 1999) and placing them in a communicative context. Technology also gives learners a chance to engage in constructivist, self-directed actions, and provides the opportunity for self-paced interactions, privacy, and a safe environment in which errors get corrected and specific feedback is given. Additional study of motivation and motivational factors would seem to be clearly warranted to help establish effective online CALL.

The teacher's role remains essential to developing the pedagogic dialogue between self-instruction and autonomy. This role of the teacher is often stressed in CALL literature for the effective use of the technology (e.g., Egan, 1999; Lockley & Promnitz-Hayashi, 2012; Ushida, 2005). Results from Ushida's (2005) study indicated that teachers are influential in affecting students' motivation and attitudes and in creating an online learning community in which

students can study a language with less anxiety. Teacher-oriented motivation emerged as a crucial factor when students evaluated the learning culture in online and blended environments (Ushida, 2005). That is, teachers' instructions influenced independent learning strategies and collaborative efforts to improve language learning. The teacher's role, therefore, is to establish, monitor, and maintain effective learning opportunities for independent and constructive language development.

2.7 REFLECTIVE JOURNALS

Reflective journals have been widely researched as a qualitative instrument; however, there is little evidence in the literature about the critical theory and practice of reflective journals in EIL or with regard to intelligibility. Also, the literature in English focusing on the effectiveness and use of reflective journals in Japan is limited. In education, reflective journals are primarily discussed with regard to practice teachers, and as a tool used by students to “examine personal assumptions and goals and clarify individual belief systems and subjectivities” (Ortlipp, 2008, p. 695). While this genre originates from Dewey (as cited in Boud, Korgb, & Walker, 2005), Yinger and Clark (1981) describe reflective learning as one autonomous learning tool that engages both the left hemisphere of the brain when writing detail, facts, and rational and practical analysis, and the right cerebral hemisphere of the brain as the source of creativity, intuition, and beliefs. Yinger and Clark further state that reflective journals may also contribute to writing in terms of synthesis, analogical thought, and holistic perception. In this way, reflective journal writing is used consciously to explore experiences, improve current understanding, and facilitate new knowledge as a basis for change or action not found in other modes of expression (Mills, 2008; Yinger & Clark, 1981). Undoubtedly, this learning strategy

may have major implications for EIL in that students are required not only to incorporate goal setting and expectancy value theories (Dörnyei, 2001), but also to engage higher cognitive functions such as “problem solving, decision-making, hypothesizing, comparing and contrasting, generalizing synthesizing and evaluating” in their second language (Mills, 2008). The element of goal-oriented action, including communal dialogue, is an important aspect of reflective journals. Brandt (2008) explains that the process of reflective practice should be viewed as a social rather than a solitary activity combining feedback and reflective practice in “reflective conversations” (p. 43). Thus, research confirms that reflective journals incorporate a range of theoretical frameworks including problem-based learning (PBL) and constructivist, experiential and action learning, which documents the learning journey as part of everyday practice and requires the learner to take action that is informed and planned. These driving theories also mean that the reflective journals vary in design, structure, and use, although most forms include key questions to guide the reflective process (Kember, 2000).

Most methodological and research literature in foreign language teaching also advocates the use of journal writing to explore beliefs and practices, promote learner autonomy, and increase metacognitive awareness in listening, reading, and pronunciation (Goh, 1997; Jing, 2006; Vitanova & Miller, 2002). “Diary,” “log,” and “journal” are terms used in research to explore affective influences, language learning strategies, and students’ own observations about teaching and learning (Johnson & Johnson, 2002). Schumann and Schumann’s longitudinal case study from 1977 (as cited in Curtis & Bailey, 2009) reports on L2 development and is one of the earliest published research papers which used diaries. Bailey (1980) also used diaries as an autobiographical approach to understand anxiety from the learner’s point of view and related this variable to competitiveness. Reflective journal research also includes rich data on motivation and

willingness to participate (Sae & Sanborn, 2004). Reflective journals are now a recognised research technique informed by principles designed to increase reliability and validity in social science including a naturalistic and ethnographic paradigm stemming from anthropology. In education, diaries are written by teachers and students for pedagogic and research goals that view writing as an exploratory process. Curtis and Bailey (2009) recommend writing the journal in the target language. However, students with lower language levels and limited language proficiency may find this a burden. In consequence, journal results are most often reported in the learner's first language (L1) or using a combination of the L1 and L2 to explore the individual language learning experience and non-linguistic outcomes (Benson, 2004).

The number of published studies in applied linguistics and second language acquisition research pertaining to reflective journals remains relatively small. One study by Moore (1997) used reflective journals to assess native-like Japanese pronunciation and intonation. While there were weaknesses in this study, results showed that the participants had increased awareness of the learning process and intonation was greatly enhanced. The use of journals in this case was largely to communicate the experience of the repetitive task of listening to and repeating a Japanese script and rote memorisation. Both Goh (1997) and Jing (2006) investigated the use of reflective journals in China and Hong Kong respectively, using case study research to discover what metacognitive awareness Chinese learners of EFL have about learning and their perceptions of listening and reading strategies. Both these studies asked students to reflect on their learning journey in their native language. According to Goh, journal writing reveals a strong potential for an authentic curriculum that also allows teachers to dialogue with students and receive feedback useful for informing curriculum decisions, tracking progress, evaluation, and assessment. In addition, reflective journals offer valuable insight into the “cognitive complexities that

differentiate good and poor learners” (Goh, 1997, p. 361). While a positive impact of journal writing for EIL learners is evident, results also show that many students are not able to identify the didactic purpose of the task (Goh, 1997; Mills, 2008). Anecdotal evidence also suggests that students demonstrated little reflective thinking and did not present the skills needed for this high order task. Many students used the tool as a study aid to summarise the content of learning but did not reflect on the process of learning (Lew & Schmit, 2007). Canagarajah (1993) and Tsang (1999) investigated this issue of learner resistance in differing socio-cultural and political contexts and found that the students had largely been influenced by traditional styles of learning, which have been largely product-oriented and teacher-centred. These studies clearly reveal that neither critical reflection nor learner autonomy is a process that comes naturally. More communicative, student-centred approaches need prior instruction to develop the skills needed for effective implementation and to penetrate the dominant pedagogical values that persist.

Vitanova and Miller’s small-scale action research project (2002) investigated ESL students’ attitudes to phonological instruction in an American university and found that using reflective journals presupposes not only a certain metacognitive awareness of the learning process or insight into one’s own learning style, but also linguistic and metalinguistic awareness, or knowledge of how language or, in this case, phonological components are organised and how they are used (cf. Mills, 2008). Although the research methodology lacks descriptive depth, this study represents a valuable contribution to the literature on pronunciation arising from the revelations of reflective journals. In particular, Vitanova and Miller identify that ESL students need to learn necessary skills for self-assessment and self-correction in order to improve pronunciation, and to raise both teacher and student consciousness of learning preferences. The study also stresses the importance of immediate and specific feedback and comments to enhance

the ongoing dialogue between the teacher and the student. Mills (2008) concurs that the dialogue process is an important element of the reflective journey, which could be extended to reflexive learning in class discussions.

Further research in Hong Kong by Chau and Cheng (2012) aimed to measure students' level of reflective L2 learning ability by developing a four-level hierarchical evaluative framework. The rich nuances of language use reveal the need for multi-modal scaffolding to develop the "culture" of reflective writing as "a process for analysing and examining behaviours and motivations" (Chau & Cheng, 2012, p. 30). While Chau and Cheng engaged both student and teacher raters, the e-portfolios generated from this study were not self-rated. We are also reminded of the subjective nature of reflective journals, and the debate of whether to address the affective and cognitive nature of the entries or to separate the content from the process. Chau and Cheng argue that the effectiveness of their proposed framework depends on "the purpose of reflection and the context in which it occurs" (p. 29). In other words, reflective proficiency may not be practicable or desirable if the goal is to promote language development. However, this valuable research fills a gap in the literature and provides empirical evidence for evaluating L2 related reflection.

Another relevant study can be seen in the research of Kennedy and Trofimovich (2010) who examined dialogue e-journal entries used to raise the students' awareness of their own and of proficient speakers' pronunciation patterns and to improve their skills in understanding and using oral English of a heterogeneous group of 10 ESL learners. This small-scale study used a reading passage of 167 frequently used words about medical innovations in the 19th century as the basis for a pre-test post-test speech recording at the beginning and at the end of the semester. The recording was rated using ordinal-scale measurements to identify changes in accentedness,

comprehensibility, and fluency. The findings showed that only qualitative aspects of learners' language awareness (measured through dialogue journals) were linked to listener ratings of their L2 pronunciation at the end of the course. Also, the more qualitative language awareness comments the students produced, the higher their pronunciation was rated at the end of the course. This study therefore showed not only the use of reflective journals but also the relevance of reflective journals used in conjunction with L2 and pronunciation development.

In conclusion, the aforementioned studies emphasise the importance of acculturating the process of reflection. To address this gap in the literature, this present study provides students with the opportunity for guided practice and writing experience to develop the reflective skills prior to implementation of guided reflective journals. The homogenous group of participants in this study were also required to reflect on their pronunciation development using the L2, English. In addition, because reflective journals may be an unfamiliar methodology for these Japanese students, this study separates the journals into four discrete formative tasks, using a constructivist based approach and including key questions to guide the learning process. Thus, this study refers to the learning journals as “guided reflective journals.” Such a rigorous framework also allows students the opportunity to set realistic pronunciation goals, identify strategies to achieve these goals independently, reflect on their learning progress over the duration of the semester, and receive ongoing and guided support, and feedback throughout the reflective process.

2.7.1 Action research

Guided reflective journals can incorporate various theoretical frameworks to guide the learning process. This study uses an action research framework based on experiential learning. The process of action research, first used by Lewin (1948) and further developed by Carr and Kemmis (1986) and Kemmis and McTaggart (1988), was described as a form of self-reflection. Carr and Kemmis (1986) used the following definition to describe this action research process:

Action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out. (p. 162)

Kemmis and McTaggart (1988) further state that the practice of reflection requires integration of learning and self-examination of real goals that seek to improve performance and student achievement. A variety of procedural plans have been proposed for the action research model. Although this process is not always linear, the seven classic developmental phases represented cyclically in Figure 5 (Kemmis & McTaggart, 2005) were used to design the guided reflective journals for this study. These include:

Phase 1: Ask a question, identify a problem, define an area of exploration.

Phase 2: Develop a plan of action to improve what is already happening.

Phase 3: Act and implement the plan.

Phase 4: Observe the effects of action in the context in which it occurs.

Phase 5: Reflect on these effects individually or with others.

Phase 6: Replan.

Phase 7: Act, observe and reflect again, and so on.

Further to this description, action research can be said to be collaborative in nature. “If practices are constituted in social interaction between people, changing practices is a social process” (Kemmis & McTaggart, 2005, p. 563) used to develop practice, and understand practice and situations. Throughout the process of reflection, the problem may be redefined based on experience. Thus, action research uses knowledge to empower and may have implications for public policy and social structure as it reframes and constructs social practices.

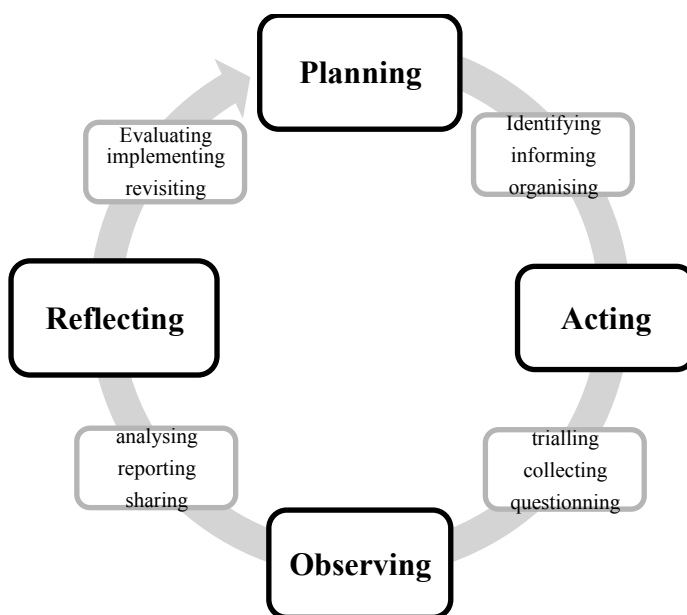


Figure 5. Action research model in education used for reflective journals. Adapted from *Action Research* by RMIT (2009).

More recently, this action research model has been used in management and educational contexts, described as action learning. Learners at any level are asked to become active agents and independently improve the practice of learning, teaching, or management and make changes to contexts, which impede effective learning and future development (Zuber-Skerritt, 1993). Thus, action learning is used to promote learner autonomy. Although there is no evidence of this model being used in second language acquisition research, action learning is based on the same premise that learning is experiential and reflective. That is, by using concrete experience, observation, and reflection, these experiences can be tested in new situations and lead to greater understanding (Zuber-Skerritt, 1993). According to Zuber-Skerritt, reflective journals are an effective technique used to implement the theory action research and action learning. The guided reflective journals also incorporate goal-setting strategies. Therefore, also based on prior evidence, learners need to develop the necessary skills for this process. For reflective learning to

be effective in this present study, students will need to be able to engage in critical reflection on their language learning goals, beliefs and expectations about language learning, and the practices, activities, and strategies that are useful in achieving their goals using an action learning framework.

2.7.2 Learner resistance

Tsang's study (1999) on learner resistance in relation to reflective teaching pedagogy suggests that reflective learning might not be well received by learners in an examination-oriented educational system. Learners of English in Japan undergo a number of examinations in order to study English at university. For this present study, learners have both formative and summative assessments in order to pass the English unit. As this present study invites learners to reveal, critique, and analyse their language learning strategies and phonological metacognitive knowledge, there is a possibility of learner resistance. That is, reflective journals "threaten their common sense ways of talking, thinking, and acting in academic settings, and they rightly resist" (Willett & Jeannot, 1993, p. 483). Also, guided reflective journals contrast with traditional forms of assessment and educational practices and culture.

Willett and Jeannot (1993) suggest that evidence of resistance shows that learners have become empowered to communicate meaning in an environment that traditionally silences their participation. Resistance cannot be silenced, avoided, or suppressed. Learner resistance can also emerge as a result of a number of factors and become a complex phenomenon. For example, Jing (2006) found resistance to learner autonomy in her reflective study of metacognitive training under the following circumstances: if learner autonomy did not bring about desired changes, if learners were not interested in process-oriented learner autonomy but in particular language skills and desired short-term product-oriented results, or if learners did not perceive learner autonomy contributing to their desired learning goal. Ellis (2008) further contributes to this field

and emphasises that learners' perceptions of their ability as language learners and their progress in relation to the particular context in which they are learning, are paramount. Also, learners' conceptions of language and learner-teacher roles may affect preparedness for learner autonomy. Jing (2006) concludes that different teacher and learner expectations and conceptions may also result in learner resistance to curriculum innovation.

2.8 CONCLUSION

This study focuses on the improvement of intelligibility in Japanese EIL speakers' language output. Prior research is reviewed in this chapter and deficiencies and knowledge gaps within this body of research are identified. The in-depth study of the relevant literature has also informed the researcher about the methodologies used by other researchers and prompted ideas about how to measure the intelligible features of students' language output as well as how to evaluate the effectiveness of guided reflective journals. The following knowledge areas and gaps are identified.

- While both segmental and prosodic features are crucial elements of pronunciation, there has been no empirical research to show that phonological features, which enhance the intelligibility of language output and the quality of communication, can be learned autonomously in large EIL classes.
- There is no evidence of the efficacy of the critical theory and practice of reflective journal writing used to teach EIL pronunciation.
- Although motivation has been explored in many areas of language education in Japan, there is no literature which investigates individual responses to motivation at the higher education level or the impact of guided reflective journals on motivation.

- According to the literature, it is generally NS who have been rating pronunciation quality. Although not an innovative design, both NS and NNS were invited to evaluate the Japanese EIL speakers' utterances in this present study. This process enhanced the validity of intelligibility judgements, because other EIL users were also be consulted.

In addition, the following conclusions from the research have a direct impact on the methodological focus of the aims of this study. While the research is inconclusive, it is now accepted that both segmental and prosodic features affect intelligibility. That is, consonants and vowels may affect the intelligibility of speech. While particular consonants may prove to be a problem, they may be less of a problem than vowels and advanced learners may not present any difficulties in producing segmental features. On the other hand, prosodic features may produce a number of commonly identified errors; however, there is little research that shows the effect that segmental and prosodic features have on both the Japanese EIL speaker and the listener. The literature consistently indicates that the focus of teaching and learning needs to be on developing global intelligibility and allowing the student to develop independence in the classroom and in the learning process. Therefore, this study sought to identify the motivations for learning EIL and the preferred learning strategies and learning styles using both native and non-native English speakers, and to record changes in phonological features pertaining to Japanese EIL speakers after using the cognitive tool of guided reflective journals.

CHAPTER 3 METHODOLOGY

This study uses a mixed methodological approach, including qualitative and quantitative instruments to evaluate the use of guided reflective journals as an intervention to improve the pronunciation intelligibility of Japanese students who study in large classes. This chapter will provide a rationale for the qualitative and quantitative research paradigms used in this research, review the methodology, provide the sequenced timeframe over which the study was conducted, and outline the tools used to analyse the data, in the following manner:

1. Overview of the methodological approach,
2. Pilot studies,
3. Timeframe,
4. Structure of the research study,
5. Research instruments, and
6. Data analysis.

3.1 OVERVIEW OF THE METHODOLOGICAL APPROACH

This study represents an attempt to examine further the use of guided reflective journals in a Japanese context. It is based on the assumption that reflective learning and learner autonomy are constructivist student-centred approaches that are not familiar to Japanese learners of EIL, who have been largely influenced by a product- and teacher-oriented approach. Prior research (Canagarajah, 1993; Goh, 1997; Jing, 2006; Tsang, 1999) shows that the use of reflective journals in an Asian context has led to learner resistance and the premise that more communicative, student-centred strategies need prior instruction in order to develop the necessary reflective skills to penetrate the traditional pedagogical values that persist. This study focuses particularly on

Japanese learners of EIL using guided reflective journals to improve intelligibility. Therefore, a rigorous approach is adopted in this research to evaluate these guided reflective journals.

This study uses a case study framework. Case study methodology is compatible with all research paradigms and is defined, for the purpose of this study, as “an in-depth, multifaceted investigation, using [several] qualitative research methods, of a single social phenomenon conducted in a comparative framework” (Feagin, Orum, & Sjoberg, 1991, p. 2). The case study format provided the researcher with the opportunity to evaluate changes in speech at a typical university in Japan with participants who were actively studying EIL. The case study design is also compatible with other research paradigms (Yin, 2009); therefore, the researcher included a quasi-experimental design that used a pre-test and post-test applied to an experimental group and a control group to investigate the effectiveness of guided reflective journals and generate greater certainty of results (Yin, 2009). The pre-test and post-test consisted of collecting and evaluating a speech sample, which assessed both groups on the dependent variable to establish the effectiveness of guided reflective journals in increasing intelligible features of pronunciation. In addition to documenting this experiment under normal conditions, not only were all students in the experimental class required to complete the guided reflective journals, but also the data collection instruments were integrated as part of the classroom program. The advantages in adopting this methodology were that it enabled the researcher to participate actively in classes at the time of the study. In other words, the use of a natural setting was preferable to a language laboratory to determine the potential for guided reflective journals to improve the intelligibility of pronunciation.

The use of a case study methodology also provides empirical and theoretical gains in understanding the ways in which guided reflective journals impacted on these native Japanese

speakers of English at this particular university. The methodological design of this case study allowed for discovery of the social patterns of language learning in the case of this particular social group over a period of one semester. With the single focus on intelligibility arising from the use of guided reflective journals, the researcher was also able to identify specific decisions that influenced the patterns and development of speech production for any one individual, or for the sub-group. By establishing a social and historical context, a clearer sense of suitability could be established to define the potential use of guided reflective journals for these Japanese learners. Whether explaining learning preferences or learning styles over a continuum of usage of guided reflective journals, this research determines which variables are most correlated with the independent variable and those that are most correlated with the dependent variable (Yin, 1994). While this was a small study, the research procedures are reliable and the participants were able to provide valuable in-depth insight into common learning styles and learning preferences, as well as the effectiveness of guided reflective journals for this population.

3.2 PILOT STUDIES

Prior to conducting this study, two exploratory case studies, or pilot studies, were conducted. They helped in the selection of types of measurement prior to the main investigation. That is, the pilot studies directly informed the design of the guided reflective journals and evaluation forms. The ulterior purpose of the pilot studies was not only to help identify the research questions but also to conduct a condensed case study before implementing a larger scale investigation (Denzin, 1984). Also, the pilot studies allowed testing of the design and potential obstacles to full-scale implementation.

The prototype tasks of reflective journaling were based on research of Vitanova and Miller

(2002), Goh (1997), and Jing (2006). Vitanova and Miller's action research concurred with Goh's and Jing's and was premised on the belief that "students should become active partners in their own learning, who have developed the skills to monitor and modify their speech patterns if necessary" (2002). Vitanova and Miller's small study examined student reflections in order to identify learners' concerns and beliefs about pronunciation instruction. From a small heterogeneous group it was found that phonological knowledge of both segmental and prosodic features empowered learners in their ability to improve functional communicability. Metacognitive knowledge improved the ability of learners to self monitor and was a critical part of raising speech consciousness. In the classroom, this required a discrete balance between targeted individual attention and controlled group practice. Also, confidence in speech production required opportunities for communicative practice both in and outside the classroom. Goh and Jing also emphasised the need for learners to understand the practice of reflective journaling. As a result, this present study embedded practices to develop reflective journaling skills into pedagogical planning and the design of guided reflective journals. That is, in order for the students to become active participants in the learning process and to be able to self-monitor, they first needed to develop an awareness of the phonological features and patterns underlying the L2 for Japanese speakers and become familiar with the genre of reflective writing (Vitanova & Miller, 2002).

3.2.1 Pilot Study 1

Reflective journals were initially piloted with 14 students from one 2nd-year university Speaking class during Semester 1, 2008. These reflective tasks were a compulsory part of their assessment (see Appendix C). The EIL learners varied in terms of age (19-21 years), their L1 (Japanese, Thai, and Chinese NS), and the number of years they had spent learning English (6-14 years). These students were all intermediate level speakers of English. The journals asked students not

only to identify their language learning goals but also independently monitor and evaluate their in-class progress over the semester. For the purposes of this pilot study, 10 samples were selected from the pool of pilot test data and analysed quantitatively. These samples reflected a range of linguistic ability and participation rates within the class. Performances showed estimated reliability of an 85% success rate for students to complete and comprehend the nature of this task. As a result of the pilot study, it was clear that the educational climate of a Japanese university was conducive to continuous assessment, especially a semester-long assignment.

Because the genre of reflective writing in English was novel (Goh, 1997; Jing, 2006) the journals were redesigned and scaffolded into four discrete tasks using an action learning framework (Kemmis & McTaggart, 1988), which also incorporated key questions to guide the reflective process and a goal-setting task. These journals also aligned with the four aforementioned functions of output, or production, including fluency, hypothesis-testing, metalinguistic production, and noticing (Swain, 1995) in order to independently develop concepts relating to pronunciation and achieve learner goals. Finally, a questionnaire was developed to allow the participants the opportunity to express their opinions on their motivation and goals for learning English, their language learning strategies, and their language learning preferences. This questionnaire was adapted using Gardner's Attitude/Motivation Test Battery (2004) and theoretical input (Dörnyei, 2001) to address the specific linguistic goals and cultural context of this study.

3.2.2 Pilot Study 2

A second study piloted was conducted at an ESL Teacher Training Workshop in August 2008. Prior to the workshop, one Japanese and one Bulgarian student from the researcher's 1st-year Semester 1 EIL class were selected based on their availability, language proficiency level, and their interest and willingness to participate in the study. They were both given one to two

minutes to introduce themselves informally and explain their motivation for learning English. Their voices were separately recorded on a digital recorder, and saved as an MP3 file onto a memory stick. These speech samples were used in the workshop for evaluating intelligibility.

At the beginning of the session, the researcher gained permission to observe and note the responses of the workshop participants. All 15 participants, comprising 5 male and 10 female primary, secondary, and university level Japanese EFL teachers agreed to participate in the study; 5 of these participants agreed that their written commentary could be included. During the workshop, the participants were first asked to discuss and define the term *intelligibility*. After the speech samples were played twice, the workshop participants were asked to rate the speakers' level of intelligibility on a scale from 1 (*not intelligible*) to 5 (*native English speaker*), based on their impressions. Next, the workshop participants were asked to identify the factors that interfered with intelligibility (see Appendix D). This task was completed individually, and then discussed in small groups.

Overall, due to time constraints, the participants did not have the opportunity to discuss and justify their results fully. Also, the audio quality made it difficult for individuals to evaluate the speech samples. For these reasons, this pilot study may not be considered a totally reliable or valid indicator of intelligibility. Also, a number of obstacles arose, which highlighted the need to implement a more rigorous research process, particularly when preparing for a large class. Hence, a number of outcomes emerged from this pilot study. First, the open questions from the evaluation sheet resulted in a broad range of responses. It was evident that there was a large discrepancy among the evaluations of the individual teachers. While all the raters from the workshop were qualified teachers of English, it appeared that their understanding of intelligibility varied. As there was no time to establish inter-rater reliability, results varied. The

results were also influenced by the teachers' familiarity with the speakers' backgrounds and their mother language (L1). It seemed that the Japanese teachers had higher expectations of the second language speakers than did the native speaker teachers.

As a result of the pilot studies, the following methodological variations were made: it was decided to use an impressionistic moderation as the preferred choice for inter-rater reliability. A typical 5-point attitudinal Likert scale format was also included in the student and the rater speech self-evaluation forms as opposed to a numerical rating scale to measure agreement, using the options *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*. Next, a questionnaire was included to ascertain learner motivation and learning preferences. Finally, the class program was reviewed to accommodate speech recordings, phonological instruction, and journaling skills. The benefit of using a Likert scale format was that not only is it easy to understand and quantify, but it also presents responses of greater consistency (Yin, 1994). Reversal questions were also included so respondents were less likely to become influenced by the format or unconscious bias of previous questions. As a result of this pilot study, it became obvious that teachers imposed their own bias relating to typical phonemic errors of Japanese speakers. Therefore, to avoid stigmatising and to focus listening, erroneous phonemes, stress, intonation, and pausing particular to Japanese learners were clearly identified on the reflective journals, the Speech Evaluation Sheet (SES), and the rater evaluation forms, requiring a closed or Likert scaled response (see Appendices G, H, & I). An open question that allowed the rater to include further comments was also used. The pilot study raised further questions regarding the quality, audibility, and timing of multiple recordings for the purpose of this study and reliable evaluation. The use of a CALL classroom made it possible to allocate appropriate time to record the pre-test and post-test speech samples using quality equipment, and to develop reflective journaling skills

and students' phonetic awareness during class time.

3.3 TIMEFRAME

As shown in Table 8, this research was conducted at a university in Japan over the course of 1 year; the pilot studies were implemented over 1 semester, and the case study research was conducted over 1 semester. This research was granted ethical clearance on 24 June, 2008 (see Appendix B).

Table 8

Research Timeframe

Research procedures	Implementation date
Pilot study	March - September 2008
Ethics approval	June 2008
Confirmation of candidature	December 2008
Letter of consent	September 2008
Questionnaire	September 2008
Speech sample recordings	September 2008 - January 2009
Speech evaluations	September 2008 - January 2009
Interviews	December 2008

3.4 RESEARCH DESIGN

3.4.1 Classes

This study focused on a group of students who were studying English at one university in Japan. The participants were from two classes or sub-groups: an experimental group (from Year 2 of the course) and a control group (from Year 1). Henceforth, the terms experimental group and control group will be used to describe the two groups. Only the experimental group used guided reflective journals. A true experimental design was not possible in this case, and in using a quasi-experimental design random assignment was not practical; exact matching of the sample of the experimental and the control groups was difficult and the characteristics of these two sub-groups were not equivalent (Yin, 2009). In other words, it was not possible to control all the experiment variables of the sub-groups. However, the dependent variables, including number of years the participants had studied English, Japanese L1, and linguistic ability, remained consistent in both sub-groups so that regression effects and threats to internal and external validity and reliability could be reduced. The experimental group and the control group thus are essentially the same; however, the experimental group received the intervention of the guided reflective journals and the control group did not. With the experimental group, the teacher-researcher actively intervened to establish the effectiveness of guided reflective journals to improve the intelligibility of pronunciation, including stress, intonation, and pausing. To avoid diffusion of treatment, where the participants in the control and experimental groups may communicate with each other and influence how each group scores on the outcomes, the researcher aimed to keep the two groups as separate as possible during the experiment (Creswell, 2008).

While the researcher taught seven classes in total, the participants were selected from two of these classes: Speaking IV (experimental group) and Elective English II (control group). The students from both groups studied English as a compulsory component of their Japanese

university course for a minimum of 2 years, 90 minutes per week. All the students in these streamed classes had obtained intermediate level proficiency in English as a result of passing the university entrance examination, which included an English language proficiency examination. While these classes were from different year levels, both classes used the same core text (Peaty, 2001), were taught the same curriculum, used the same assessment scheme, and used Computer Assisted Language Learning (CALL) classrooms. Both groups were required to complete reflective journals as part of their assessment totalling 20% of the final grade (see Appendix E). The experimental group was expected to complete all four reflective journals (see Section 3.5.2.1) over the duration of the semester. Each journal was weighted 5%. While the control group was also expected to complete “reflective journals” weighted at 20%, these were, in fact, the Speech Evaluation Sheets (SES) (see Section 3.5.3.2) which consisted of the pre-and post-test used for the purpose of this research. CALL classrooms provided student access to audio-visual equipment via individual computer screens, and allowed students to simultaneously record and listen to their own speech. Details of the classes are provided in Table 9.

Table 9

Overview of Classes

Research role	Class	Students	Faculty	Ethnicity	Year
Experimental group	Speaking IV	22	Economics (19)	Japanese (19)	2
			Law (2)	Thai (3)	
			Literature (1)		
Control group	Elective English II	42	Human Sciences (28)	Japanese (40)	1
			Literature (15)	Chinese (2)	

Overall, the experimental group and the control group studying at this Japanese university consisted of 22 and 42 students, respectively. Both classes were considered large, as an ideal small class for teaching pronunciation would have no more than 10 students. The curriculum objective of both classes aimed at improving communicative language skills and comprised a majority of Japanese NS with only very few students from non-Japanese backgrounds. In summary, both classes were deemed appropriate for the objectives of this study based on the following factors:

- Both classes used the same core text.
- Both classes used the same curriculum content.
- Both classes were taught using CALL.
- Students had after-class access to CALL and the pronunciation program *Speak*.
- Both classes had discourse as one curriculum objective.
- Both classes were considered large classes.

3.4.2 Participants

Participants were selected from the researcher's own classes from one university in Japan. That is, the researcher was also the tutor for both classes. All the students from both the experimental group and the control group were offered the opportunity to participate in the research. While objectivity and bias are important factors to consider, the advantage of this design was that it allowed the research to be conducted in a natural setting using real students, in a real classroom, at a real university. Only the data from the participants who consented to participate were included in the results of this study.

Initially, 11 students from the experimental group and 14 students from the control group agreed to participate in the study. However, one student from the experimental group and two from control group did not complete the course. All the non-Japanese students from both the

experimental group and the control group also volunteered to participate in the study. However, this study focused on Japanese EIL students, so only the data from the Japanese participants were included in the study. For the purpose of motivation and equity, the non-Japanese students were not informed that their data would not be used. Thus, as shown in Table 10, this research comprised a total of 22 participants (N=22) from the two sub-groups, 6 males and 16 females: 10 participants in the experimental group ($n_1=10$) and 12 participants in the control group ($n_2=12$). While the data set may be compromised by this small sample set and influence the quality of the study, ethical and practical reasons show that a small sample size is the most responsible design in this case. Peterson (2008) explains that for qualitative purposes one participant may be sufficient; however, the minimum number of participants needed for descriptive purposes is 20. Even though this study does not generalise findings, an ample convenience sample has been established and a rigorous framework has been used to determine the effectiveness of guided reflective journals.

Table 10

Research Participants

	Number of students	Male	Female	Year	Faculty	
Experimental group	10	4	6	2	Economics	(7)
					Law	(2)
					Literature	(1)
Control group	12	2	10	1	Human Sciences	(8)
					Literature	(4)

For the purpose of this study, it was important that the characteristics of the participants were controlled. Participants in an experiment may mature or change during the experiment, thus influencing the results. To increase internal validity, the researcher selected participants who matured and changed at relatively the same rate during the experiment (Creswell, 2009). That is, it was important that all the participants had studied English at junior and senior high school, as required by the Japanese National Education policy, and therefore had learned English for more than 6 years. Also, this research design necessitated that the participants were assessed and had gained lower to upper intermediate proficiency in speaking, reading, writing, and listening as a result of passing the university English language entrance examination. The fact that the participants were from Year 1 and Year 2 classes was not seen to impact on the goals of this study. Data from the questionnaire showed that of the participants, 70% had studied English for 6 to 8 years; 24% had studied English for 9 to 13 years; and 6% had studied English for 15 years (see Figure 6). Data for one participant were not available as the participant had not disclosed this information in the questionnaire.

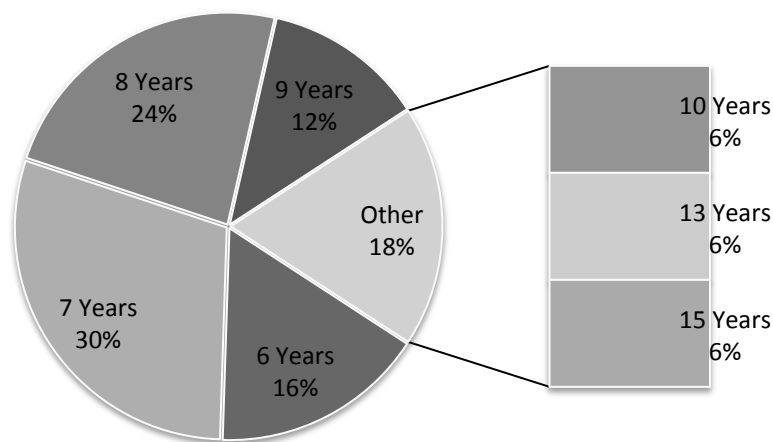


Figure 6. Number of years participants had learned English.

3.4.3 Consent to participate in the research

Informed consent was gained from all participants from both the experimental and the control group during the first class using the Letter of Consent (see Appendix F). Informed consent requires that all “human subjects, to the degree that they are capable, should be provided with the opportunity to choose what shall and shall not happen to them” (Mackey & Gass, 2008, p. 27). Voluntary agreement to participate in this study was sought after the potential participants had received and understood sufficient information to make an informed decision. All information regarding this research was orally presented in English by the researcher, immediately followed by a Japanese translation provided by a bilingual teaching assistant. The Letter of Consent was distributed to the students from both the experimental group and the control group, and all students completed the form. A Japanese translation of the Letter of Consent was not available for distribution in the first class as the translator was absent at this time. However, the Japanese version of the Letter of Consent was available by the second lesson and all students from both classes were given the opportunity to change their volunteer option to participate in the study. No changes to the participation rate were recorded. Due to time constraints, students arriving later than Week 2 were not considered eligible to participate in the study.

3.5 RESEARCH INSTRUMENTS

3.5.1 Overview

The research paradigms used in this research are quantitative as well as qualitative in nature (see Table 11). As there is greater emphasis on the qualitative aspect, this research can be defined as using a QUALITATIVE-quantitative data collection strategy, as the quantitative process stems from the qualitative process (DeCuir-Gunby, 2008, p. 129). That is, data are used to evaluate the

effectiveness of the guided reflective journals and answer the following guiding research questions and address theoretical underpinnings (see Table 12).

1. Are guided reflective journals an effective intervention strategy to improve the intelligibility of students' pronunciation in large EIL Japanese classes?
2. Are guided reflective journals an effective intervention strategy to improve segmental features?
3. Are guided reflective journals an effective intervention strategy to improve stress, intonation, and pausing?

Table 11

Overview of Data Collection Instruments

Research question	Research instrument			
	Questionnaire	Reflective journals	Speech evaluations	Interviews
1	✓	✓	✓	✓
2		✓	✓	
3		✓	✓	

Table 12

Data Instruments and Research Variables

Research instrument	Reflective journals				Speech evaluations	Questionnaire	Interviews
	1	2	3	4			
Research variable							
Pronunciation	✓			✓	✓		
Intelligibility	✓			✓	✓		✓
Goal setting	✓	✓	✓	✓			✓
Motivation	✓		✓	✓		✓	✓
LLS		✓	✓	✓		✓	✓
Demographic data						✓	

Purely qualitative research instruments are included as part of Reflective Journal 2 and 3, and a semi-structured interview. The quantitative research instruments, including the questionnaire, Reflective Journals 1 and 4 (including the students' self-rating of pre- and post-test speech samples), and speech sample evaluations (student self-evaluation for the control group and the raters) used inter-method mixing; therefore, also included some qualitative items. In-class implementation of the research instruments offered the opportunity to observe the effectiveness of these strategies in practice. Adopting this procedure appeared to benefit this study in two ways. First, there was no bias shown in terms of participants receiving additional language opportunities compared to those who did not elect to participate in the study. Second, participants did not perceive their participation either as an additional burden on their time or an additional commitment to learning English without due recognition.

3.5.2 Qualitative data instruments

3.5.2.1 Reflective Journals (Experimental Group)

The guided reflective journals provided qualitative data. In addition, the guided reflective journals served within the experimental group for engaging in a reflective dialogue, which revealed the learning journey of the participants to independently improve pronunciation (see Appendix H). The participants were required to submit the journals as four discrete tasks over the duration of the semester, using key questions to guide the reflective process. In summary, Reflective Journal 1 (a) included a phonemic awareness raising task (pre-test), and (b) asked the participants to identify their pronunciation goals; Reflective Journal 2 asked students (a) to identify autonomous language learning activities to help them achieve their pronunciation goals, and (b) to monitor, reflect, and record their progress over the semester; Reflective Journal 3 asked students to reflect on their progress and (a) review and revise their pronunciation goals, and (b) review and revise the language learning activities used to improve pronunciation and achieve their goals; Reflective Journal 4 (a) included a phonemic awareness raising activity (post-test), (b) asked the participants to reflect on and evaluate their progress, (c) asked the participants to reflect on and evaluate the activities used to develop pronunciation, and (d) asked the participants to identify pronunciation goals for the future (see Appendix H). This constructivist design was used so that the participants could develop the linguistic and metacognitive awareness needed to reflect on the learning process (Goh, 1997; Jing, 2006). The four reflective journal tasks were disseminated and collected according to the procedure outlined in Table 13.

Table 13

Procedure of Implementation for the Guided Reflective Journals

Week	Procedure
1	Record students speech Hand out Reflective Journal 1 to students
2	Hand in Reflective Journal 1 to teacher
3	Return Reflective Journal 1 with feedback on pronunciation goals and speech samples Hand out Reflective Journal 2 to students
7	Return Reflective Journal 2 with feedback on language learning strategies Hand out Reflective Journal 3 to students
10	Hand in Reflective Journal 3 to teacher
11	Return Reflective Journal 3 with feedback on progress Hand out Reflective Journal 4 to students
12	Hand in Reflective Journal 4 to teacher
13	Return Reflective Journal 4 with feedback on pronunciation goals and speech samples

Reflective Journal 1 used intra-method mixing involving the speech sample, which required students to evaluate their speech using a 5-point Likert scale format and a single attitudinal response where 1 is equivalent to *strongly disagree* and 5 is *strongly agree*. Following the self-evaluation, the participants were required to reflect on this phonological awareness raising task and identify three pronunciation goals, which would become their focus to improve their pronunciation over the duration of the semester. The objectives of Reflective Journal 2 were to reflect on their three goals and identify language learning strategies that would support

learning. Over a period of 2 weeks, the participants were required to implement the strategies, monitor learning, and reflect on the progress of their goals. Using an action learning design, Reflective Journal 3 allowed the learners to readdress their goals, reflect on progress, modify or reaffirm their goals, and modify or reaffirm their language learning strategies in order to improve their pronunciation. As part of Reflective Journal 4, the participants rerecorded their speech and evaluated their pronunciation using the same process as for Reflective Journal 1. Following the evaluation, the participants reflected on their progress over the duration of the semester, and assessed the degree of achievement of their goals and the effectiveness of the strategies they employed to achieve them. Finally, the participants reflected on possible future goals that may guide future learning.

Writing a reflective journal assumes not just some writing skills but also a degree of familiarity with linguistic terminology and some linguistic knowledge (Vitanova & Miller, 2002). Therefore, both classes also received in-class pronunciation training as part of their English program. Given that students were unfamiliar with reflective journaling, the experimental group received training to develop reflective skills. These skills and processes were explained to students in class prior to commencement of the journal writing task in Week 1. The term *reflection* was also discussed and clarified in group activities (Wei, 2002), in exercises, and when viewing samples of reflective texts. To further support students to develop their skills in this genre, key questions were included in each of the reflective journals to guide reflection and focus their learning journey. The guiding questions framing the reflective journals expounded three key areas: language learning strategies, pronunciation, and motivation (see Appendix H). Reversed questions were used to reduce bias and encourage honest responses. The questions were trialled in the pilot study and revised for the purpose of the study. The requirements for the

first journal assessment were explained in approximately 20 minutes. Subsequent journal assessments were reviewed during class in 10 minutes.

To develop the necessary skills for the guided reflective journals tasks, learners needed to be able to develop linguistic and metalinguistic knowledge, set realistic goals, identify learning preferences and learning styles, and reflect on performance. Also, learners need to be able to self-direct and monitor learning. To achieve this, the teacher researcher implemented the same range of tasks, activities and exercises, and language learning opportunities for both the experimental and the control group. This meant that all the participants were equally exposed to a variety of language learning strategies that aimed to develop pronunciation as part of the curriculum. These included, but were not limited to, shadowing, tongue twisters, drilling, and preparation of oral presentations in an academic setting, aimed at improving pronunciation. Following the implementation of these activities, the participants were required to reflect on their ability and skill development. Both groups were also required to present two oral presentations. While structure and content were paramount to this presentation task, delivery including pronunciation was also considered important. In addition, all the participants were introduced to the language learning computer programs in the Computer Language Laboratory classrooms and were encouraged to access these programs independently for additional linguistic support. Therefore, both groups were equally exposed to pronunciation activities; however, the experimental group received more detailed instruction and time with regard to the development of reflective journal skills.

3.5.2.2 Semi-structured interviews

The formal interviews, structured by a guiding list of both open and closed questions, were conducted face to face in English with five participants from each class to further explore students' experiences of learning pronunciation, their learning styles, and learning preferences

(see Appendix K). While unstructured interviews could have built additional rapport with the interviewees in a more relaxed environment, the students only had limited time and they participated in the interviews according to their time availability and willingness. Based on prior research, providing the questions in advance may reduce the cognitive load for non-native subjects if they need to formulate complex responses (Nunan, 2007). The interview was not a language proficiency test used to evaluate the participants' communicative abilities; therefore, a copy of the interview questions was emailed to all the participants so that they could consider the key issues pertaining to the focus of this study and discuss their individual experiences in English. This may form a limitation of the study; however, for a research-based EIL study this means that the resultant responses may be more valid (Nunan, 2007). As the participants were largely L2 speakers and the interviews were conducted in English, variation in question order was minimal. In total, the interviews lasted approximately 15 minutes each and included 12 key items that extended the information from the questionnaire and the guided reflective journals.

This approach also enabled the anxiety level of the participants to be reduced and allowed the researcher to further explore the topic, if necessary. According to Hutchby and Wooffitt (2008), this type of structure allows the researcher to ask a set number of questions and develop lines of enquiry based on the responses from the interviewee. Furthermore, semi-structured interviews allow the researcher the freedom to digress and probe for additional information as necessary (Mackey & Gass, 2008, p. 173). However, some additional questions were asked of some participants to allow full exploration of responses and beliefs as required. In the case of the experimental group, in addition to identifying their autonomous language learning strategies, participants were also asked to comment on the effectiveness of the reflective journal. Participants in the control group were also probed further about the effectiveness of the in-class

strategies used to develop pronunciation (see Section 3.3.1 Pilot Study 1). The advantage of this approach lies in the flexibility of the interview and the ability to respond to the individual. In addition, using semi-structured interviews is efficient in terms of data organisation, transcription, analysis, and evaluation, which made it easier to adhere to time restraints and identify taxonomies.

3.5.3 Quantitative data instruments

3.5.3.1 Questionnaire

Brown (2001) defines questionnaires as “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting them among existing answers” (p. 6). For this study, a questionnaire was used to collect demographic data and data on motivation and learning strategies. The questionnaire was customised and concerned with context-sensitive data relating to various aspects of educational experiences of pronunciation, motivation for learning language, language learning attitudes, independent language learning strategies, and learning preferences that may impact on the implementation and use of guided reflective journals. Information derived from the aforementioned pilot study was also used in shaping the design of the questionnaire. Additional theoretical input for the questionnaire was gained from Dörnyei (2001), who highlighted the importance of motivation for successful learning and associated competency with perceptions of success. Therefore, open-ended and closed questions were developed to investigate students’ perceptions of success, confidence, and ability in learning English.

Next, Likert scale items were developed and adapted from the AMTB (Gardner, 2004) to assess the major affective components shown to be involved in second language learning for these Japanese participants. While Gardner’s AMTB has been tested for reliability and validity, the Japanese socio-cultural milieu necessitated major changes in the items to make them

meaningful and relevant for this study. The items were designed using a 5-point Likert scale format indicating an attitudinal response, where *strongly disagree* is 1 and *strongly agree* is 5. Questions 1, 5, 6, and 7 (see Appendix G) probed an external orientation to motivation, including the importance of knowledge, culture, and work, respectively. Further questions asked about students' goals and purpose for language learning, about their attitude towards the English language and culture, and intrinsic factors motivating learning. In particular, Questions 2, 3, 4, 8, 9, 10, 11, and 12 in the questionnaire probed areas of communication, accent, comprehension, and pronunciation. These questions also aimed to support evidence from previous studies that showed that Asian students adopt learning behaviours that assist gains in linguistics and communicative competence (Politzer & McGroarty, 1985). Furthermore, these studies also show that Japanese students use strategies that facilitate precision and accuracy (Oxford, 1999).

To overcome the potential language difficulty and maximise the value of the responses, the questionnaire included simple, uncluttered formats; unambiguous, answerable questions; review by the supervisors; and piloting among a representative sample of the research population (Mackey & Gass, 2008, p. 96). The level of language required to complete the questionnaire was not considered too challenging for these intermediate level speakers of EIL. The data instruments were all in English. It was made clear to the participants that a translation would be made available if needed and on request. In fact, none of the participants asked to have the data instruments translated into Japanese; however, oral clarification in English was provided for some sections. One additional concern was that the learners may not have the metalanguage to accurately describe their perceptions and attitudes. This situation can affect L2 learners who participate in research: Mackey and Gass (2008) state that "lower proficiency in the L2 may constrain the answers." To address this concern, all learners from both the experimental group

and the control group were encouraged to use their L1 when necessary. Although only the participants' responses were recorded for the purpose of this study, the research instruments were integrated into the teaching program to emulate a real teaching situation. The questionnaire was implemented using the following simple procedure:

1. The questionnaire was administered during the first lesson.
2. The teacher aide acted as a translator on call for the learners as required, to clarify answers to any questions.
3. The questionnaire was completed individually and collected after 10 minutes.

3.5.3.2 Speech samples

Speech samples were obtained from the participants in both the experimental group and the control group, at the beginning and at the end of the research period. This constituted the pre-test and post-test data, which were used to compare the difference between the changes in the experimental group and those from the control group. A pedagogical benefit of students evaluating their own speech was that this phonological awareness raising element allowed the participants from both the experimental group and the control group to notice, observe, and become aware of their own pronunciation (Morley, 1991). For the experimental group this constituted the basis from which the participants would reflect on their pronunciation and establish goals to improve their pronunciation.

As aforementioned, the pre-test and post-test were built in as part of Reflective Journal 1 and Reflective Journal 4, and used for reflection and comparison of the test outcomes respectively. Participants from the control group did not complete the reflective journal tasks as part of their unit assessment. They were, however, asked to record their speech at the beginning and at the end of the semester. The control group evaluated their speech using a Speech Evaluation Sheet (SES), which included the same 5-point Likert scale format requiring a single

attitudinal response of *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree* (see Appendix I). Data from the control group was used as a baseline against which to establish whether or not the intervention of guided reflective journals was effective. That is, results from the speech samples provided evidence to determine whether any differences or changes in intelligibility over the duration of the semester were due to the intervention of the independent variable of the guided reflective journals in the experimentation group, compared to the control group which did not use guided reflective journals.

As both classes were conducted in the Computer Assisted Language Learning (CALL) classrooms, the speech samples were generated using the computer technology available. This procedure saved time and human resources. The process took up to 40 minutes of class time for each recording. During the first recording in Week 1, instructions were primarily provided in Japanese by the Language Laboratory Coordinator, as the teacher researcher was not familiar with the technology at this stage. This also allowed two staff to attend to at-risk students who needed immediate feedback or assistance with the technological enquiries. No assistance was provided to students in regard to the language aspect of the task.

In order to record the participants' speech the students logged onto the computer, opened the program *MovieTeleco*², and checked the volume and sound settings on their headphone sets. Then, they read the diagnostic text extracted from the core text (see Figure 7), which had been copied onto a word file and sent to the students' central monitors. To increase reliability, the same short extract from the core text consisting of approximately 85 words was used on both occasions for both groups (see Figure 7). To increase internal validity and in order that the

² *MovieTeleco* is an audio visual sound system preinstalled in the CALL classrooms at the university. Audio files can be saved in an MP3 or WAV format.

participants did not become familiar with the outcome measure and remember responses for later testing, the researcher designed the study so there was a longer time interval between administrations of the outcomes (Creswell, 2009).

I'm a doctor and I'm from England. I work in Rwanda with the World Health

/áj ma daktər ænd áj'm frəm ɪŋɡlənd. áj wɜrk ɪn rəwəndə wɪθ ðə wɜrld helθ

Organisation. At first, I planned to only stay 6 months. That was three years ago,

ɔrgənəzේʃən. æt fərst, áj plænd tú ónli sté 6 mənθs. ðæt wəz θrí jɪrz əɡó,

and I'm still here. We work very hard because there are so many sick people with

ænd áj'm stɪl hɪr. wɪ wɜrk vɛrɪ hɑrd bɪkɒz ðer ɑr só mɛni sɪk pɪpəl wɪθ

cholera and malaria especially. The children suffer most because they don't get

kələrə ænd məlerɪə əspeʃli. ðə tʃɪldrən sɛfər mɒst bɪkɒz ðeɪ dɑn't get

enough to eat. But despite all the problems, the refugees give us presents they have

ənəf tú ít. bət dɪspájt ɒl ðə prɒbləmz, ðə rɛfjʊdʒɪz gɪv əs prɛzənts ðeɪ hæv

made and share their music and culture with us.

méd ænd ʃer ðer mju:zɪk ænd kəlʃər wɪθ əs./

Figure 7. Pre- and post-test diagnostic reading text. Adapted from *You me and the world. A course in English for global citizenship*, by D. Peaty, 1997. Copyright 1997 by Kinseido Press.

The phonetic translation was not provided to the students from either group. The diagnostic reading text incorporated difficult phonemes of mainly two to three syllables, which allowed learners to demonstrate a range of phonological features including stress, intonation, and pausing (Derwing & Munro, 1997; Munro & Derwing, 1995) (see Figure 7). Some of this lexicon may

also be found in Japanese katakana. An extract was chosen, as opposed to a single word list as recommended by Field (2005), to evaluate phonemic intelligibility. The text also included a range of sentence structures that exercised a variety of stress patterns, pausing, and intonation to express meaning relevant to the purpose of this study. The text also included familiar and unfamiliar lexical and phonemic items that Japanese English speakers at an intermediate level might find challenging. In particular, the evaluation of the speech samples focused on the intelligibility of the phonemes noted as difficult for Japanese learners, including /b/, /v/, /r/, /l/, /f/, /h/, /s/, /θ/ (cf. Smith, 1935), stress, intonation, and pausing.

Each student's speech was recorded and saved as an MP3 file during the lesson. This speech sample was used to evaluate changes in pronunciation over the semester. All the MP3 files were collected in a class folder. The teacher-researcher saved a copy of the folder onto a USB, and the participants saved a copy of the MP3 file on their personal drive in order to complete their reflective journal homework assessment task. To demonstrate changes in intelligibility, examples of the participant speech samples have been made available at a website not accessible to the public: <https://sites.google.com/site/learningenglishinc/>.

Speech sample evaluation

This focused case study is also a replication of Field's (2005) innovative attempt to evaluate intelligibility using teacher raters who were native and non-native listeners (see Table 14). The raters did not receive any formalised training for this purpose. All the raters were selected to evaluate the speech samples according to their availability and interest in the study. The process of moderation was used in order to improve the reliability and validity of assessment as an essential part of the evaluation. It is also important to note that, during the moderation process, the three teacher raters of Australian, American, and Japanese background discussed and agreed

on a shared definition of the concept of intelligibility as defined by the parameters of the present study. Next, based on the agreed understanding of intelligibility and in order to achieve consensus and inter-rater reliability, a rigorous moderation process was applied, whereby comparability meetings were conducted. At this time, the raters used double blind marking where they independently marked five speech samples from both the experimental and the control group. The speech samples were self-selected by the researcher and ranged from low to higher intermediate language proficiency. The names and class of the participant sample was not identifiable.

Table 14

Overview of Raters

Rater	Background	First Language	Years Teaching
1	Australian	English	15
2	American	English	8
3	Japanese	Japanese	10

The raters first assessed the speech samples impressionistically and individually, then discussed any discrepancies arising and based on the speech evaluation form (see Appendix J). The raters then compared their results. After sharing results, the teacher raters agreed upon the internal criteria that they had decided to use and that arose from their EIL teaching experience. These also aligned with the criteria in the speech evaluation form. Through discussion and clarification, consensus was reached and with the exception of Question 4 regarding familiarity with the Japanese accent, the raters consistently maintained a standard of no more than a 1-point

difference on the attitudinal scale where 1 is *strongly disagree* and 5 is *strongly agree*.

As aforementioned, the evaluators participating in this study were experienced in teaching EIL or had familiarity with the Japanese accent; therefore, speech samples were rated impressionistically. While this may be a limitation of the present study, there is no universal moderation process for pronunciation available. Three raters moderated their assessment of the participants' speech prior to evaluating the recorded speech using the Pre-test post-test Speech Evaluation Sheet (see Appendix J). This evaluation sheet was developed by the researcher. The design of the evaluation of the speech samples was strongly influenced by Gardner (2004) who informed key areas of focus. The phonemic and phonetic items were informed by the original work from Smith (1935) and further confirmed by the more recent work on phonetics and phonology by Tsujimura (2007). The evaluation was purposefully designed not to be a laborious activity; it also informed the listener of key areas of strength and weakness in pronunciation. Therefore, evaluation of the phonetic items used a Likert 5-point attitudinal scale to establish the listener's level of agreement with the proposed statements where 1 is *strongly disagree* and 5 is *strongly agree*. Also, a checklist was created to ascertain the linguistic ability to pronounce phonemic items intelligibly. This was primarily to determine whether segmental features or prosodic features were impacting on the speech of any one participant (Celce-Murcia et al., 2007).

However, it is important to note that the Japanese English teacher had received and evaluated the pre-test and post-test speech samples before a moderation process could be arranged between the first two raters. This means that only two raters had a chance for moderation and this may have affected the reliability of this teacher's rating and the inter-rater reliability of the results. Following the moderation process, the three teacher raters independently

evaluated the speech samples from the experimental group and the control group. The speech samples were self-analysed by the individual students from the experimental and the control group.

In addition, the participants from both groups were required to listen to their own voices and impressionistically evaluate their own pronunciation recording. The participants in the experimental group evaluated their speech as part of their reflection in the Reflective Journals 1 and 4 using the open and closed questions to focus and guide their self-assessment (see Appendix H). Participants in the control group evaluated their speech using the Speech Evaluation Sheet ³ (see Appendix I). In order to self-evaluate speech, the participants were also given a copy of the original recording so that they could compare their speech. The open questions, which were included as qualitative data, allowed the participants to express their own perceptions and impressions about their pronunciation.

3.6 DATA ANALYSIS

For this study, sequential mixed approach of analysis was used by combining both qualitative and quantitative research practices in the form of questionnaires, reflective journals, interviews, and speech sample evaluations to evaluate the effectiveness of guided reflective journals to improve pronunciation. Research in this area has suggested that various perspectives are needed to estimate and understand the relative contributions of a phenomenon (for example, see DeCuir-Gunby, 2008, p. 125). Only recorded data from the 22 students who consented to participate in the study were used for qualitative and statistical analysis and evaluation. At first, a well-designed standard questionnaire was provided to the randomly selected participants to collect

³ The Speech Evaluation Sheet is a slightly modified version of Reflective Journal 1 and 4.

their demographic data, including the native language, gender, year level, class, and the number of years the participants had learned English. Open type questions were thematically coded to identify language learning strategies used to improve pronunciation, and motivation for learning English. Data from the questionnaire included not only qualitative data but also quantitative data which were collected using the 5-point Likert scaled items and were analysed by implementing statistical methods with the student and rater speech evaluations. According to Mackey and Gass (2008), closed item questions allow the researcher to determine possible answers, as guided by the literature and uniformity of measurements. Both open and closed questions were then used to measure the dimensions of belief, motivations for learning EIL, language learning strategies, and changes in intelligibility.

Further qualitative data from the reflective journals were analysed using thematic content analysis. In other words, the presence, meanings, and relationships of concepts were quantified and analysed by coding the data into manageable categories so that trends could be identified and inferences determined (Gay & Airasian, 2003). Common as well as uncommon themes were coded and pattern regularities and irregularities were identified and organised into interrelated themes using the data gained from Appendix O and Appendix P. The coding process focused on goal setting, motivation, language learning strategies, action learning, intelligibility, and pronunciation in order to investigate the experience of using guided reflective journals to independently improve pronunciation. The open item questions from the qualitative instruments allowed the participants to express their own thoughts and ideas. This resulted in a greater variety of unexpected and insightful responses. These responses, including additional individual responses germane to the research question, were used to qualify students' perceptions of the

guided reflective journals and were used to correlate responses arising from the semi-structured interviews and the questionnaire.

Moreover, a total of 10 interviews from the experimental group and the control group were digitally recorded and transcribed. The interviews were analysed and coded according to a four-category taxonomy including motivation, past and present pronunciation learning experiences, reflective journals, and language learning strategies. The major themes arising from the interviews were supported by the bulk of the responses. The associated learner attitudes, motivation, and learning strategies were considered highly influential factors impacting on the improvement in the intelligible features of pronunciation (Ellis, 2008; Fraser, 2000; Vitanova & Miller, 2002) and were used to correlate and triangulate responses from the questionnaire and the reflective journals. More interesting responses were illustrated anecdotally to show the range of motivation types and language learning strategies used to improve pronunciation and communication skills as a result of using guided reflective journals. Results from the control group were compared with the results obtained from the experimental group to evaluate the effectiveness of the guided reflective journals.

Before analysing data from the Likert scale items from the student and rater evaluations (and questionnaires), quantitative data were also used to establish inter-rater reliability and explain the crude measure improvement for individual students and for each group over the semester in relation to the use and effectiveness of the reflective journal. The reliability of rater responses was tested using Krippendorff's alpha (henceforth Krippendorff's α) (Krippendorff, 2009). Krippendorff's α "generalises across scales of measurement; can be used for any number of observers, with or without missing data; and satisfies all of the important criteria for a good measure of reliability" (Hayes & Krippendorff, 2007, p. 78). As a standard reliability statistic,

Krippendorff's α defines α as 1.000 for perfect reliability, and 0.000 for no reliability or unrelated scores. When disagreements are systematic and exceed what can be expected by chance, $\alpha < 0$. In addition, correlational matrices were also used to establish reliability between Rater 1, 2, and 3.

Closed items responses were then treated as ordinal data and statistically analysed. That is, responses from the speech evaluations and the questionnaire were initially entered onto an Excel coding sheet and only a single numeric value was entered for each item where *strongly disagree*, *disagree*, *neutral*, *agree* and *strongly agree* were equivalent to 1, 2, 3, 4, and 5 respectively (see Appendix Q). Negatively scaled questions like “Accent does not interfere with intelligibility” (see Appendix J, Rater Evaluation Sheet, Question 3) were reversed so that *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree* was equivalent to 5, 4, 3, 2, and 1. For the speech evaluations, aggregate scores for the pre-test and post-test were determined for all participants in each group (see Appendices M, N, & O). Individual phonetic and phonemic improvements in intelligible features of pronunciation were recorded as quantitative measures, mean scores, frequencies, and standard deviation (SD) scores. When comparing the experimental and control groups, the goal is also to determine whether the mean values differ significantly. The power of the test is the probability that the test will find a statistical difference between the experimental and the control group if one exists. Sample size is an important determinant of power needed to establish the amount of sampling error inherent in a test result (Murphy, Myors, & Wolach, 2009); increasing sample size is one way to increase the statistical power of a test. A retrospective power analysis shows that this study needed a greater sample size in order to evaluate the effectiveness of the intervention. Therefore, this study used qualitative analysis to compare the two groups and descriptive statistical analysis to compare the results from the pre-

test and the post-test for the experimental group and the control group. Such descriptive statistics provide simple summaries about the sample and the measures (Creswell, 2009). Together with bar graphs and scatter plots, they form the basis of the initial description and interpretation of data. However, descriptive statistics are limited in so much as they only allow summations to be made about the data, which cannot be generalised to other people or situations (i.e., using data from a sample to infer the properties/parameters of a population) (Gray, 2009).

In addition to descriptive statistics, these data were analysed separately for each item and summed statistically to create a score for a group of items that were illustrated visually in bar charts and scatter plots. A scatter plot is a useful summary of a set of bivariate data (two variables), and provides a visual representation of the relationship between the two (Gray, 2009). A point in two-dimensional space represents each experimental subject in the study. The independent variable is represented on the *X*-axis and the dependent variable on the ordinate, or *Y*-axis. The degree to which the points cluster around a 45° reference, or identity line, relates to the correlation between *X* and *Y*, and clearly shows the trend between two sets of data and the general patterns in the data (Utts, 2005). One of the most powerful aspects of a scatter plot is its ability to show nonlinear relationships between variables. According to Creswell (2009), scatter plots can show visually the strength of the relationship between the variables, the direction of the relationship between the variables, and whether outliers exist, before conducting a correlation. In other words, the output demonstrates some kind of relationship between the variables rather than being completely random.

Scatter plots, like bar charts, are descriptive visual representations of data and do not yield definite answers. Therefore, following an initial qualitative and quantitative analysis of results, further inferential statistical evidence was obtained using the Predictive Analysis SoftWare

(PASW) Version 18. The raw sample data were analysed using paired sampled *t*-tests to determine any random effects attributable to the effectiveness of guided reflective journals in improving intelligible features of pronunciation, and to assess any changes to pronunciation over the semester. A *t*-test is perhaps the most simple of the inferential statistics. The purpose of this test is to determine if a difference exists between the means of two groups using statistical formula, which includes the means, standard deviations, and number of subjects for each group. Gray (2009) recommends using a *t*-test for quantifiable attitude scores with nominal data when comparing an experimental and a control group. These statistical tests were interpreted against the standard cut-off point at 5% level of significance or $\alpha = 0.05$ which is commonly used in research (Johnson & Christensen, 2008). If the *p*-value is smaller than or equal to the cut-off figure $\alpha = 0.05$, then the null hypothesis is rejected at a 5% significance level. It should be noted that a *p*-value is the estimated probability of obtaining the observed result, or more extreme, if the null hypothesis is true (Fidler & Cumming, 2008, p. 4). A *p*-value ≤ 0.05 means that there is only a 5% chance of obtaining a statistically significant effect from the sample.

The small sample size used in this study limited the options of statistical procedure and the scale of data (i.e., ordinal) determined the statistical method appropriate for analysis. While Peterson (2008) states that a minimum sample of 8 is needed for ordinal data and the threshold at which changes plateau is 40, in effect, results do not seem to change with increasing the size of the sample in excess of 40 participants. However, the small-scale results from this study could not be reported with due confidence; therefore, no additional inferential statistical tests, including ANOVA, was conducted. As Peterson (2008) states, correlations detected for a sample size of 30 or fewer cannot be reported without great caution (p. 145).

Artificial sampling techniques allowing simulation of data sets to compensate for small

sample sets were also not required for this study as there was no need to establish generalizability using a larger sample size. However, it is recommended that further research be undertaken to verify the results from this present study.

In summary, differences from the pre-test and post-test evaluations were identified for each student in both groups. Intermethod mixing was used to correlate results and to identify a pattern of variation and the level of accuracy across the listeners in order to ascertain the effectiveness of guided reflective journals. Data were used to determine the potential of this autonomous learning tool for the development of intelligible features of pronunciation and to determine the linguistic and pedagogical impact of the reflective journal. Any linguistic anomalies arising from the data germane to this study were analysed and used to investigate any difference between the two groups and show the effectiveness of the guided reflective journals in improving pronunciation. Therefore, both qualitative and quantitative responses were evaluated to identify the effectiveness of guided reflective journals by comparing the development of participants who used the reflective journal and the development of those who did not.

CHAPTER 4 RESULTS

This research scaffolded learning using four discrete tasks that incorporated an action learning framework so that learners in the experimental group could use this assessment tool to monitor learning goals, processes, and progress through creative and analytical methods. A mixed methodological approach, which also included an experimental element, was used to evaluate guided reflective journals for improving intelligibility in the speech performance of Japanese students, including stress, intonation, and pausing. The students involved in this study were learning English at a university and the instruction occurred in large classes. While related data can be found in the Appendices, this chapter will present the data using key themes relating to the four guided reflective journals. In particular, the results from quantitative and qualitative data will be analysed in relation to the literature according to the following headings:

- Guided reflective journals,
- Inter-rater reliability,
- The effect of guided reflective journals on intelligibility,
- The effect of guided reflective journals on segmental features,
- The effect of guided reflective journals on stress, intonation, and pausing, and
- Learner resistance.

4.1 GUIDED REFLECTIVE JOURNALS

4.1.1 Reflective Journal 1

Participants from the experimental group were asked to identify three pronunciation goals as part of Reflective Journal 1 after reflecting on their pronunciation. The pronunciation goals were reviewed by the teacher-researcher prior to implementation. In addition to the speech sample, the

pronunciation goals became a learning focus from which the participants could identify appropriate strategies, reflect on their individual development in achieving the goals, and measure changes in intelligibility over the duration of the semester. Initially, around 60% of the participants identified goals relating to improving stress, intonation, and pausing (see Appendix N). The remaining 40% identified goals largely related to the intention to improve phonemic features, vocabulary, accent, and clarity. There were also cases in which the participant's goals were not achievable and realistic within the given time frame. For example, one goal was to "Correct accent;" another was "In order to make understand, I would like to speak faithfully to basis." In such cases, the researcher discussed and renegotiated the goal together with the student. In the context of this study, it was important to guide the participants so that they did not set goals which they would not have been able to achieve, and which could have demotivated them. This meant that the teacher-researcher had a specific role in mentoring the participants, ensuring that the goals of the learner were linguistically achievable and suited to the task. As a result, the participants revised their goals and aimed to improve stress, intonation, and pausing. Of these, just under half aimed to improve stress, and equal numbers of the remaining participants aimed to improve intonation and pausing. The remainder of the goals were closely matched to the participants' self-perception of their own speech and commensurate with the perceived erroneous phonological identification.

4.1.1.1 Goal to sound like a native speaker

It was evident from the initial goals identified by the participants that guidance was needed to separate pronunciation from the belief that an L2 speaker needed to sound like a NS. Data from the 5-point Likert items in the questionnaire further investigated this notion. For example, results from the following items showed similar responses from both groups:

- Item 8 (It is important to sound like a native English language speaker),

- Item 9 (I want to speak English with an accent⁴),
- Item 10 (It is important that non-native English speakers understand me when I speak English), and
- Item 11 (It is important that native speakers understand me when I speak English).

Quantitative results for these items show that both the experimental group and the control group shared similar opinions (see Table 15). The greatest discrepancy of opinion between the two groups is shown for Item 8 (It is important to sound like a native English language speaker). The control group in particular defended the importance to sound like a native speaker with a mean score of 3.9 compared to the experimental group with a mean score of 3.3. Yet, as part of Reflective Journal 1, two of the participants from the experimental group aimed to “sound like a native speaker” and were advised to redefine their goals. Interview data supported these statistics. For example, Student 4 (control group) stated, “*I want to pronounce it like native speakers do.*” This belief was also replicated in the data, particularly from the experimental group, as seen in the following comment:

I think the best way to improve pronunciation is when I speak with native English speaker and speak and have a conversation. I want the person to correct my accent or pronunciation. (Student 4, Experimental Group)

While the control group also believed it was important to be understood by both NS and NNS, over half the experimental group generated a neutral response to this item. In fact, over 80% of the total number of respondents believed that intelligibility was more important than sounding like a NS. However, this was not always reflected in the minds of the participants as results from the guided reflective journals conveyed. Student 1 (Experimental Group) wrote in

⁴ In this case “accent” refers to foreign accent.

her journal, “*I would like to speak more quickly because native speakers can speak more speedy.*”

Table 15

Questionnaire Results for Items 8-11

Item	Experimental group		Control group	
	Mean	Standard deviation	Mean	Standard deviation
8	3.3	1.2	3.9	1.1
9	4.1	.9	4.2	.6
10	3.9	.9	3.8	1
11	4.1	.9	4.2	.9

4.1.2 Reflective Journal 2

4.1.2.1 Motivational and attitudinal factors

The questionnaire used in the research was adapted from Gardner’s (2004) Attitude/Motivation Test Battery and sought to investigate the motivational orientation involved in second language learning. The following Likert items were used for analysis to determine the intrinsic and extrinsic motivational factors that influence language learning:

- Item 1 (Studying English is important to me because other people will respect me more if I have knowledge of a foreign language.)
- Item 2 (Studying English will allow me to communicate with people who speak English as their first language.)

- Item 3 (Studying English will allow me to communicate with people from many different non-native English speaking countries.)
- Item 4 (Studying English will allow me to meet and converse with more and varied people.)
- Item 5 (Studying English will make me a more knowledgeable person.)
- Item 6 (Studying English will enable me to better understand and appreciate English culture, art and literature.)
- Item 7 (English will someday be useful for my job.)

In particular, Items 1 (knowledge), 5 (knowledge), and 6 (culture, art and literature) relate to intrinsic motivating factors, and Items 2 (communication), 3 (communication), 4 (communication), and 7 (job) relate to extrinsic motivating factors influencing learning. A total score was calculated for each item from which the mean and standard deviation (*SD*) was established (see Table 16). To establish the mean and the standard deviation, Likert items representing non-linguistic variables influencing language learning were allocated a numerical score where *strongly disagree* is equivalent to 1 and *strongly agree* is 5. A low standard deviation indicates that the results are close to the mean score and a high standard deviation indicates that the results have a wider distribution ratio.

Table 16

Questionnaire Results for Likert Items 1-7

Motivation	Item	Experimental group		Control group	
		Mean	SD	Mean	SD
Intrinsic	1	3.1	.8	3.5	1.1
	5	3.7	.7	3.9	.7
	6	3.7	1	4.1	1.4
Extrinsic	2	4.4	1	4.8	.4
	3	4.6	.7	4.6	.9
	4	4.4	.5	4.4	.8
	7	3.8	.9	3.9	.7

Results suggest that the experimental group generally agreed or gave neutral response in relation to Items 1, 5, and 6 concerning intrinsic motivating factors (mean score of 3.5) (see Table 16). On the other hand, the control group were slightly more motivated by intrinsic factors (mean score of 3.8). In addition, both the experimental group and the control group considered extrinsic factors to be important motivators for learning (mean score of 4.4). In some cases, the control group appeared to feel slightly more strongly about both intrinsic and extrinsic factors than the experimental group (Item 1, 2, 5, 6, 7). Results in Table 16 also show that communication (Item 2, 3) was a dominant factor influencing the highest positive responses from both groups equally.

Commensurate with the control group, the experimental group identified additional factors motivating their learning of English. Correlating qualitative results from the open-ended

questionnaire Item 2 (Why do you want to learn English?) suggest that fluency and travel, understanding foreign music, the future, self-employment, and the opportunity to gain an international perspective also motivated these participants. The theme of communication was also replicated in correlating data from the experimental group in the interview. For example, one student confirmed that communication was the most important goal. In consequence, he expressed preference to use socio-affective strategies for language learning.

I think the most important things is to communicate.... [English] is just the tool ... or the process to study, to learn. So, my goal is always to communicate with other persons.

(Student 7, Experimental Group)

During the interview, another student indicated that social incentives, including getting to know people and making friends, were important intrinsic motivational factors in language learning:

I want to travel abroad and communicate with the people who living there ... I like to make friends with from other countries.... To study English, I can communicate with them.

(Student 5, Experimental Group)

Also, extrinsic and instrumental motivation sometimes combined with intrinsic motivation:

First ... I had to learn [English] because I want to pass the university. But now, I want to communicate with foreigner. (Student 6, Experimental Group)

The following comment shows the developmental curve of attitudes towards learning English and the diverse stages in motivation and motivational types that influence a language learner:

At first I started to learn in order to get a good marks and then in order to go abroad to study and finally in order to communicate with lots of people all over the world. (Student

10, Control Group)

Further, the fact that second language fluency has assumed growing importance in Japan has influenced Student 3 (Experimental Group) in his choice of learning strategies in order to improve intelligibility:

I want to understand foreign music lyrics because I like foreign music because I want to understand what they say. Of course, I want to communicate with foreign people and travel abroad ... I like English ... communicating in English is fun of me and ... I will use English in business or travel. English is very important and my life will become rich.

Due to lack of opportunity within Japan itself, the participants were also motivated to go overseas to English-speaking countries to improve their English independently. Student 8 from the experimental group expanded on this issue and commented,

About reading or writing, I studied it in high school to enter the college, university's entrance exam. So, about reading, maybe I'm okay. But about speaking, I went to Canada to study because I think communicating native speaker is the best way to improve my speaking ... I don't have much chance in Japan. So, I went to foreign country.

Therefore, these participants seemed motivated by global communicative goals. While this could also be translated into expectancy for success and improved future job prospects, it also may be considered synonymous with attitudes of second-year university students studying a second language. For example, six out of eight participants agreed that English would improve their knowledge and expectancy for success, including job prospects (Items 1, 5, and 7). These data also correlated with student responses from the interview. For example, one student from the experimental group expressed his extrinsic motivation in the following way:

First, it is compulsory education to learn English in Junior High School and High School. But I like study English ... Yes, and if possible, I want to use English to my job ... I'm interested in speaking English ... so if I can I want to use English. (Student 7)

The interview data also provided correlative evidence of the instrumental reasons for studying English:

If I go to graduate school I have to read papers not only in Japanese [but] also in English. And if I ... get job ... English will be useful for my career, promotion. (Student 10, Control Group)

Some teachers of Japanese background are aware of and respond to their students' desire to improve their communicative skills, and the resultant importance of exposure and opportunity to practise when learning English. Student 4 (Experimental Group) stated that one such teacher embedded these aspects into the curriculum to force students to use English in class; however, such teachers were in the minority:

My class teacher is Japanese but he studied for pronunciation ... he use English. Many Japanese teacher use Japanese even if they teach English. But that teacher ... impose us to speak, 2 or 3 minute speech. I think he want us to try to speak English ... many Japanese student are unfamiliar to use English ... so it is useful.

In the classroom situation described above, the NNS English teacher appeared to be a driving force and a motivating factor. For one student in the control group, the classroom environment was motivating but this did not transfer outside the classroom. For example, participant 7 (Control Group) explained that although both his intrinsic and extrinsic motivation had increased as a result of recording his speech for the pre-test, post-test, and conducting in-class speeches, he was not yet ready or able to act. *I have more motivate, but I do nothing* (Student 25). It seems

that the majority of the participants from the experimental group indicated that the guided reflective journals were a positive learning experience that directed autonomous learning (see Table 17). Participants supported the use and benefit of reflective journals. Also, comments from the interview correlated support for guided reflective journals as a motivating cognitive tool.

Table 17

Experimental Group Views on the Reflective Journal

Participant	Interview Transcript
2	<i>It is a little fun to find a good way to learn or train myself...For example, I try to find how I improve my pronunciation and I try to do myself how it goes and how it is working so...that was not something I'd done before. So, it was a good experience, I think.</i>
3	<i>Yes, [the reflective journal] is good way, I think...we can see what [we] did and recall it so, we can see what we learned...we remember the aim of the first time...it was difficult for me [to find good strategies] but it very good way.</i>
5	<i>I think it is [useful] because it isn't only one time. I write regularly. Regularly, I can realise my own skill or what I do or daily life I can feedback my life by the journal regularly.</i>
5	<i>I realise my difficulty by using reflective journal.</i>
7	<i>To reflect in each time is important thing, I think. Because ordinary we don't reflect so much. We just go ahead. So, to have a chance to reflect itself is important.</i>

4.1.2.2 Language learning strategies

Results from the questionnaire, reflective journals and interviews indicated the language learning strategies used to independently improve pronunciation over the duration of the semester. For example, Table 18 displays data taken from two open questions in the questionnaire disseminated at the beginning of the semester, including Question 9 (What do you do outside the classroom to improve your pronunciation?) and Question 10 (What do you do outside the classroom to improve your English language skills?).

Quantitative results gained using paired sample *t*-tests, show the mean number of language learning strategies used by the participants in the experimental group at the start of the semester was 1.2 compared to 4.7 at the end of the semester. In contrast, the control group showed a mean of .7 compared to .9 at the end of the semester. The results comparing the number and types of strategies used at the beginning of the semester compared to at the end of the semester is significant for the experimental group ($p=.003$) (see Table 18). It appears that the guided reflective journals had a positive and motivating impact on the language learning strategies used by the participants from the experimental group.

Table 18

Comparing Language Learning Strategy Use over the Semester

	Mean		<i>t</i>-value	df	<i>p</i>-value
	Start	End			
Experimental Group	1.2	4.7	-3.8	11	.003
Control Group	.7	.9	-.39	16	.699

Using O'Malley and Chamot's (1990) guidelines, the activities identified by the participants were classified according to the main mental process used when conducting the specific learning strategy. Although the participants did not record how often or how long they spent engaged with these activities, through the process of reflection the participants directly linked the use of these language learning strategies to their motivations for learning English.

Table 19

Language Learning Strategy Used to Improve Pronunciation

Category	Specific learning strategy	Activity	Experimental		Control	
			Start %	End %	Start %	End %
Metacognitive	Planning Directing attention Selective attention Self-management Self-monitoring Self-evaluation	Listen to music, podcasts, news, interviews, BBC, short stories, speeches, movies, radio	27	27	43	7
		Watch BBC, movies, cable TV, DVD, news, presentations (in class)	18	10	8	
		Sing, Karaoke	9			7
		Communicate with friends, native speakers	9	12		4
		Study, prepare for TOEIC, TOEFL	9	4	8	7
		Use technology: iPod, mobile phone, CALL classroom	5	4	8	13
		Read books, sentences	13	7	25	
		Total	90	64	92	38
Cognitive	Repetition Resourcing Note-taking Deduction/Induction Substitution Elaboration Transfer Inferencing	Dictation		4		
		Imitation		5		
		Shadow (in class), CDs		10		13
		Practise presentations scripts		2		22
		Memorising				7
		Repetition after teacher				13
		Repeating songs	5	9		
		Use a dictionary, IPA		2		7
		Total	5	32	0	62
Social/ Affective	Questioning Cooperation Self-talk Self-reinforcement	Attend class		2		
		Attend club activity		2		
		Total	0	4	0	0
[Amotivation]		Do nothing	5		8	
		Total	5	0	8	0

Note. Adapted from O'Malley and Chamot (1990), p. 126. Start=start semester; End=end semester

According to Table 19 above, the majority of activities employed at the beginning of the semester by this motivated group of learners from the experimental group were social or solitary, including 90% metacognitive strategies. The learning strategies emerging from the questionnaire included listening to music, singing, karaoke, talking with friends, and watching movies. At the beginning of the semester, only one student employed cognitive learning strategies in the form of repetition to improve pronunciation. The control group also employed mainly metacognitive strategies, while a few students were amotivational and did “nothing” to improve their language skills. At the end of the semester, it appeared that the experimental group employed a greater range and number of language learning strategies to improve pronunciation as a result of using the reflective journal. In fact, while listening remained constant, the participants were incited to use more communication activities, and used 27% more cognitive strategies and 4% more social affective strategies. Although students from the control group also displayed ongoing perseverance and motivation to improve their English during the semester, most of the activities completed outside class were completed in isolation and were passive.

While it appears at the end of the semester that the control group also increased the range of strategies used to improve pronunciation, data from the interview and the Speech Evaluation Sheet (SES) 2 show that the majority of the activities identified by these participants and used to improve pronunciation were actually conducted in class. For example, the increased range and number of cognitive strategies at the end of the semester reflect in-class activities, such as shadowing, repeating after the teacher, and practising presentation scripts. In particular, the control group commented on the benefit of in-class activities including shadowing; tongue twisters; preparing scripts and speeches, memorising, doing, and watching individual and group presentations; and recording, listening to, and analysing their own speech. For example, Student

1 (control group) wrote in SES 2, *“In particular, the practice of speaking scripts for two presentations in this class helps me the most”*. Participants also found the in-class activities useful speaking practice to develop pronunciation. For example, Student 3 (Experimental Group) wrote about the importance of attending class in the following way:

My pronunciation has improve, especially accent and word stress have changed. This class is important for me. Speaking English with considering pronunciation in this class benefits me...I started listening to English in “Podcasts” – it is function of the iPod. I can hears news, short story and interview in native English. It is helpful for me to achieve, but I don’t have a chance to speak. I need to attend this class every week.

Repetition

The technique of repetition was also applied to language learning tasks. For example, in the guided reflective journals, Student 2 (Experimental Group) wrote that watching DVDs offered the benefit *“to listen/watch again and again”*. The act of repetition was applied to listening, speaking, and watching tasks for this group of students so that they could improve stress, pausing, and/or intonation. One participant in particular repeatedly read a Harry Potter script and watched the DVD in order to improve his pronunciation. On reflection he found that this was not effective to improve his pronunciation. In retrospect, he commented that his reading had improved; however, he needed to care more about the stress placement in order to *“speak more impressively”*. In this case, the choice of learning strategy was influenced strongly by the availability of resources and past experience. Six of the participants from the experimental group found the language learning strategy of repetition ineffective if not accompanied by speaking practice, as well.

Shadowing

Shadowing was originally used to train interpreters. This process of repeating speech while simultaneously listening is an active and highly cognitive activity used to improve listening comprehension, prosody, concentration, motivation, and natural speech (Hamada, 2012). Shadowing was a popular strategy employed by the majority of the participants in this present study. In her reflective journal, Student 6 (Experimental Group) explained that shadowing helped to improve the skills of noticing:

I think shadowing helped by develop my pronunciation. In shadowing, I had to speak in English or be careful about others' pronunciation... It is the easiest and most important way to make my pronunciation better.

Shadowing was used in a range of contexts to include the element of speaking for these Japanese participants. Another student wrote about his persistence to improve his pronunciation using a variety of strategies, including shadowing. For example, by independently selecting news programs or songs, Student 2 (Experimental Group) would “*listen carefully to their British [English], and practice. Practice many times*”. Another participant found listening to speeches and checking each word useful; then “*shadowing three times a week. Now I feel like I can make a little progress in English pronunciation*” (Student 7, Experimental Group). In particular, this participant reflected on the benefit of this skill to improve stress and intonation. In another situation, speaking was used with reading. Another participant wrote that she would “*use a dictionary and pronounce many times when I see unknown words*” (Student 9, Experimental Group). Without the integrative nature of the task, the task would be ineffective to improve pronunciation alone. This point was confirmed by a number of the participants in the experimental group. For example, Student 5 (Experimental Group) wrote,

Maybe my pronunciation is not improved fully. But I think my listening is improved. I tried to improve my pronunciation by listening to native speaker's pronunciation, so I didn't take much time speaking. It's a course of I couldn't improve pronunciation.

During the interview, this student further reflected on the importance to get involved in verbal interactions with NS or proficient speakers of English but despite the lack of opportunity to do so, this student would continue to listen to the radio and shadow. Therefore, learning strategies were also impacted by a practical sense of available resources:

I don't know what is effective to improve pronunciation, so I didn't know what to do...but I always listen to English radio. So, sometimes I repeat what the speaker said...at the beginning of this semester, I made the goal to have a more chance to speak with native speaker. But about these, I couldn't find much chance to communicate with foreigner.

(Student 8, Experimental Group)

Another student from the experimental group reported on an interesting and original idea to improve stress and intelligibility of her spoken English during the interview. She joined a debating club where she was required to conduct parliamentary debates in English.

Technology

Finally, technology is increasingly used to improve language proficiency and this is not just restricted to computers. Table 18 shows evidence of metacognitive and cognitive activities using technology mainly for listening development, including listening to podcasts, news, interviews, speeches, radio, and iPods. Technology was also used to watch movies, cable TV, and DVDs. Student 5 (Experimental Group) showed the greatest awareness and use a range of technological devices to improve pronunciation. In her reflective journal, she explained that “*The software SpeaK!! helped me. Because I can realise clearly the bad points and good points of my pronunciation by different colour*”. This participant also used her mobile phone when travelling

on the train and buses in order to improve her listening skills. This shows that the student was aware of her most urgent needs area and motivated enough to attempt to address it in her own way:

The most difficult thing for me is to listening what people say in English. So, I see the movies in English in this [mobile phone]. I have many movies... I try to listening English comfortably.

4.1.2.3 *SpeaK!* pronunciation program

The software program *SpeaK!* was installed on the majority of computers within the CALL classrooms and all students had access to the computers outside class time. Participants from both groups were encouraged to use *SpeaK!* to facilitate learning and develop their pronunciation goals. In class, the students were given an additional one hour during the semester at which time they were given training and introduced to the main features of the program and encouraged to use *SpeaK!* to practise their presentation speeches. Both the experimental group and the control group were encouraged to use *SpeaK!* as an autonomous learning tool to improve the intelligibility of their pronunciation. Students were able to record their voice and compare their recorded speech to the computer sample. The students were not only able to request a graphical representation of the wave form of their voice but also segmental features of speech were graphically represented in coloured bar charts so that learners could visually measure and record their progress. Although the software program was a motivational resource, less than 50% of the participants were recorded using *SpeaK!* outside the classroom to improve their pronunciation. The majority of those participants were from the experimental group and they used the program as part of their goal-setting and language learning strategies. The use of this technological tool received positive responses from the participants. In particular, Student 7 (Experimental Group) stated that the colour code in error identification visualized her errors really well and made her

aware of the frequency of her errors.

I think the software 'SpeaK!' very surprised very interest me because it show me by colour red or green... technically, I can see my skills - red, green, gold.

Student 5 (Experimental Group) also attributed her pronunciation development mainly to the software, *SpeaK!*, which helped the most to realise the bad points and good points of pronunciation and provide visual feedback, which this particular participant could readily comprehend. Another participant from the experimental group commented on the importance of feedback:

...to improve my pronunciation or accent maybe I non Japanese speaker don't know what the weak point or good point of myself or ourselves pronunciation. So, other speaker, other English speaker point this is a good point, this is a weak point. Then, we can realise. (Student 8, Experimental Group)

4.1.3 Reflective Journal 3

4.1.3.1 Action learning process

The majority of the participants in the experimental group had noticed some improvement in overall intelligibility themselves after self-directing their learning, although for some it was not as obvious. In particular, the participants showed growing awareness of these changes in Journal 3 and Journal 4. For example, Student 3 (Experimental Group) commented that he “*seem to be[come] accustomed to speak English.*” Writing in the reflective journal, another participant identified that although her goals had not completely been achieved, there was improvement in overall clarity. Student 5 (Experimental Group) wrote “*I think my pronunciation has become clearer than before. It is very glad for me.*” Improvements in reading, listening clarity, and accent were also expressed in the journals. Student 2 (Experimental Group) wrote that

It seems to me that I have become a little better. For example, I think my reading rhythm is now better than at the beginning of this semester. Perhaps, listening to my own recording voice has lead me to this achievement.

It was also evident through the process of action learning (Kemmis & McTaggart, 1988) and reflection that the participants changed their goals independently. As part of Reflective Journal 3, Student 10 (Experimental Group) wrote:

While attending class, I started thinking about what is important word in sentences, and can read with pronounced intonation. So, I want to change my goal. I want to be able to talk with emotion and emphasise the important points.

Student 10 (Experimental Group) also wrote about the benefit of the cognitive process of reflective learning:

My English pronunciation has improved. I didn't care my pronunciation, but I started to think about it. After thinking, I wanted to talk with friends in English to practice my English. So, pronunciation has improved.

4.1.3.2 The importance of feedback

Feedback is an element that is incorporated into the design of guided reflective journals. However, some participants from the experimental group emphasised the need for further mentoring in reflective and metacognitive skills. Also, one third of the participants, writing in the guided reflective journals, identified that they still needed more help, such as instruction from the teacher, feedback on their progress, and guidance on finding useful resources to meet their learning goals. During the interview Student 8 (Experimental Group) emphasised the importance of feedback for her own self-awareness and development of her pronunciation.

Now, to achieve my pronunciation goals, I need the feedback from others. Feedback helps

me to grasp the present condition of my pronunciation.

Another participant in this study requested additional support in the form of a formal summative pronunciation test. Interestingly, this participant had little to no previous pronunciation training and maintained the importance of sounding like a native speaker as one of her goals. The influence of prior learning experiences may have also made it difficult to assess changes in her own pronunciation. For example, this participant commented,

Actually, I didn't realise by myself but others told me that your pronunciation was improved. (Student 8, Experimental Group)

The participants also sought feedback to measure the improvements in their pronunciation over the semester. For example, Student 8 (Experimental Group) found it challenging to identify errors or areas for improvement and provided an enlightening explanation in relation to reflective learning and recording speech.

I don't know clearly whether my English pronunciation has improved or not. If it had improved, the improvement is a little. I think the improvement about pronunciation is difficult to measure. However, to record what I say and compare it with the model speaker have helped me develop my pronunciation, in particular. Ordinarily, I can't grasp objectively what I say. Then, if I record it, I can know what it is like. That is, I can get hold of the strong point and the weak point regard my pronunciation. It means that I can know what I should do to improve the weak point. For these reasons, recording is one of the most advantageous activity to develop my pronunciation.

It was the participants who had actively participated in a club such as public speaking or debating and received feedback on their pronunciation who displayed a good metalinguistic

knowledge and understanding of pronunciation. For example, Student 7 (Experimental Group) commented on the importance of feedback to develop pausing.

In this club I do parliamentary debate and judges said me, sometimes your pause is not enough and it is difficult to understand. So, I realised my mistake and I thought to make some pause each time is important and which I speak English I keep to some pause in order to tell me idea correctly.

Student 2 (Experimental Group) also emphasised the importance of feedback. The following example shows that feedback can come from resources other than the teacher. This student would take the opportunity to speak with his father in English and gain immediate feedback on performance. While this situation is ideal for students aiming to improve pronunciation autonomously, feedback can inform language acquisition at any stage. During the interview, this student showed appreciation of parental interest in language development:

Sometimes, I speak with my father in English. My father is a good speaker and he says me that's not English pronunciation and you have to fix it or something.

Qualitative data arising from the interview and the guided reflective journals confirmed the apparent benefit of recording and listening to their own speech and evaluating in more depth students' attitude toward their own pronunciation. This seemed to provide a valuable source of feedback and impact positively on actively listening to, and identifying core features of pronunciation. For example, Student 8 (Experimental Group) recorded the benefits of this experience:

I think the improvement about pronunciation is difficult to measure. However, to record what I say and compare it with the model speaker have helped me develop my pronunciation in particular. Ordinarily, I can't grasp objectively what I say. Then if I

record it, I can know what it is like... It means I can know what I should do to improve...

For these reasons, recording is one of the most advantageous activity to develop my pronunciation.

To assist in the development of this skill, generally, recording and analysing the voice was considered a positive learning experience; however, without additional ongoing feedback it was difficult for the participants to notice deviant features of their pronunciation. For example, Student 7 (Control Group) commented:

... I recognise my English as various bad point...you show me my good point and I am glad to see that...I hear [my voice] but I don't understand [what is good or not].

4.1.4 Reflective Journal 4

4.1.4.1 Evaluating changes in pronunciation

Data from the questionnaire were also used to identify the participants' opinion with regard to pronunciation. For example, results from the questionnaire at the beginning of the semester showed that while pronunciation is the focus of this study, the participants did not consider pronunciation to be an important factor contributing to communicative success. Question 7 (Which skill is the most important when learning English?) revealed that the participants from both the experimental group and the control group did not consciously consider pronunciation as an important skill when learning EIL. However, in response to Question 12 (I want to improve my pronunciation) both the experimental group and the control group, respectively, agreed or strongly agreed that they did want to improve their pronunciation. On the other hand, responses to Question 6 (Please identify your strongest to weakest skills) sought to identify the strongest and weakest skills in relation to grammar vocabulary and pronunciation. Results showed that the majority of the participants from both groups self-identified that they possess the strongest skills

in the domain of pronunciation, indicating that they considered their pronunciation to be very good at the beginning of the semester (see Figure 8).

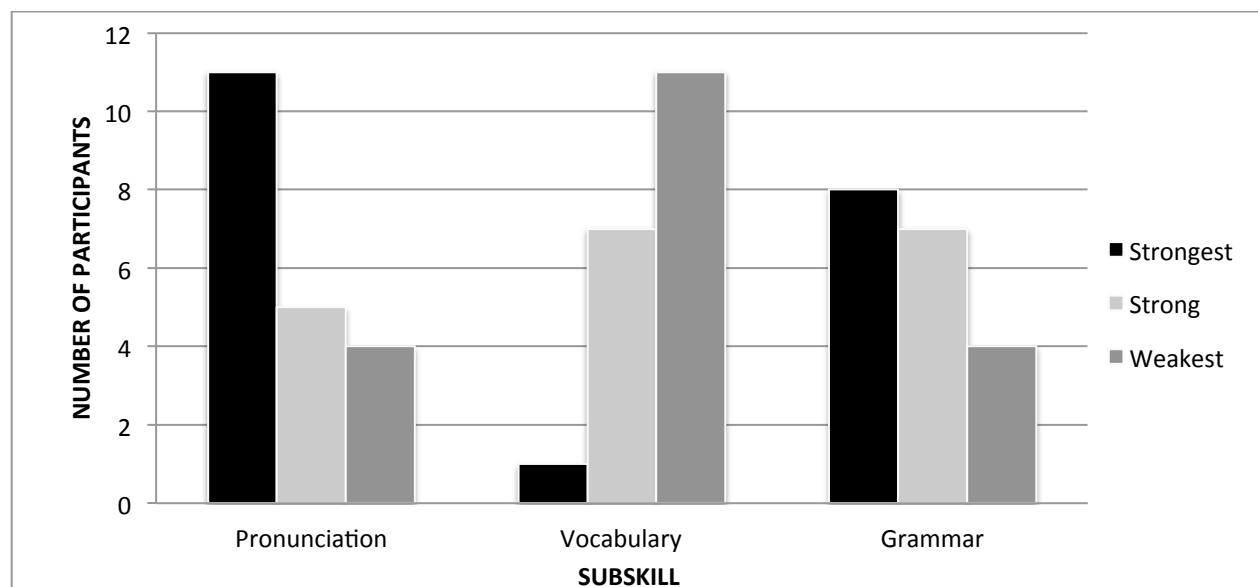


Figure 8. Participants' self-rating of their pronunciation, vocabulary and grammar skills.

Two questions in Reflective Journals 1 and 4, and the Speech Evaluation Sheets 1 and 2, asked the participants to assess their pronunciation and reveal aspects that they like and do not like. While there were some similarities in what students in both classes liked about their English, the experimental group showed greater appreciation for their voice and phonological features of speech production (see Table 20).

Table 20

Features of Pronunciation that Participants Liked about their own Performance

Experimental Group	Control Group
Pronunciation	Pronunciation
Clarity	Clarity
Easy to understand	Easy to understand
Word stress	Word stress
Reading speed	Reading speed
Fluency	
Intonations	
Rhythm	
Pausing	
Slow	
/t/, /v/, /f/	

Note. Data in Table 21 come from Question 1 in Reflective Journals 1 and 4, and Question 1 in Speech Evaluation Sheets 1 and 2.

While the experimental group showed greater appreciation of their pronunciation, they were evidently more critical of themselves, too. They specifically identified elements that they did not like including clarity, loudness of their voice, a tendency to stutter, and (lack of) fluency when reading (see Table 21). The control group, on the other hand, mainly identified areas such as pausing and intonation, and tended to compare their speech with a native speaker of English.

Table 21

Features of Pronunciation that Participants Did Not Like about their own Performance

Experimental Group	Control Group
Pausing	Pausing unnatural
Clarity	Not like a NS
Initial stress not clear	Japanese English
Pronunciation	Not smooth
flat	No inflection
Stutter	/r/
/l/, /r/, /v/, /b/	
Volume	
Vague sounds	
Sentence stress	
Stress	
Reading	

Note. Data in Table 22 come from Question 2 in Reflective Journals 1 and 4, and Question 2 in Speech Evaluation Sheets 1 and 2.

4.2 INTER-RATER RELIABILITY

To increase validity and reliability of results, Krippendorff's α (Hayes & Krippendorff, 2007) and correlational scores were used to establish inter-rater reliability. Inter-rater reliability is the level of concordance or agreement among the raters and reflects the consistency of implementation of the rating system used (Stemler & Tsai, 2008). Using the interpretation of Krippendorff's α where $\alpha = 1$ indicates perfect reliability, $\alpha = 0$ indicates the absence of

reliability, and $\alpha < 0$ when disagreements are systematic and exceed what can be expected by chance (Hayes & Krippendorff, 2007), results show the level of homogeneity or consensus among the raters is $\alpha > 0$ (see Table 22). Raters 1 and 2, and raters 2 and 3 seem to have a greater inter-rater reliability; all ratings remained $\alpha > 0$. This means that either the raters did not agree on the definition of intelligibility, that they may not have used the assigned ratings in the same way, or there were individual differences in perception following moderation (Stemler & Tsai, 2008).

Table 22

Inter-Rater Reliability Scores using Krippendorff's α

	Krippendorff's α
Overall Raters 1, 2, 3	.2558
Overall Raters 1 and 2	.4025
Overall Raters 1 and 3	.0420
Overall Raters 2 and 3	.3105
Pre-test – experimental	.2183
Pre-test – control	.2644
Pre-test – experimental and control	.2409
Post-test – experimental	.3177
Post-test – control	.2226
Post-test – experimental and control	.2585
Experimental – pre-test and post-test	.2728
Control – pre-test and post-test	.2445

Further correlational scores in Tables 23, 24, and 25 show inter-rater reliability between individual raters. In agreement with Krippendorff's α , correlational scores in Table 23 suggest that Rater 1 and Rater 2 had greatest inter-rater reliability. Further results in Table 24 and Table 25 reveal that Rater 1 and Rater 2 were consistently in agreement in both the pre-test and the post-test with a score around 0.4, > 0 . Interestingly, both these raters were native English speakers. Rater 2 and Rater 3 also showed closer evaluation ratings. However, this was greater for the pre-test than the post-test. It is also interesting to note that while Rater 3 was a native Japanese speaker, Rater 2 had spent around four years working in Japan as an EIL teacher at this particular university.

Table 23

Inter-Rater Reliability using Correlational Matrices

	Rater 1	Rater 2	Rater 3
Rater 1	1		
Rater 2	0.4	1	
Rater 3	0.1	0.4	1

Table 24

Correlational Matrices Pre-Test

	Pre-test Rater 1	Pre-test Rater 2	Pre-test Rater 3
Pre-test Rater 1	1		
Pre-test Rater 2	0.4	1	
Pre-test Rater 3	0.1	0.4	1

Table 25

Correlational Matrices Post-Test

	Post-test Rater 1	Post-test Rater 2	Post-test Rater 3
Post-test Rater 1	1		
Post-test Rater 2	0.4	1	
Post-test Rater 3	0.2	0.3	1

4.3 INTELLIGIBILITY OF STUDENTS' PRONUNCIATION**4.3.1 Participant self-evaluation**

The quasi-experimental design embedded in this study asked the participants from the experimental and the control group to engage in a phonological awareness-raising task. This involved recording their speech at the beginning and at the end of the semester, self-assessing their speech, and evaluating intelligibility. This constituted the pre-test and post-test speech sample. The experimental group recorded their results as part of Reflective Journals 1 and 4 (see Appendix H). The control group recorded their results as part of the Speech Evaluation Sheet (see Appendix I) at the beginning and at the end of the semester. Comparing the changes in intelligibility over the semester as a result of using the guided reflective journals with those participants who did not use the guided reflective journals was of particular interest. The students' self-evaluation correlated the raters' evaluation of the speech samples. In particular, the following items were used to evaluate intelligibility and correlate the raters' evaluation of the participants' speech:

- Item 1 (My speech is easy to understand),
- Item 3 (My accent does not interfere with intelligibility),
- Item 5 (I pronounce words clearly),

- Item 6 (I pronounce consonants clearly),
- Item 9 (I need to improve my word stress),
- Item 10 (I need to improve my sentence stress),
- Item 11 (My intonation is varied), and
- Item 12 (My pausing is natural).

Responses from Reflective Journals 1 and 4 revealed identical results for Item 1 (My speech is easy to understand) at the beginning and at the end of the semester, resulting in a mean score of 2.75, where 1 is *strongly disagree* and 5 is *strongly agree*. In addition, the mean score for Item 1 for the control group increased from 2.7 at the beginning of the semester to 3 at the end of the semester. Responses to Item 3 (My accent does not interfere with intelligibility) showed that accent was not considered a contributing factor that hindered intelligibility. At the beginning of the semester, the experimental group mean score was 3 compared to 3.4 at the end of the semester, indicating a positive effect of guided reflective journals. Participants from the control group registered that accent interfered with intelligibility in the beginning of the semester (mean 2.3); however, at the end of the semester, the participants gave a largely neutral response (mean 3.3).

4.3.2 Rater evaluation of students' language output

4.3.2.1 Intelligibility

In addition to the individual self-analysis of the speech samples, three raters analysed the students' language output using the Pre-test post-test Speech Evaluation Sheet (see Appendix J). In the case of Likert items, difference scores were prepared by reversing scores for the five positive directional items (1, 2, 3, 4, 5) in order to obtain an average score in which higher scores equate to increased difficulties. Item 1 determined whether the participant's speech was intelligible. Additional items investigated features likely to hinder intelligible speech production:

- accent—Item 2: The accent is difficult to understand; Question 3: Accent does not interfere with intelligibility
- clarity—Item 5: All words are pronounced clearly
- phonemic features—Item 6: Incorrect phonemes interfere with intelligibility
- insertion—Item 7: Word-final vowel insertion interferes with intelligibility
- insertion—Item 8: Vowel insertion interferes with intelligibility
- prosody—Item 9: Word stress interferes with intelligibility; Item 10: Sentence stress interferes with intelligibility; Item 11: Intonation interferes with intelligibility; Item 12: Pausing interferes with intelligibility.

Figure 9 shows a scatter graph used to determine the correlation between the pre-test and post-test scores for Item 1 (This student's speech is intelligible). For the scatter plots used in this study, the value of the pre-test rating is on the X axis and the value of the post-test rating is on the Y axis. A 45° reference or identity line, where the X coordinate and the Y coordinate are the same, is included in the scatter plot. Unless otherwise stated, dots or points that lie on the identity line indicate that there was no change from the pre-test to the post-test. Points above the identity line show that the participant's speech improved and points below the line show that participant's speech did not improve over the duration of the semester. The X and Y axis use the reference points SD, D, N, A, SA where SD is *strongly disagree*, D is *disagree*, N is *neutral*, A is *agree* and SA is *strongly agree*. The scatter plots include rater evaluations for all participants, totalling 30 ratings for the experimental group (that is, 10 times 3) and 36 ratings for the control group (that is, 12 times 3). Each point represents one participant rating, unless more than one participant has the same rating (as recommended by Utts, 2005). Therefore, numbers next to the dots indicate the total number of ratings allocated to any one coordinate.

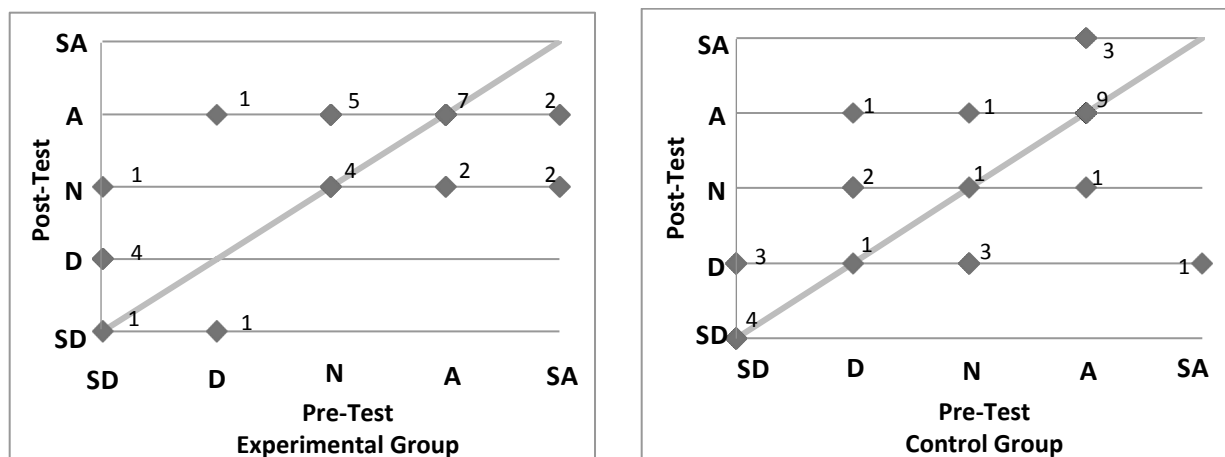


Figure 9. Intelligibility of student's speech. (Speech evaluation Item 1)

Compared to the pre-test, both groups made some improvement. However, participants from the control group received an increase in neutral ratings at the end of the semester. A greater number of responses from the raters also revealed that the experimental group was more intelligible at the end of the semester (Experimental Group, 13; Control Group, 10) (see Figure 9). For example, the raters gave five neutral ratings at the beginning of the semester then agreed that the participant's speech was intelligible at the end of the semester. In addition, where raters disagreed that speech was intelligible at the beginning of the semester, they agreed speech was intelligible at the end of the semester for one rating. Seven ratings showed that participants were intelligible at the beginning and at the end of the semester. That is, there was no change recorded for these experimental group participants over the duration of the semester. In contrast, the control group had nine ratings where no change was recorded and the participants remained intelligible, and four ratings where the raters strongly disagreed that speech was intelligible. Furthermore, five ratings showed that participants worsened. Overall, the results from the scatter plots in Figure 9 suggest that the experimental group improved slightly more than the control group after using the guided reflective journals.

4.3.2.2 Accent

Likert scale difference scores, both per rater and for averaged difference scores, were also addressed separately throughout the analysis process. This was the case when the raters were asked whether they were familiar with the Japanese accent (Item 4: I am familiar with this accent). For example, Rater 1 recorded that intelligibility improved over the semester; however, clarity did not improve greatly. On the other hand, despite strong familiarity with the Japanese accent, Rater 2 recorded that accent interfered with intelligibility at the beginning of the semester, yet interfered considerably less at the end of the semester. A native Japanese speaker, Rater 3, had the highest record that accent interfered with intelligibility at the beginning and at the end of the semester (Item 4), with an overall increase in intelligibility and clarity of speech over the duration of the semester. That is, accent interferes less with intelligibility when the listener is familiar with the accent.

Combined results for all three raters showed an improved mean rating of 3.3 compared to the 2.9 at the beginning of the semester for Item 2 (Accent is difficult to understand) for the experimental group (see Table 26 & 27). While accent interfered with intelligibility of the experimental group participants' speech more than the control group participants' speech, results from the t-test show a *p*-value of .002 indicating that accent improvement significantly for the participants from the control group. The control group also made a significant improvement with regard to clarity (see Table 27).

Table 26

Comparative Difficulty in Understanding Accent (Speech evaluation Item 2)

	Mean Pre-Test	Mean Post-Test	<i>t</i> value	df	<i>p</i> value
Experimental Group	3.3	2.9	1.717	29	.097
Control Group	2.9	2.4	3.298	35	.002

Table 27

Comparative Clarity of Pronunciation (Speech evaluation Item 5)

	Mean Pre-Test	Mean Post-Test	<i>t</i> value	df	<i>p</i> value
Experimental Group	2.5	2.8	-1.430	29	.163
Control Group	2.4	2.9	-3.669	35	.001

4.3.2.3 Vowel insertion

Further descriptive analysis of Item 7 (Word-final vowel insertion interferes with intelligibility) (see Table 28) and Item 8 (Vowel insertion interferes with intelligibility) (see Table 29) show word-final vowel insertion was not an impediment to intelligibility for the majority of participants from either the experimental group or the control group. With an equal mean rating of 1.7 for the pre-test, the post-test scores showed a mean rating of 1.9 and 1.8 for the experimental and control group, respectively. Results from the t-test paired sample statistics reveal an improvement over the semester for the experimental group with regard to word-final vowel insertion.

Table 28

Comparative Intelligibility of Word-Final Vowel Insertion (Speech evaluation Item 7)

	Mean Pre-Test	Mean Post-Test	<i>t</i> value	df	<i>p</i> value
Experimental Group	1.7	1.9	-2.408	29	.023
Control Group	1.7	1.8	-1.094	35	.281

Table 29

Comparative Intelligibility of Vowel Insertion (Speech evaluation Item 8)

	Mean Pre-Test	Mean Post-Test	<i>t</i> value	df	<i>p</i> value
Experimental Group	2	1.7	.551	29	.586
Control Group	1.9	1.4	2.582	35	.014

With regard to the experimental group, vowel insertion and substitutions did not negatively influence intelligibility for Rater 1 or 2 at either the beginning or at the end of the semester. Rater 3 recorded significant improvement in this area for both the experimental group and the control group. One tendency common to the experimental group was the morphological error, or incorrect plural form, where the word *months* was pronounced *month-es*. These learners appeared to overgeneralise the rule of plural formation. Further qualitative results from the raters' evaluation of the speech samples reveal that the pronunciation of new or difficult words such as *cholera* and *malaria* and *refugees* impacted most on intelligibility. The raters noted that these words were not clearly enunciated – many of the words sounded swallowed and at times were rated as unintelligible by all the raters. These words were also noted difficult by the

participants themselves. These examples are demonstrated in the participant speech samples that can be found in the link, <https://sites.google.com/site/learningenglishinc/>.

The scatter plots below suggest that the experimental group improved in this area over the semester, resulting in four participants receiving a *disagree* or *strongly disagree* rating compared to the pre-test (see Figure 10). However, the control group also improved and additional results from the t-test reveal that the control group made significant improvement with a p -value of .014 ($t=2.582$, $df=35$). There were also participants in both groups who became worse over the duration of the semester. Also, while this speech feature diminished for some participants in the experimental group at the end of the semester, Figure 10 shows that for others it remained constant.

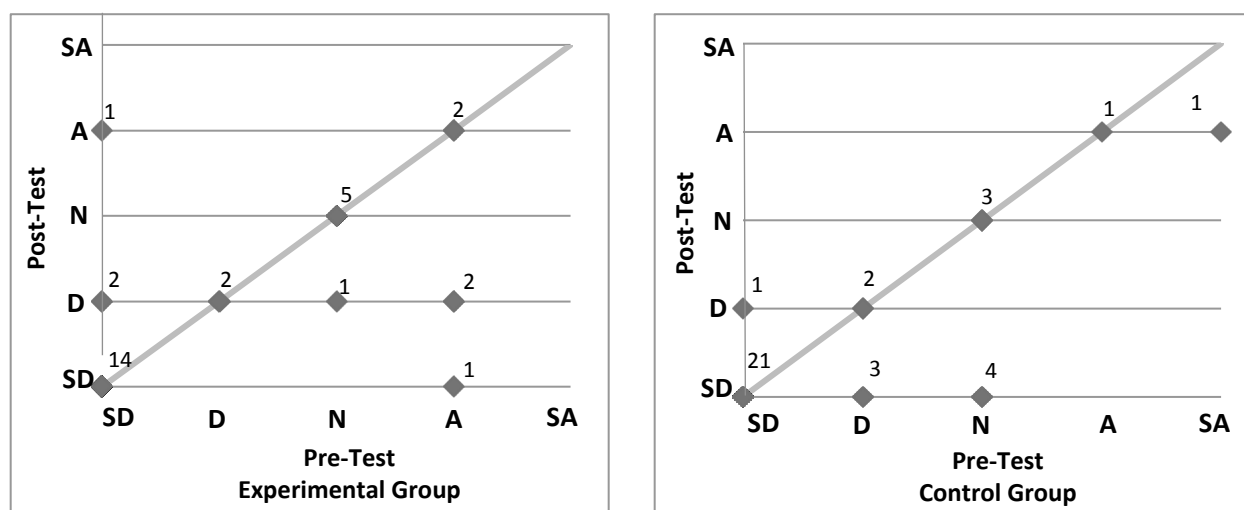


Figure 10. Vowel insertion interference with intelligibility (Speech evaluation Item 8).

4.4 THE EFFECT OF GUIDED REFLECTIVE JOURNALS ON SEGMENTAL FEATURES

4.4.1 Participant self-evaluation

The speech recording evaluations were also used to assess segmental features of the participants' pronunciation. Results in Appendix L and Appendix M compare the erroneous features from the speech samples evaluated by the participants and the raters. In summary, the participants identified six errors compared to the 18 errors identified by the raters from the pre test. Only /j/, /r/, /θ/ and /v/ were consistently identified as interfering with intelligibility by the participants. Two additional errors, /h/ and /w/, were identified by the participants that were not identified by the raters. Of those errors, /w/, /r/ and /θ/ were most commonly identified by both the participants and the raters. From the post-test, the participants identified five of six errors identified by the raters. In other words, the correlation from the pre-test and post-test results improved by approximately 10%. The participants identified 27% of the same errors as the raters, but noticed twice as many /θ/ errors than the raters. The /w/ phoneme was not identified by the participants as interfering with intelligibility. In particular, /l/, /r/ and /θ/ were noted as the most difficult to comprehend. Only difficulties with intelligibility for /g/ and /t/ in the pre-test had disappeared for the participants in the post-test evaluation by the raters.

4.4.2 Rater evaluation of students' phonemic development

According to the raters, the control group showed greater improvement in phonemic development. Table 30 indicates that the total number of phonemic errors for the experimental group at the beginning of the semester was lower (n=91) than the control group (n=104). Interestingly, while both groups improved, the experimental group made less phonological improvements over the semester compared to the control group.

Table 30

Total Phonemic Errors and Improvement

	Phonemic Errors		Improvement
	Pre-Test	Post-Test	
Experimental Group	91	59	32
Control Group	104	64	40

Results from the raters were also collated and analysed using the paired sample t-test, which show the mean number of errors for both groups at the beginning of the semester (experimental group mean 15.4; control group mean 17) compared to the end of the semester (experimental group mean 12.6; control group mean 5.3). According to Table 31, both groups recorded a significant improvement in phonemic development and intelligibility during the semester. It seems that both the experimental group and the control group improved at the same rate.

Table 31

Improvements in Segmental Features

	Mean		t-value	df	p-value
	Pre-Test	Post-Test			
Experimental Group	15.4	12.6	3.184	9	.011
Control Group	17	15.3	3.094	11	.010

Of the phoneme errors noted among the experimental group participants, 32 phonemic changes were evident at the end of the semester with general improvements in the following sounds: /c/, /p/, /s/, /j/, /ɪ:/, /eɪ/, vowels, and final /d/ and /t/. As shown in Figure 11, these phoneme are represented in the column “Other”. Only two of the participants from the experimental group showed intelligibility problems with vowel sounds at the beginning of the semester, and /f/, /l/, /r/, /θ/, /w/ and /v/ remained difficult for the evaluators to decipher at the end of the semester. At the end of the semester, one participant also demonstrated difficulty with the phoneme /f/. While the reflective journal does not seem to have impacted greatly on improving these phonemic errors for the experimental group and is not the only factor contributing to the recorded changes in intelligibility, the participants have reduced other identified errors such as /c/, /p/, /s/, /j/, /ɪ:/, /eɪ/, vowels, and final /d/ and /t/ over the duration of the semester.

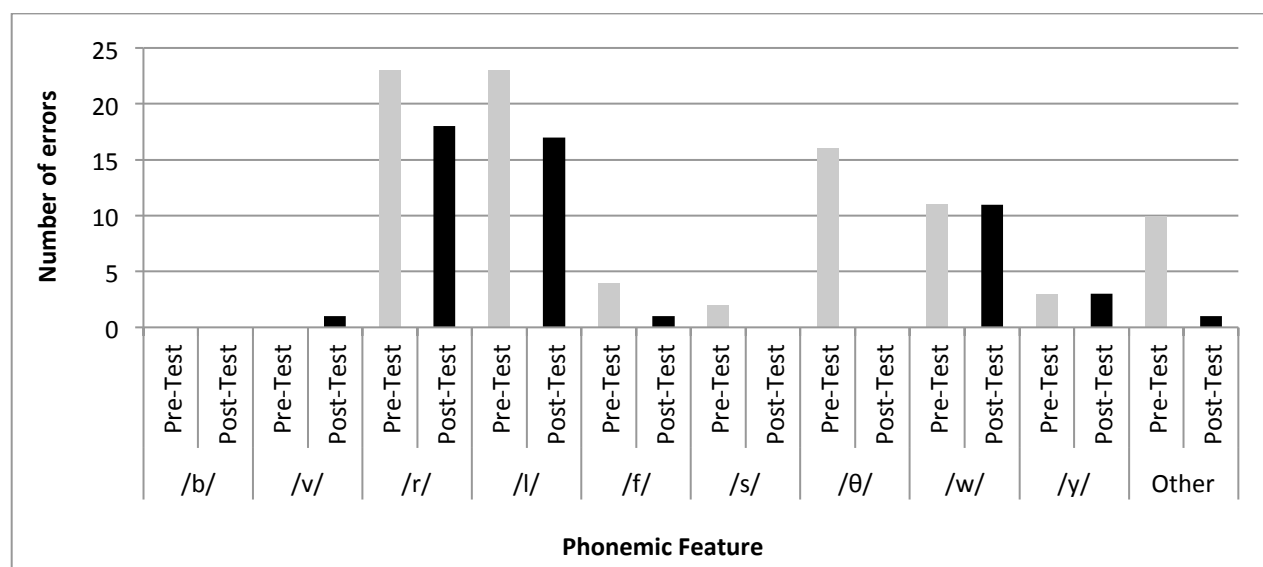


Figure 11. Results for segmental errors (Experimental Group).

In contrast, the control group largely showed difficulty with /l/, /r/, /θ/, /w/ /g/, /t/, /au/, consonant vowel (CV) combination and the five vowels (see Figure 12). Excluding the phoneme /f/, these were the same phonemes that the experimental group had expressed impaired intelligibility with at the end of the semester. In fact, results show that /l/, /r/, /θ/, /w/ were common erroneous phonemes for the participants from both the experimental and the control group at the end of the semester.

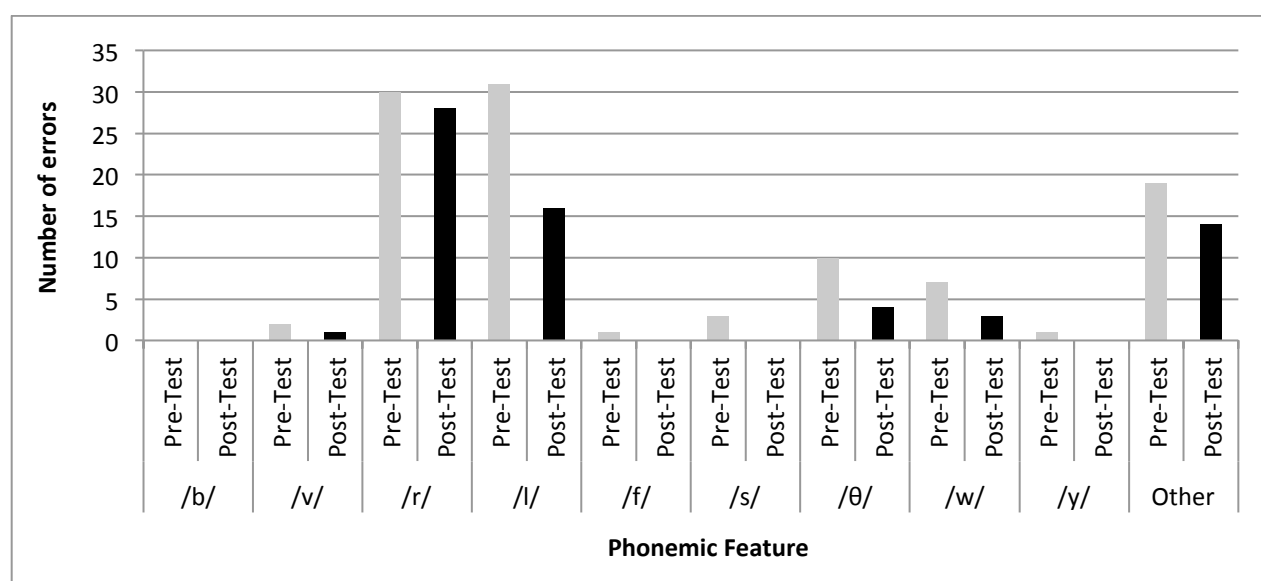


Figure 12. Results for segmental errors (Control Group).

4.4.2.1 Distinction between the alveolar lateral approximant /l/ and the alveolar flap /r/

Considering the type of errors, /l/, /r/ were common to 95% of the participants and none of those students from either the experimental or the control group improved on this error over the semester (see Figures 11 & Figure 12). One participant from the experimental group commented on the difficulties experienced when speaking English during the interview:

...I can read or understand what the professor said but I cannot speak but what I want to say...my pronunciation and my lack of vocabulary... [and] /r/ or /l/ or final vowels...it's far from native speaker. (Student 6, Experimental Group)

Further evidence during the interview from another participant highlighted his lack of opportunity to communicate in English:

I have few chances to communicate in English... I take the English speaking class in university, as many as possible, but in private I cannot use English... I can't speak fluently. The sounds, for example, /r/ or /θ/ sounds I speak consciously, I speak clear. But, I speak is strange, blank time to speak. (Student 5, Experimental Group)

4.4.2.2 The voiceless bilabial fricative /θ/

Around 75% of the participants were identified as having pre- and post-test erroneous /θ/ sound; approximately 90% of these participants were from the experimental group. Although the experimental group made greater general improvement in erroneous phoneme identification, linguistically the participants did not improve over the semester compared to the control group. That is, phonemic errors such as the /θ/ sound made no change. In contrast, only approximately 10% of the control group showed this error in the post-test compared to the pre-test assessment by the raters (see Appendix Q); therefore, the majority of the control group improved in the /θ/ sound.

4.4.2.3 The labio-velar glide /w/

Participants from the experimental group showed improvement in intelligibility by rectifying the /w/ problem. For example, some participants tended to elide the /w/ sound at the beginning of words like /world/ and /we/. Stronger and clearer enunciation rendered these words intelligible for the raters. Also, while the phoneme /w/ was a problem for both groups, 75% of the experimental group improved over the semester compared to only 50% of the participants from

the control group. Half of the control group showed consistent difficulty with this phoneme over the duration of the semester, whereas only 20% of the participants from the experimental group who were identified with intelligibility difficulties showed no change.

4.5 THE EFFECT OF GUIDED REFLECTIVE JOURNALS ON STRESS, INTONATION, AND PAUSING

4.5.1 Student self-evaluation

Stress, intonation, and pausing are important elements of speech production needed for intelligibility. Data were collected from the pre-test post-test data collection instruments in order to evaluate participant speech. Likert scaled statements from Reflective Journals 1 and 4 (see Appendix H), and the Student Self Evaluation Sheet (see Appendix I) were used for analysis to evaluate changes in stress, intonation, and pausing. In particular, results from Item 9 (I need to improve my word stress), Item 10 (I need to improve my sentence stress), Item 11 (My intonation is varied), and Item 12 (My pausing is natural) were used to evaluate the effectiveness of guided reflective journals to improve intelligibility of pronunciation. On each occasion a 5-point scale was used where 1 is *strongly disagree* and 5 is *strongly agree*.

Results from the *t*-test paired sample statistics that analysed pre-test and post-test ratings gained by participant self-assessment did not show any significant differences for the experimental group (see Table 31). That is, the participants from the experimental group self-rated their speech at the beginning and at the end of the semester without noticing great improvement in stress, intonation, and pausing. (However, these results do not correlate with the raters' assessment of the participant speech samples. These results are explained further in the next section.) For example, Table 32 shows that word stress (mean 3.4) and sentence stress (mean 3.5) seemed to interfere more with intelligibility at the beginning of the semester. At the

end of the semester, the participants rated word stress with a mean score of 3.5 indicating no significant change over the duration of the semester.

Table 32

Participant Self-Assessment of Prosodic Features (Items 9-12)

Item	Mean Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
9. I need to improve my word stress	3.4	3.5	5	3
10. I need to improve my sentence stress	3.5	3.9	5	3.7
11. My intonation is varied [natural]	2.4	2.9	3	2
12. My pausing is natural	2.9	2.6	2	2

Combined results for student responses from the control group showed much stronger ratings at the beginning of the semester, including a mean score of 5 (or strongly agree) for Item 9 (I need to improve my word stress) and Item 10 (I need to improve my sentence stress) and a mean score of 3 and 3.7 respectively, at the end of the semester. Other improvements recorded for the experimental group were with regard to intonation and pausing, which received a mean score of 2.4 and 2.9 at the beginning of the semester and 2.9 and 2.6 at the end of the semester, respectively (see Table 32). However, the perception of the control group regarding intonation changed over the semester with a mean score of 2 compared to 3 at the end of the semester. Table 32 confirms that no change was recorded for pausing for the control group.

4.5.2 Rater evaluation of students' speech production

To assess the effectiveness of guided reflective journals used to improve pronunciation, more detailed summary data analyses were conducted using the results from the interviews, reflective journals, and rater evaluations of speech samples from the pre-test and the post-test. In particular, prosodic features of pronunciation were assessed using the Likert-scaled statements in the Rater pre-test post-test Speech Evaluation Sheet (see Appendix J). Corresponding with the participants' self assessment, Item 9 relates to word stress, Item 10 relates to sentence stress, Item 11 relates to intonation, and Item 12 relates to pausing. Both quantitative and qualitative data were used to calculate changes in pronunciation.

Figure 13 shows the mean results relating to the degree interference for Items 9, 10, 11, and 12 as evaluated by all three raters where 1 is equivalent to *strongly disagree* and 5 is *strongly agree*. This figure suggests that the experimental group were rated as having both greatest hindrance in all phonological features assessed and the greatest improvement.

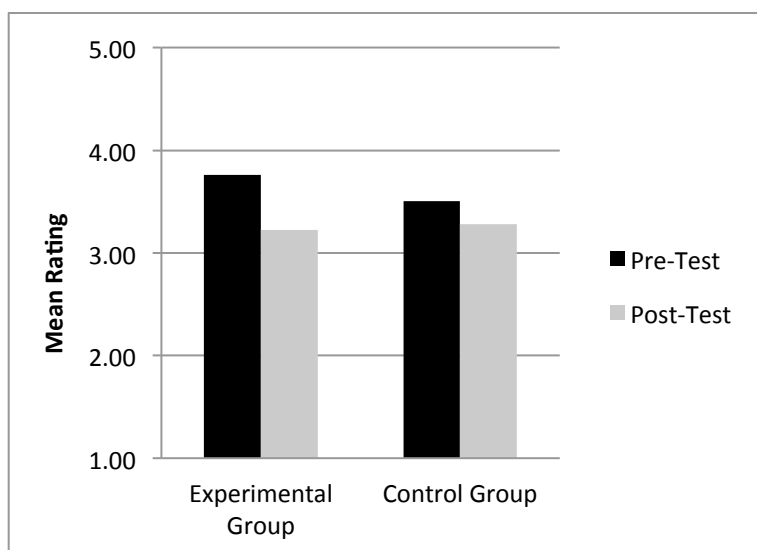


Figure 13. Raters' assessment of prosodic features.

Further analysis of Items 9, 10, 11, and 12 from the rater pre-test post-test speech evaluation sheet confirm that word stress, sentence stress, intonation, and pausing all interfered with intelligibility at the beginning of the semester. Results from the post-test showing the mean ratings indicate that word stress improved the most for the experimental group, followed by sentence stress, intonation, and pausing (see Figure 14).

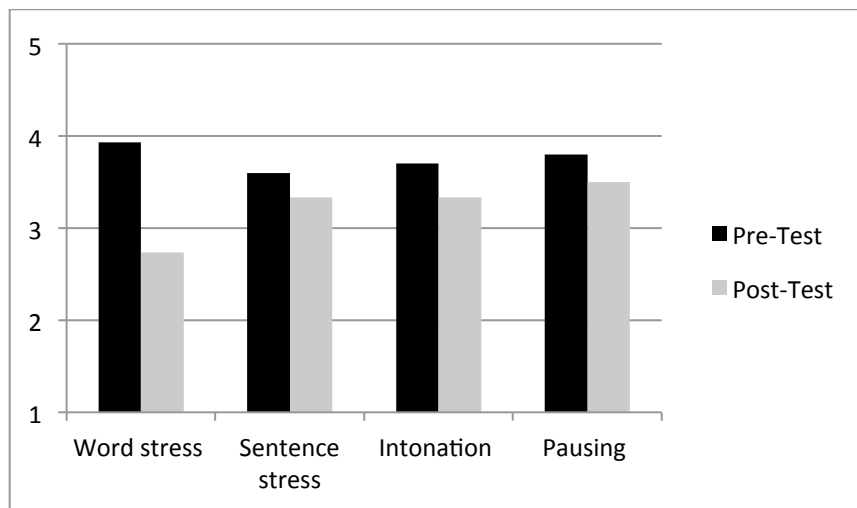


Figure 14. Rater assessment of stress, intonation, and pausing (Experimental Group).

In contrast, the control group showed no change in intonation at the end of the semester (see Figure 15). Results from the paired sample t-test in Table 34 also confirm that the control group showed no statistical improvement ($t=0$, $df=35$, $p=1.000$). While this may not reflect positively on the classroom activities employed, it does suggest that students can improve their pronunciation independently when motivated by focused goal-setting strategies.

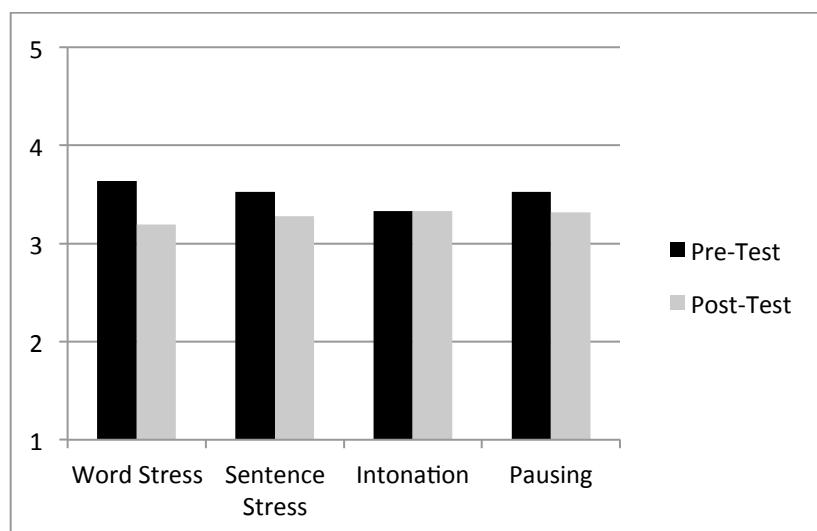


Figure 15. Rater assessment of stress, intonation, and pausing (Control Group).

Table 33

Mean Ratings for Stress, Intonation, and Pausing (Speech Evaluation Items 9-12)

Items 9-12	Mean Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
Word stress interferes with intelligibility	3.9	2.7	3.6	3.1
Sentence stress interferes with intelligibility	3.6	3.3	3.5	3.2
Intonation interferes with intelligibility	3.6	3.3	3.3	3.3
Pausing interferes with intelligibility	3.8	3.5	3.5	3.3

Paired sample t-tests using the individual ratings for the experimental group and the control group from Rater 1, 2, and 3 confirm that the experimental group were assessed as having an initial mean rating of 3.9 and 3.8 for word stress and pausing, respectively, which was higher than the control group with mean ratings of 3.6 and 3.5 (see Table 33). Sentence stress and

intonation were also recorded as impeding intelligibility more than in the control group, with an equal mean rating of 3.6 compared to 3.5 and 3.3 for the control group. End semester, or post-test results show a significant improvement in word stress for both groups, but in particular for the experimental group ($t=5.288$, $df=29$, $p=.000$) (see Table 34).

Table 34

Results for Stress, Intonation, and Pausing (Speech Evaluation Items 9-12)

Prosodic Feature	Experimental Group			Control Group		
	<i>t</i> -value	df	<i>p</i> -value	<i>t</i> -value	df	<i>p</i> -value
Word stress	5.288	29	.000	2.355	35	.024
Sentence stress	1.161	29	.255	1.357	35	.183
Intonation	1.246	29	.223	0.00	35	1.000
Pausing	.902	29	.375	1.022	35	.314

4.5.2.1 Stress

Results from the scatter plot (see Figure 16) show the combined rating for all three raters for both the experimental and the control group in relation to Item 9 (Word stress interferes with intelligibility). In this case, points above the line show that the participant's speech is less intelligible in the post-test and points below the line show that participant's speech improved from the pre-test to the post-test, and is more intelligible with regard to word stress. As aforementioned, points on the identity line indicate that there was no change from the pre-test to the post-test. The scatter plot indicates that only one student was rated worse at the end of the semester by one rater, and the majority of the participants from the experimental group improved

the intelligibility of their pronunciation after using the guided reflective journals (see Figure 16). In comparison, 6 participants were rated lower at the end of the semester in the control group, with 16 ratings identifying speech as the same at the beginning and at the end of the semester (ratings on the identity line) and six ratings identifying a lesser number were more intelligible than the experimental group (ratings above the identity line).

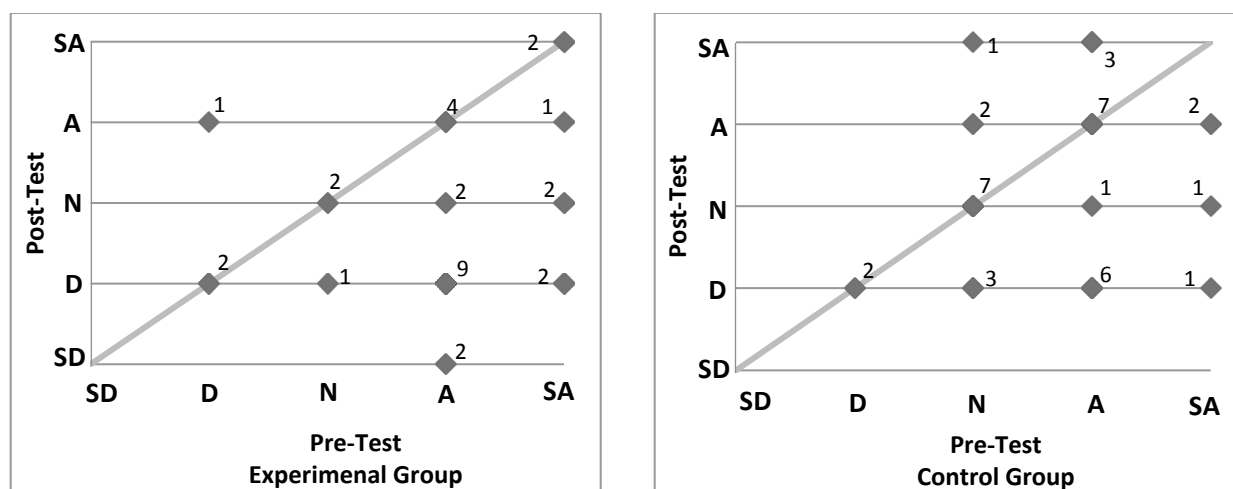


Figure 16. Word stress interferes with intelligibility (Speech Evaluation Item 9).

Further results for sentence stress confirm that both groups had 10 ratings identifying that participants were more intelligible at the end of the semester. In addition, there were 14 ratings on the identity line showing that these participants from the experimental group did not change over the semester compared to 21 ratings for the control group (see Figure 17). Both groups received 6 and 5 ratings above the identity line respectively, which revealed that some participants from both the experimental and the control group became less intelligible at the end of the semester. Results from Table 34 above also show that the p -value for the experimental group (.255, $t=1.161$, $df=29$) and the control group (.183, $t=1.357$, $df=35$) was not significant.

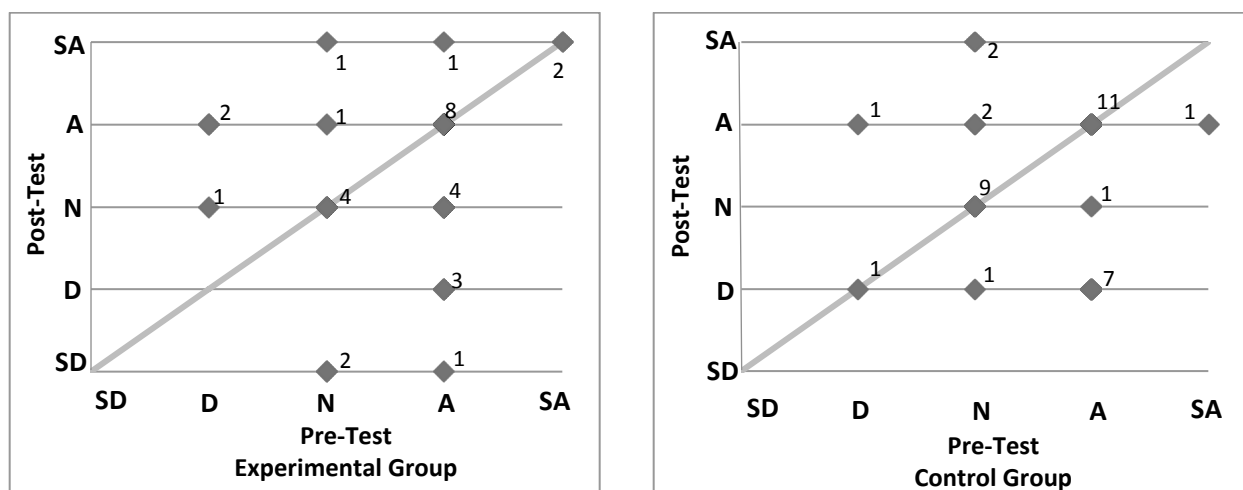


Figure 17. The interference of sentence stress upon intelligibility (Speech evaluation Item 10).

Reflections in the journals showed that a majority of the participants from the experimental group noted that stress was an important feature of pronunciation. For example, Student 5 (Experimental Group) wrote “*The most important feature for me is sentence stress. It’s because I want to express what I say more fluently.*” Recording the participant’s speech and asking them to reflect on their pronunciation seemed beneficial and may have contributed to the significant improvement in intelligibility. For example, Student 8 (Experimental Group) reflected that “*my speech doesn’t contain a stress accent, so it sounds very flatly*”. As a result, this student developed a goal to improve stress and became motivated to improve this prosodic feature.

Through the reflective process, another participant discovered that practice was necessary in order to improve: “*...about sentence stress, I didn’t speak sentence stress so much so that I understand sentence stress. The more frequently I speak English, the more my sentence stress becomes correct*” (Student 1, Experimental Group). Evidence from reflection shows that intrinsic motivation also played a significant role in impacting on improvement. Student 2 (Experimental Group) wrote, “*The stress putting and more emotional speaking, should be*

improved. I want to speak more impressively.” On the other hand, the participants found stress to be one of the most difficult areas to learn autonomously. Student 8 (Experimental Group) explained during the interview, “*Stress, I can’t understand where should stress in a sentence.*” The control group showed similar results. Student 3 (Control Group) stated, “*I just feel I can’t pronounce very well...stress and sound.*”

4.5.2.2 Intonation

Intonation was recorded as having the greatest improvement over the semester for the experimental group. The scatter plots confirm that the majority of the participants received improved intelligibility ratings at the end of the semester resulting in a majority of dots below the identity line (see Figure 17). While Figure 18 shows the same number of ratings above the identity line, the majority of the ratings for the experimental group are equal to 2 or 3 (*disagree* or *neutral*) compared to the control group who received higher ratings equivalent to 4 or 5 (*agree* or *strongly agree* that intonation interferes with intelligibility).

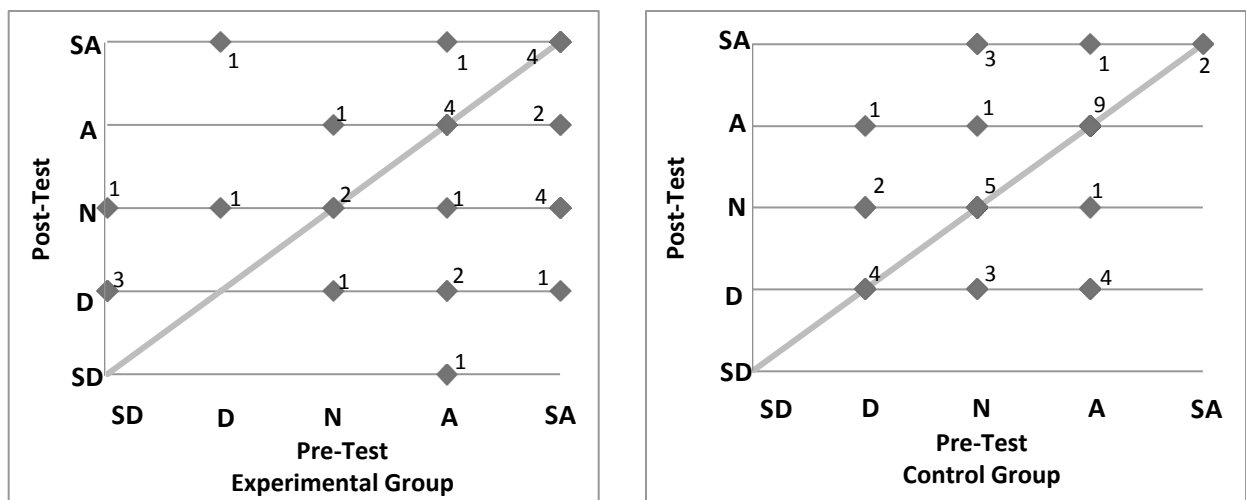


Figure 18. The interference of intonation upon intelligibility (Speech evaluation Item 11).

While the experimental group made greater improvement than the control group, five participants from both the experimental and the control group continued to have problems with the prosodic feature, intonation. Student 7 (Control Group) summarised the challenges of English intonation: *“English intonation is very different from that of a Japanese so, I feel it difficult... English has more up downs... I need to improve more pitch up and down.”*

Further qualitative evidence confirmed that not many participants were motivated to develop pronunciation autonomously at high school, and those who did focused largely on stress and intelligibility. Many participants were unaware of the importance of prosodic features and did not have the metalanguage to discuss these features in detail. Often these features were described using language that the student could understand at the time. Student 4 (Control Group) confirmed this when describing an experience at high school.

Most useful is with native speaker and some one teacher when I was high school student and when I prepare to recitation contest she correct my... ‘One word your pronunciation, this pronunciation is not good. So, please practice’. And she showed me her mouth. ‘Please look at my mouth and do this.’ She showed how to speak, how to pronounce the word. So, it’s very useful, I think. Many things is very useful, I think. When I try to say recitations, phrases and teacher say, ‘When you emphasise the word, you should say it long...like ‘looong’, not ‘long’. A longer sound.’ In Japanese...when we...want to emphasise we say it aloud, ‘taisetsu desu’ [laughs], like that. She said ‘important’ like long thing.

4.5.2.3 Pausing

There was a slight improvement in pausing recorded over the semester for both groups, with greater improvement recorded for the experimental group. Results from the scatter plots (see Figure 19) clearly show that the experimental group received more improved ratings at the end

of the semester. There were a lesser number of ratings on the identity line for the experimental group, showing the same score at the beginning and at the end of the semester.

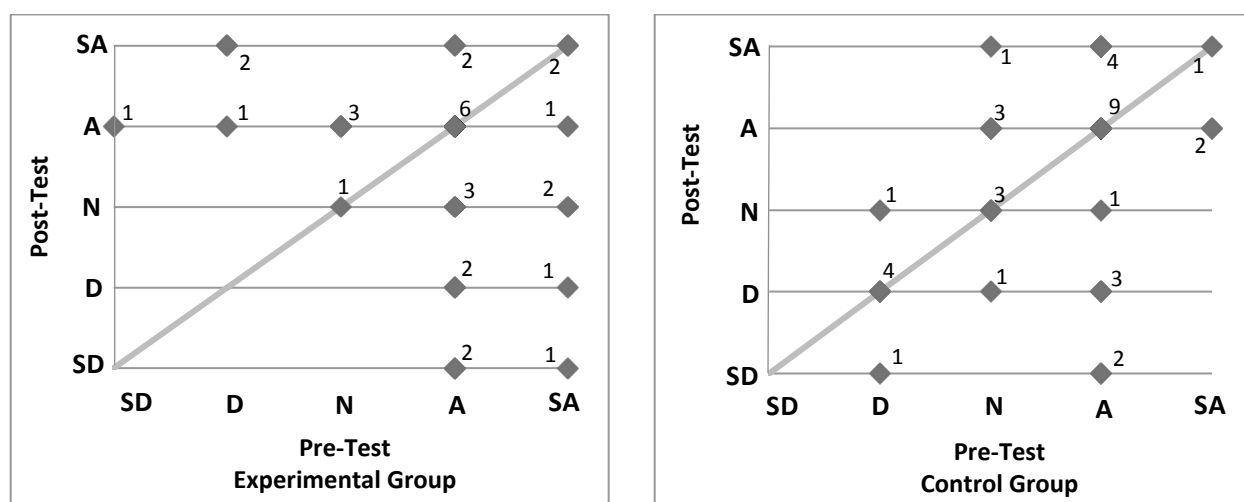


Figure 19. The interference of pausing upon intelligibility (Speech evaluation Item 12).

Rater 1 clearly identified that pausing did not interfere with intelligibility of the majority of the participants at the end of the semester. Additional hand written comments from the raters suggest that the participants from the experimental group overall recorded more natural pausing, “fewer and shorter pauses” (Rater 2 comment). Evidence from the guided reflective journals correlated these results. For example, Student 6 (Experimental Group) wrote about her improvements in the following way:

First, I think pausing is improved. I knew the proper pauses by listening to English news of watching some presentations. Then, I pretended them when I speak English... This thanks to touching a lot of English. For example, I watched the Disney movie “Walle”. Then, I learned when I should pause or where I should stress.

These skills were also enhanced through the speech recording acts. For example, Student 4 (Experimental Group) wrote, *“I had not heard my English by recording before, so it helped me know my English.”*

4.6 OTHER FACTORS INFLUENCING GUIDED REFLECTIVE JOURNALS

Learner resistance also impacted on this study in that only eight of the participants from the experimental group handed in the guided over the duration of the semester. However, 8 of a total of 10 participants handed in both Reflective Journals 1 and 4 and only 4 participants handed in all four completed journals. While the speech recordings were collected and evaluated by the raters, the participant reflective journals allowed for analysis of students' self-evaluation of the pre-test and the post-test. Ten participants from the control group handed in the Speech Evaluation Sheets (SES). These included SES 1 and SES 2 from which 5 participants handed in both SES 1 and SES 2. All the speech recordings for the control group were collected by the researcher and assessed by the raters.

CHAPTER 5 DISCUSSION

This research scaffolded learning using four discrete tasks that incorporated an action learning framework so that learners in the experimental group could use this assessment tool to monitor learning goals, processes, and progress through creative and analytical methods. A mixed methodological approach, which also included an experimental element, was used to evaluate guided reflective journals for improving intelligibility in the speech performance of Japanese students, including stress, intonation, and pausing. The students involved in this study were learning English at a university and the instruction occurred in large classes. While related data can be found in the Appendices, this chapter will present the data using key themes relating to the four guided reflective journals. In particular, the results from quantitative and qualitative data will be analysed in relation to the literature according to headings outlined in the previous chapter:

- Guided reflective journals,
- Participant self-evaluation,
- Inter-rater reliability,
- The effect of guided reflective journals on intelligibility,
- The effect of guided reflective journals on segmental features,
- The effect of guided reflective journals on stress, intonation, and pausing, and
- Learner resistance.

5.1 GUIDED REFLECTIVE JOURNALS

5.1.1 Goal to sound like a native speaker

As a recurring theme, there appeared to be a strongly engraved belief that native-like pronunciation is important for communication and students expressed their desire to be corrected

by NS when communicating with them. While the sample size was small, the results suggest that the NS goal was even more important for the control group participants. This research found that the participants related pronunciation with the need to sound like an American, a Canadian, an English speaker, or another native speaker variety from the Inner Circle. Yano (2008) also states that NNS believe that only NS varieties are worth learning. The educational and cultural impact of the NS goal is deeply ingrained in the mindset of these Japanese students. Prior lack of opportunity to practise and cognitivise oral communication skills for these participants appeared to influence the level of interest in sounding like a NS.

On the other hand, the experimental group believed that sounding intelligible was more important. This present study agrees with Seidlhofer (2001) and Yano (2008) that pronunciation is more than sounding like a NS and learners now need to place more importance on global communicative proficiency. The measure of success is not whether a learner can sound like a NS, but whether or not the speaker can convey the meaning of the message. However, these stated beliefs were not always reflected in practice as results from the guided reflective journals conveyed. The self-directed learning tool of the guided reflective journals, therefore, provided invaluable feedback about participant beliefs, what they are learning, and the depth of their understanding. This information, in turn, provided guidance on ways to improve the curriculum and strategies to enhance student learning and match student/teacher expectations so that the participant could set realistic and achievable goals.

5.1.2 Motivational and attitudinal factors

Motivation is the activation of goal-oriented behaviour. It includes a desire to achieve a goal and the energy to work toward or achieve that goal. Overall, the qualitative results confirm the importance of extrinsic motivating factors for these participants. According to Ryan and Deci

(2000), learners who are intrinsically motivated are genuinely interested in the target language and its associated culture, whereas learners who are extrinsically motivated are more concerned with the practical benefits of learning, such as better job prospects. Both these orientations to motivation give rise to “active, agentic states” (Ryan & Deci, 2000, p. 55). While classic attitudes in research suggest that intrinsic motivation is generally considered to “yield more intensive learning efforts and a better learning outcome” (Huang, 2008), the culture and context of this study, where it is the norm to speak the native language, Japanese, there is limited opportunity to interact with native English speakers unless the participants travel. Also, the saliency of integration in bilingual societies may not be as obvious (Huang, 2008), so teachers cannot rely on intrinsic factors alone to promote learning. Thus, these Japanese participants are oriented more directly to extrinsic factors, which seem to be an essential motivator to improve their English.

Ryan and Deci (2000) state that these external factors can also instigate the capacity for autonomous and self-regulated learning. In the classroom situation described above, the NNS English teacher appeared to be a driving force and a motivating factor. According to Kormos and Csizer (2008), “language learning attitudes of younger students are primarily based on classroom experience and are largely shaped by teachers” (p. 347). However, older learners tend to have clear language learning goals and are less dependent on the teacher and experiences in the classroom. Therefore, one’s attitude affects one’s success in language learning (Kormos & Csizer, 2008). McKenzie (2008) states that learner attitudes toward the target language and its speakers play a central role in determining levels of success for the acquisition of the language. This means that learners need to “...deal with their own stereotypes, prejudices and expectations as well as the linguistic features of the language” (McKenzie, 2008, p. 66). These attitudes and

motivations for learning English impact on the choice of language learning strategies, participation in and outside the classroom, and ultimately language proficiency. It is justified to assume that guided reflective journals might have contributed to increased motivation so that students were prepared to improve their pronunciation independently. However, further research is needed to ascertain the relative impact on motivation when using guided reflective journals and how best to utilise this intervention tool to improve pronunciation.

5.1.3 Language learning strategies

The participants in the experimental group using reflective journals were not given a structured program for what to do at home in order to improve their pronunciation: The guiding idea was that each student has individual strengths and weaknesses and each student should find out which strategies suit them best. This was an inquiry-based approach using an action learning framework in which students were first made aware of their pronunciation problems via a self-analysis and later error analysis and encouraged to search for ways and activities that would improve their speech intelligibility. They were expected to reflect on the strategies they applied and discovered through their reflective diary and the interviews, change them if required, and undertake a post-test by the end of the semester in order to see and measure the effects of their efforts.

The motivation was enhanced due to the guided reflective journals, as well as the goal-setting strategies used to improve the intelligibility of pronunciation, which inspired the greater frequency and range of strategy use of the experimental group in comparison to the control group. Motivation is the best predictor of strategy use (Schmidt & Watanabe, 2001; O'Malley & Chamot, 1990). The guided reflective journals seemed to promote autonomy and motivate these participants to engage in independent study outside the classroom (Peacock, 1999). The results indicated that studying English happens in Japan based on motivation, which is intertwined

within the context of learning and influenced the type and range of learning strategies used by participants. Data from the questionnaire showed that communication was a primary motivating factor to study English. It seems that the motivation for learning English directly impacted on the choice of learning strategies. As a result, the participants expressed the importance of engaging in more communicative acts.

This present study also agrees with Oxford (2008) that the experimental group participants aimed to use language learning strategies appropriate to their needs. Table 18 shows that listening was equally the most popular language learning activity employed by the experimental group throughout the semester. These results demonstrate that the learners preferred largely auditory strategies. Commonly auditory strategies were reinforced by techniques such as shadowing and repetition. Murphey (2001) states that shadowing encourages listeners to regulate the utterance, negotiate meaning, and focus on form as attention is drawn to form-meaning incongruities. Thus, shadowing is shown to develop listening comprehension and has also been shown to positively effect motivation (Hamada, 2012). Although listening and shadowing were commonly used strategies, participants also transcribed the news and mimicked native speakers to improve their own pronunciation autonomously. Often these tasks were applied cognitively using repetition. Data from the guided reflective journals also highlighted the benefit of planning and directing attention to repeat a chunk of language (O'Malley & Chamot, 1990) in order to improve intelligibility. Other language learning strategies increased for the experimental group and were fairly evenly distributed; however, only a few students were recorded as engaging in social affective strategies. These strategies were, however, mainly used to develop intelligibility of pronunciation but were also used, as aforementioned, to reinforce motivational objectives.

In contrast, the control group also increased the type and number of strategies used to improve pronunciation, but not to the same degree as the experimental group. Results derived from the questionnaire from the control group showed vast differences in the number and types of activities that they were motivated to utilize autonomously to improve their English ability. The in-class activities conducted in both classes aimed to develop the skills of self-monitoring and perceptual ability and to increase confidence in order also to improve intelligibility. At the beginning of the semester the control group identified similar language learning strategies to the experimental group.

However, throughout the semester, triangulation of data from the questionnaire, interviews, and reflective journals also showed that learning strategies for the experimental group did not vary greatly regardless of the specified goal to improve pronunciation. That is, most activities replicated learned in-class strategies. This finding replicated results from O'Malley and Chamot (1990) where "strategies appeared in the foreign language study that may have been used as a result of direct instruction by a specific teacher" (p. 127). Participants from the control group from this present study also did not seem to explore a range of other possible and available resources, strategies, or learning preferences outside those with which they were already familiar to achieve their learning goals. These results support Peacock's (1998) findings in that there is a significant disparity between learner and teacher beliefs about the use of language learning activities. That is, the participants selected a number of learning strategies that seemed quite well ingrained; however, these may not be the most beneficial for language learning nor to address specific goals or phonological concerns of the participant. According to Celce-Murcia et al. (2007), it is not confirmed as to which language learning techniques are most effective. Most important is that teachers experiment and get feedback from the learners, as the learners

themselves are the ultimate judges of what they find most useful. Whatever the context or method, it is important for EIL learners to have the chance to reflect on their language learning and language learning strategy use. In conclusion, the university level participants of this study seemed to be naturally and actively engaged to improve their English outside the classroom. However, further data are needed to investigate the influence of knowledge and sensitivity of the background and culture, in addition to prior language learning experiences to further define language learning strategy choices.

5.1.4 Technology

The results in Table 18 show that the participants in this study were motivated to use a range of technological devices to improve their pronunciation. According to Murphy and Hurd (2011), technology provides an interactive source for self-paced learning where students can independently reflect on, monitor and develop language constructively. Like Lockley and Promnitz-Hayashi (2012), this study showed that Japanese students have a positive attitude to technology used for educational purposes. In particular, students from the experimental group used technology as a source of authentic English to direct attention, repeat, shadow, listen, watch, read, sing to and reproduce (see Table 18). Using such strategies in accompaniment with multi-media devices benefits learners by encouraging independent practise, learning and production of discourse length texts to improve prosodic features (Tanner & Landon, 2009). For example, Student 5 (Experimental Group) used her mobile phone to improve listening and pronunciation. According to Sussex (2012), the mobile phone is a potentially powerful language learning tool that “contributes to connectivity, mobility and convenience, together with interactivity” (p. 221). Results from this study, therefore, do not agree with Bennet et al. (2008) who argue that students prefer technology for personal or social use and that these skills may not be transferable to the educational domain.

5.1.5 *Speak!* pronunciation program

Speak!, the software program made available to the participants at this university, was used to improve pronunciation in class. The participants also had independent access to the CALL classroom and the program *Speak!*. *Speak!* is designed to develop not only segmental features but also prosodic features of pronunciation. As one strategy for language acquisition, cognition of pronunciation not only makes students notice and become aware of different sounds and features and repair their own and others errors, but it also “trains our speech organs in new ways in order to produce learned sounds in a foreign language” (Kelly, 2000). The benefits impact on all areas of language learning. This phonological awareness also has an impact on intelligibility, as pronunciation constitutes important features of natural speech (Field, 2005; Fraser, 2006). If learners fail to cognitivise these language skills, the communicative transaction may not be successful. Therefore, additional tools such as *Speak!* can impact on the development of phonological awareness and intelligible enunciation.

Although the *Speak!* technology was only able to provide limited electronic feedback to the learner, the programs incorporate elements, which may be utilised for awareness raising. Couper (2003) states that learners need to raise their consciousness, develop awareness, and learn to monitor their own pronunciation. It seems that technology played some role in assisting the participants to cognitivise the strong and weak points of their pronunciation. Other studies also state phonological benefits of online learning programs, which include automated speech recognition (ASR) software, text to speech software and applications for speech analysis, recognition and synthesis (eg. Hardison, 2005; Spaai & Hermes, 1993; Thomson, 2011). Similar also to Chen (2011), this study showed that during this process of cognition, learners discovered what they can do and what they cannot do as a result of the visual feedback. Therefore, the technology of *Speak!* was not only used to reinforce scaffolded metacognitive strategies, but it

also encouraged students to think about communication in general, before moving on to other paralinguistic features of speech, pronunciation, and critical listening.

This technology is clearly designed with learner autonomy in mind. Students are trained to listen to themselves and encouraged to think more about what makes the message clear, rather than focusing on the precise production of individual sounds. Egan (1999) confirms that technology has shifted its focus on form and individual segments of pronunciation to focus on meaning through communicative acts. Allowing individuals to receive individualised feedback on their pronunciation in a constructivist, self-directed and safe environment may well make them more successful in producing effective communicative features rather than traditional segmental speech recognition packages. As a result, the program was a motivational tool and provided a non-human source of feedback from which the participants could draw information about their pronunciation in written and graphical form in order to make specific improvements. This software was also used in conjunction with in-class assignment work to practice for presentations. There are no claims made in this study that *SpeaK!* improved the participants' pronunciation more so than any other learning strategy. However, this study shows that the program *SpeaK!* may have contributed to improvements in motivation, which encouraged student learning. While there is a growing field of research on ASR software, there is little research about the impact of this software tool *SpeaK!* on the development of pronunciation. A more focused and structured study is needed to ascertain the impact of similar programs on student learning and development of phonological features.

5.1.6 Action learning process

The participants in the experimental group identified a large range of activities and learning strategies that they used to improve their pronunciation and reported on how they changed according to their learning goals and their motivation. As such, the participants were able to

engage in the action learning cyclic process of question, plan, act, reflect, observe, reflect, to make effective and autonomous changes to improve learning (Kemmis & McTaggart, 1988). For example, one participant was able to revise her strategies and establish another plan, which included a greater range of language learning strategies: *“Like shadowing, I should do speaking and listening at the same time”* (Student 5, Experimental Group). Without the integrative nature of the task, the task would be ineffective to improve pronunciation alone. The guiding questions embedded within the guided reflective journals provided the participants with the opportunity to reflect on their learning strategies and adapt these to suit their needs and their learning preferences.

The action learning design of the guided reflective journals allowed change to occur at any time. This process may have sought to challenge old forms and assumptions, allowing the participant to critically reflect on the experience and develop a course of action, act on and implement the plan, observe the results, and either change their action or adopt a new behaviour (Kemmis & McTaggart, 1988). Therefore, the action learning process, which incorporates goal-setting behaviours, may be an effective strategy to focus and motivate learning and promote awareness-raising of particular features of pronunciation and possible intelligibility problems. Some students from the experimental group certainly showed more objective criticism of their pronunciation through the action learning process. While time in class was spent developing the skills relating to the genre of reflective journals, including goal setting, it is clear that the participants may have benefited from further time and activities that aimed to develop these skills. As can also be seen from the results, the reflective journal takes ongoing effort and persistence to action, review, evaluate, and revise language goals. While these results refer to the investigated group only, they may not be repeated in other settings. Also, a larger sample group

using more supportive in-class strategies focusing on phonemes may provide further evidence on the benefits of guided reflective journals as an effective tool to improve the intelligibility of speech of Japanese EIL learners in large classes. However, due to problems of sample size no generalisations can be made. Further research is needed in this area.

5.1.7 The importance of feedback

While there were generally positive responses from the participants regarding the reflective journal tasks. Results also indicated that the teacher is not redundant even though guided reflective journals are classified as an independent learning tool. These data correspond with findings in the interview, too. These results support Vitanova and Miller's (2002) findings that emphasise the importance of teacher feedback and instruction in the classroom to support autonomous learning strategies. In this study, the participants were given written feedback from the raters summarising the key features of their pronunciation based on the evaluation form (see Appendix J). The participants were also provided with the original recording of the text and were asked to listen to both their own speech recording and the original recording. After that, the participants self-analysed their speech using Reflective Journal 1 and Reflective Journal 4 as a guide, at the beginning and at the end of the semester, respectively (see Appendix H). No additional practice in class was given to either group or any one participant. In agreement with Zhang (2006), the participants were forced out of their comfort zone, so that they could attempt to solve linguistic challenges by stretching their inter-language and accessing their own cognitive constructs.

One participant in this study requested additional support in the form of a formal summative pronunciation test. Interestingly, the participant had little to no previous pronunciation training and maintained the importance of sounding like a native speaker as one of

her goals. The additional guidance sought may have resulted from her high expectations, or to achieve the underlying native-speaker goal (Celce-Murcia et al., 2007). Thus, the participants in the experimental group confirmed the importance of feedback in direct relation to the guided reflective journals and autonomous learning.

Therefore, the opportunity for feedback comes not only from the teacher; students, and family, and the community also provide ongoing feedback in response to a communicative act. Guiding learners to experiment with a range of language learning strategies may encourage an increased number of possible sources of feedback needed to improve pronunciation and achieve proposed goals. Changes in pedagogy, interaction with peers and others, hypothesis testing, and feedback are integral parts of the participatory task of guided reflective journals. Consequently, this study supports the work of Havranek (2002), in that learners regard feedback as essential even though they may find it embarrassing to varying degrees: “Learners in content-based and communicative language classes show considerable gains in accuracy if communication tasks are complemented by corrective feedback” (Havranek, 2002, p. 257).

Similar themes echoed in the comments from the control group who also noted the importance of feedback. The participants found self-identifying pronunciation errors difficult. According to Swain (1995), noticing is one of the four functions of output, or production, needed for communicative competence. It could be hypothesised that the goal-setting and action-learning features of the guided reflective journals may provide the incentive to direct motivation into a more productive outcome. For example, initial feedback provided to the participants from the control group was motivating and made them want to improve further; however, further guidance or the action of autonomous learning skills was needed to truly develop self-monitoring abilities.

5.1.8 The role of the teacher

The teacher's role when implementing guided reflective journals is manifold. The teacher needs to orient teaching methods, guide the learning process, assist learners to explore a range of learning opportunities, provide ongoing feedback, and establish opportunities for reflexive learning. The reflexive element of the reflective tasks were crucial to get the students out of the introspective zone of self into an action-oriented zone where they share, review, and continuously adjust their learning goals or strategies. The teacher also needs to ensure that learners are adequately equipped to carry out the task of reflective journal writing. While the nature of these reflective tasks adds to the teaching and learning workload, the outcomes indicate positive results. Further research is needed to identify if implementation of guided reflective journals is possible in non-CALL classrooms.

Although time in class was spent developing skills relating to the genre of reflective journals, it is clear that the participants may have benefited from further time and activities to develop these skills. The participants at this particular university needed also to be acculturated to such a formative style of learning. Despite in-class instruction on these areas many students actually did not present the skills necessary for this goal-setting task. These outcomes underpinned Goh's (1997) and Jing's (2006) findings, namely, that students need ongoing mentoring to develop the necessary skills to learn reflectively and develop linguistic and metacognitive awareness. Most students used the intervention tool of reflective journals as a study aid and as an exercise rather than as a language learning activity. Clearly, the participants in this study needed additional instruction, practice, and in-class support in order to maximise results and more importantly, learning, to independently develop intelligible speech production. Reflective journaling calls for development of specific skills to develop competence and confidence to master and maximise the potential of this genre of writing. Therefore, the teacher

continues to play a useful role in autonomous learning and supports students' incentive to learn language.

5.2 PARTICIPANT SELF-EVALUATION

The opportunity to self-evaluate speech provided the participants with an opportunity to develop self-monitoring skills and closer match participant perception with reality (with the aid of teacher feedback) (Morley, 1991). Data from Table 20 indicate that the experimental group showed greater self-reflection, use of metalanguage to express their opinion, and had more preconceived notions and prejudices about their pronunciation (Horwitz, 1988). These notions and prejudices may be attributed to the difference in year levels of the participants; however, this task also aimed to “sensitize the teacher researcher to the variety of beliefs that the participants hold” (Horwitz, 1988, p. 284) and the possible impact that these have on developing pronunciation and setting pronunciation goals.

While this present research is not a longitudinal study, it is justified to state that the experimental group's improved self-monitoring abilities have impacted on their expectations in relation to their oral accuracy level; this will probably impact positively on their future goal-setting behaviours. Horwitz (1988) confirms that “student beliefs about language learning would seem to have obvious relevance to the understanding of student expectations of, commitment to, success in, and satisfaction with their learning classes” (p. 283). Therefore, directing, reflecting on, challenging, and exploring these beliefs through the use of guided reflective journals may have positively impacted on language acquisition.

By making learners aware of the role of phonological elements in discourse we provide them with a means for decoding and encoding meaning in communicative exchanges and

boundary marking. We also provide learners with information about how culture is articulated through language and how to use language to communicate their goals and achieve communicative outcomes. Therefore, although listeners share the responsibility for effective communication and need to adjust to each other receptively and productively in any interaction, overall linguistic proficiency is equally important. Without intelligibility, any accommodative attempts may be fruitless (Jenkins, 2000). For the participants, the opportunity to record and analyse their own speech was a way to listen to themselves speaking English, perhaps for the first time, and compare their speech to the target language. Tsubota, Dantsuji, and Kawahara (2004) agree that error diagnosis is an important independent learning strategy that directs learners' attention to notice features of their speech. This cognitive process also requires the learner to apply metacognitive analysis and reflective skills to further develop their linguistic ability (Jesry, 2005; Swain, 1995). In addition, this task raised the awareness of the errors that the participants made, and focused their attention on developing stress, intonation, and pausing particularly, in order to improve intelligibility. Further, the analysis of speech allowed the teacher researcher to develop a curriculum that focused on the individual needs of the learners.

As expected, the pronunciation features identified by the participants were not always consistent with the raters' assessment of the speech samples. In fact, the raters found more phonemes that interfered with the intelligibility of speech production than the participants. These results suggest that the participants may not have had much insight into their own pronunciation and could not clearly identify erroneous features. However, the participants clearly explained that they found the task of identifying erroneous features difficult. This may explain the disparity in the self-rating of the speech analysis and the raters' assessment. Also, for many of the participants, this was the first time that they had heard their own voice in English; the

participants may have only been able to notice certain elements of their speech at this stage. Fraser (2000) states that noticing is the first stage of developing new concepts. Swain (1995) also states that noticing is an important catalyst for change and development of linguistic production. Another reason for the disparity between the rater and participant's self evaluation is that the participants and the raters may not have had an equal perception of or exposure to the phonemic concepts under review. Therefore, the mismatch of perception could be due to the degree of experience of the raters compared with the participants; however, it is generally difficult to diagnose one's own errors as a learner (Morely, 1991). This situation also emphasises the importance of providing sufficient examples and ensuring that there is ample opportunity for the participants and the teacher to monitor learning. Not only does this mean matching the teacher's and the students' goals and perception for both learning and teaching (Ellis, 2001; Harmer, 2007), but it also means ensuring that clear instructions have been used and that the participants comprehend the task, particularly participants for whom English is not their mother tongue.

5.3 INTER-RATER RELIABILITY

To maintain consistency, the same three assessors were used to evaluate the speech samples at the beginning and at the end of the semester. Rater 1, or the teacher researcher, was an Australian native speaker; Rater 2 was an American native speaker with considerable experience teaching Japanese native speaker students at this particular university; Rater 3 was a Japanese native speaker with considerable experience teaching homogeneous classes of Japanese native speaker students at this university.

In-depth analysis of the data showed that Rater 3, or the NNS rater, was at times stricter than the NS raters. For example, as aforementioned, this was true in relation to the post-test

assessment of the speech samples when Rater 3 consistently gave lower ratings. Tsurutani (2010) found similar results in her research. However, these data contrast Zielinski's study (2003) who found that non-native listeners rate speakers as more intelligible than native listeners who have had less experience with NNS. This study suggests that Rater 1, who had the least experience with these NNS generally, rated intelligibility higher than Rater 3. Reliability between these two raters was the lowest. In addition, this study agrees with Zielinski (2003) in that "teachers might find their students to be intelligible but this does not necessarily mean that the students are intelligible to a range of listeners outside the classroom" (p. 3). However, Rater 1 as the teacher and researcher did not appear to discriminate significantly in rating participants' speech. Further research is needed on the role of the listener and the interlocutor.

5.4 INTELLIGIBILITY OF STUDENTS' PRONUNCIATION

The participants benefitted from the opportunity to evaluate their own speech. Regarding Item 1 (My speech is easy to understand), the increase in the mean score seems to show that the control group noticed greater improvement in intelligibility of their pronunciation than the experimental group. The fact that the experimental group did not seem to notice any change in intelligibility over the semester may be closely related to the notion of attention to the task (Truscott, 1998). That is, the process of evaluation involved more than just awareness of the task itself. It also involved conscious knowledge of metalanguage and attention to the details of what is to be learnt. While both groups had the same opportunity to develop metalanguage and metalinguistic understanding of the task, the experimental group was independently setting pronunciation goals focusing mostly on these particular areas. The conscious attention to learning may have included more critical evaluation of learning than the control group participants.

Research question 1 investigated the question “Are guided reflective journals an effective intervention strategy to improve intelligibility of students’ pronunciation in large EIL Japanese classes?” Results from the raters from both quantitative and qualitative data show that the participants from the experimental group gained significant improved intelligibility in their pronunciation over the duration of one semester after using guided reflective journals. In fact, quantitative data suggest that the improvement was greater for the experimental group than the control group. Further analysis of data shows that the experimental group improved with regard to all features assessed including accent, clarity, vowel insertion, stress, intonation, pausing, and segmental features; however, accent and vowel insertion did not greatly hinder intelligibility at the beginning of the semester. Results, therefore, suggest that it was segmental features as well as prosodic features that had improved most for the experimental group. It is also evident that the control group also improved. For example, the control group made significant improvements in clarity relating to accent and vowel insertion.

First, data from Item 3 (All words are pronounced clearly) showed means ratings of 2.8 and 2.9 for the experimental and the control group respectively at the end of the semester resulting in improvements for both groups and confirming that accent was not a contributing factor to lack of intelligibility at the end of the semester for either group. In fact, the control group made a significant improvement in this area. With respect to accent and clarity, it cannot be said that the guided reflective journals significantly benefitted these participants. Although improvement was recorded for the participants from the experimental group, these factors did not appear to greatly hinder intelligibility at the beginning of the semester.

Next, results show that some participants in the experimental group reduced the occurrence of vowel insertion and for others it remained constant. In other words, some vocabulary was

repeatedly mispronounced. However, the control group seemed to show significant improvement in this area. For the participants of the experimental group, it seems that the consonant vowel (CV) syllable structure is deeply imprinted in the phonological system of Japanese speakers and the expected native pattern is dominant. One reason for this is that the participants may not have yet noticed the insertion or their own difficulty with speech production at the beginning of the semester, thus not making this feature important to work on. Another reason may have been that the participants may not have listened to the original recording, therefore, pronunciation of unfamiliar vocabulary or sounds were not noticed, practised or focused on. However, research confirms that inaccurate pronunciation of individual sounds is not likely to produce a breakdown in communication (Cenoz & Lecumberri, 1999). Listeners also rely on other linguistic cues, namely prosody, to establish meaning.

Overall, qualitative evidence shows that the participants benefitted greatly from the phonological awareness-raising activity prompted by the pre-test post-test speech recording, even though the participants were not able to clearly identify the same improvements as noted by the raters. However, improvements in phonological features were evident and the participants were able to identify changes in their speech. These results show that the guided reflective journals positively impacted on the experimental group participants. However, further research is needed to confirm whether the results from this study are replicated for a larger sample.

5.5 THE EFFECT OF GUIDED REFLECTIVE JOURNALS ON SEGMENTAL FEATURES

In all, phonological errors remained a predominant factor influencing the intelligibility of the participants for all raters. Phonemes were identified as one factor attributing to reduced interpretability for half of the participants of the experimental group. Data from this present

study support evidence from the literature, which states that Japanese speakers of beginning and intermediate level have most difficulty pronouncing phonemes such as /l/, /r/, /θ/, /w/, /f/, and /s/ (Smith, 1935; Tsujimura, 2007). The overall results show that there were some changes recorded over the duration of the semester and the rate of significant improvement for both groups appears the same. These learners seemed to have progressed naturally. Ellis (1994) explains that formal language instruction can facilitate natural language development, including “increased accuracy and accelerated progress through developmental sequences” (p. 659). Interestingly, these results may have differed if the experimental group had all focused their pronunciation goals on the segmental features rather than on prosody.

5.5.1 Distinction between the alveolar lateral approximant /l/ and the alveolar flap /r/

The results suggest that the reflective journal may be powerful tool for improving intelligibility and motivating students to further practise and improve their pronunciation. It also provides an opportunity for students to address and possibly reduce known difficulties common to one language group practice, such as the distinction between /r/ and /l/ of Japanese speakers. Bradlow, Pisoni, Akahane-Yamada, and Tohkura (1997) states that modification of the /l/, /r/ phoneme production may be acquired at different rates by different learners. However, this also depends on the learner’s perception, cognitivisation, and opportunities for production. Only one participant included the improvement of the /r/ phoneme as one of her reflective journal goals; however, she also had not noticed any positive improvement regarding the pronunciation of the /r/ sound over the semester. This may be explained by not noticing any improvement or not being able to hear the distinction between /l/ and /r/. As aforementioned, noticing is the first stage of developing new concepts (Fraser, 2000). Therefore, this student did not arrive at the stage of cognitivizing sounds and noticing differences in their pronunciation. Bradlow et al. (1997) offers another explanation: In the case of the perception of English /l/ and /r/ by Japanese

speakers, the observed difficulties can be explained “... by the fact that Japanese has no such contrast in its native inventory” (p. 2308). The most similar native Japanese phoneme is /P/, which is described as an alveolar flap. Thus, with respect to the native Japanese phoneme inventory, English /l/ and /r/ are equally categorizable as this Japanese phoneme, and the contrast is, therefore, not supported by the native system in either perception or production. This may further explain the lack of improvement experienced by both the experimental and the control group.

5.5.2 The voiceless bilabial fricative /θ/

The control group made considerable improvement in reducing the erroneous /θ/ sound compared to the experimental group. This improvement may have occurred as the control group had less initial errors; as a result, the control group may have had less linguistic challenges than the experimental group. The experimental group improved in other areas relating more specifically to set goals; therefore, in terms of improvements in the /θ/ phoneme, the experimental group did not make any significant improvement. That is, while there is no evidence that shows what influenced the improvement in the control group, it could be hypothesised that the reflective journal deterred improvement for the experimental group. On the other hand, it could also be argued that after general segmental features including /f/, /s/, /w/ improved; next the experimental group may improve the phonemes such as /l/, /r/ and /θ/ as a natural process of language acquisition. While there is no evidence in the literature that supports these aforementioned theories, further research using guided reflective journals is needed.

5.5.3 The labio-velar glide /w/

The experimental group improved more than the control group by improving the /w/ erroneous sound. It cannot be explained why the participants from the control group did not show greater improvement in the /w/ phoneme considering that improvements were greater than the

experimental group for the /θ/ phoneme. There is no research which identifies greater linguistic possibility to improve in the /θ/ phoneme as opposed to /w/ phoneme. While /v/ also only interfered with intelligibility at the end of the semester, English phonemes /l/, /r/, /θ/ and /w/ were consistently a greater challenge for all Japanese participants from both the experimental and the control groups.

5.6 THE EFFECT OF GUIDED REFLECTIVE JOURNALS ON STRESS, INTONATION, AND PAUSING

Results show that these participants were strongly motivated by external factors such as the incentive of communication. However, these motivational trends do not coincide with individual student progress results. The improvements in stress, intonation, and pausing from the experimental group who used the guided reflective journals, therefore, appear to be attributed to the increase in independent language learning strategies used to improve pronunciation. It could also be hypothesised that the variable impact of the guided reflective journal on intelligibility, in terms of improvements in stress, intonation, and pausing, happened merely by chance and exposure to the general language learning environment. However, as certain prosodic features were targeted and the improvement in these domains has been clearly demonstrated in the intelligibility development of the experimental group, this conjecture is not justified.

The t-tests showed that both groups significantly improved intelligibility of pronunciation. The experimental group showed significant improvement in word stress and intonation. The experimental group also showed a slightly higher mean rating for pausing than the control group. Quantitative results show that the guided reflective journals did not significantly assist in improving sentence stress for these 10 participants. Both groups showed the same improvement in mean value for sentence stress over the semester. The fact that the participants found stress to

be challenging may explain the lower improvement rate for sentence stress. Lower ratings for sentence stress is in line with the findings of Nagamine (2002), who states that students may have difficulty with this prosodic feature as not only may they not be able to fully grasp the meaning of the diagnostic passage, but also they do “not have sufficient knowledge of sentence-stress, and ... they might not have been taught how to stress English sentences adequately” (p. 378). Further in-class tasks and activities may have been needed to support autonomous learning in this case. It seems that Watanabe’s (1988) research remains valid in that

Japanese students, not having been taught how to stress English sentences properly, tend to read or speak English without a proper sense of English rhythm. As a result, they often stress not only almost every content word but also some function words, regardless of the meaning of the sentence. (p. 181)

Rater 1 noticed that participants made a considerably greater effort in their enunciation of particular features at the end of the semester. While the guided reflective journals motivated greater focus on prosodic features, the participants continued to struggle with understanding English intonation. Jenkins (2000) emphasises the importance of teaching intonation in a communicative context at the discourse level as opposed to isolated sentences. Cenoz and Lecumberri (1999) state that errors of intonation can affect intelligibility at the pragmatic level “when the specific context may not help to disambiguate the intended meaning” (p. 4). Nagamine (2002) states that there are similarities between Japanese and English systems. It seems that an intervention strategy such as guided reflective journals may benefit Japanese EIL students in their desire to learn and improve their pronunciation.

The goal-setting element incorporated in the journals provided a focus and motivation for the participants to improve; however, ongoing feedback is an essential component during implementation. These elements, in addition to the reflective element of the guided reflective

journals, seemed to improve intelligibility of pausing. While Nagamine's (2002) study showed inconsistency in pausing of Japanese participants compared with native speakers, this study showed 100% increase in the number of participants who noted intonation and pausing as difficult at the end of the semester but did not mention it at the beginning of the semester. It seems that the efficacy of the guided reflective journals in which participants in the experimental group were more aware of these phonological features is verified by these results. Studies by Hardison (2004) and Pennington and Ellis (2000) have also shown that technology can help L2 learners develop prosodic patterns. With increasing awareness, learners can begin to predict which syllables and words should be stressed, whether intonation should be rising or falling in an utterance, and where pauses should occur. Tanner and Landon (2009) promote this process of perception and prediction of prosodic features, followed by production.

Qualitative results from the interview indicated that the oral presentation that both groups were required to complete as part of the in-class assessment had made a strong impact on the speaking habits of the participants, especially for the control group. The participants were not allowed to read their 5-minute presentation, although note cards were allowed. The control group commented on the high linguistic demand of this task, particularly as 1st-year university students. The demand for a more naturally presented delivery may have had a positive and subsequent effect on improving pronunciation and impacted positively on linguistic transfer, awareness, and attitudinal and motivational variables (cf. Cenoz & Lecumberri, 1999). As aforementioned, results from the guided reflective journals and the interview showed that participants were initially not aware of the role of intonation and pausing. Interestingly, McKenzie (2008) attributes this to how the read aloud strategy is likely to impact on pronunciation in a way that varies from spontaneous speech. Alternatively, the impact of this

strategy was considerably less compared to the cognitive load that may have impacted on speech if no alternative support structures had been provided. That being said, these features, including intonation and pausing, continued to emerge as the main areas of discussion in the interview.

Therefore, results suggest that guided reflective journals are an effective intervention strategy to improve word stress, intonation, and pausing. In fact, significant improvements in stress, intonation, and pausing were noted at the end of the semester by the raters. While the control group also improved, greater improvements were noted for the experimental group. While further research is needed in this area, these results support the research question and are indicative of what might have been expected for a motivated group of students using guided reflective journals and goal-setting strategies to improve learning.

5.7 LEARNER RESISTANCE

Learner resistance is a phenomenon contributing to previous research using reflective journals in EIL (Goh, 1997; Jing, 2006). While it is difficult to assess the reasons why the control group did not hand in both SES 1 and SES 2, the equally low number of participants who handed in all the guided reflective journals may be attributed to a number of factors. For example, this study agrees with literature that reflective journal writing contrasts with traditional forms of assessment and Japanese educational practices and learning culture (Jing, 2006; Tsang, 1999; Willett & Jeannot, 1993). While evidence in this chapter reveals positive individual responses to reflective journal writing, this study argues that the teacher and the learners, including their perception and expectation of language and their ability, are paramount to learner autonomy (Ellis, 2008). In addition, time and opportunity emerged from the guided reflective journals as two distinct reasons to explain the relatively low participation rate during the second semester. It could be

supposed that as this study was conducted in the second semester, the formative task could have been considered too demanding on top of an already demanding subject load for these participants considering that they were mostly familiar with summative assessment tasks; therefore, priorities may have placed elsewhere. One participant from the experimental group confirmed that her original goals were no longer important as “*I had little time to achieve my goal.*”

The comparatively low number of participants who completed all the guided reflective journals may also be attributed to absenteeism; this was true for both groups. Finally, some journals were handed in late and some students did not write their names on their journals. Therefore, not all the journals were collected from all the participants. Due to the staggered turnover rate, some journals were returned before they had been photocopied. This also resulted in a lower number of journals that could be used for qualitative analysis. Research also acknowledges that participants dropout during an experiment and the outcomes are not known for these individuals (Creswell, 2008). This is defined as mortality. It is recommended that future research recruit a larger sample to account for dropouts or compare those who dropout with those who continue, in term of outcome. Future research also needs to consider the aforementioned factors effecting the implementation of guided reflective journals and develop additional strategies so that Japanese learners may become increasingly familiar with this genre used to improve intelligible speaking goals.

CHAPTER 6 CONCLUSION

The aim of this research was to investigate the effectiveness of guided reflective journals as an intervention strategy to improve the intelligibility of the pronunciation of Japanese students who learn English in large EIL classes. A further question guided research into whether guided reflective journals can improve segmental features of students' pronunciation and suprasegmental features of stress, intonation, and pausing. Therefore, to develop intelligibility of pronunciation over the duration of the semester, the participants studying EIL at one particular university in Japan were provided with the opportunity to independently "improve their fluency and comprehension levels in both the segmental and suprasegmental areas of pronunciation as well as learn to self-monitor and self-correct" (Fraser, 2006) through the use of guided reflective journals. A quasi-experimental design using technological tools was used to record speech at the beginning and at the end of the semester as part of a pre-test post-test. All the participants had the opportunity to use the technological tools and other resources to further practise pronunciation over the semester. After comparing changes in speech patterns from the experimental group and the control group at the beginning and the end of the semester, results were correlated and triangulated where possible using qualitative and quantitative data from a questionnaire, reflective journals, and a semi-structured interview to establish the effectiveness of the guided reflective journals.

Overall, the results show that the guided reflective journals had a positive impact on the intelligibility of the speech production of these Japanese participants. This present study indicates that when aided by an effective method that is matched to students' preferred learning strategies, learners are able to address and reduce phonological errors common to intermediate level learners. This is commensurate with the expectations. The experimental group showed

significant improvement in the intelligibility of vowel sounds and consonants, including /w/ and consonant clusters. The experimental group also showed significant improvement in word stress, followed by improvements in intonation and pausing, with less noticeable changes to sentence stress. With regard to each of these prosodic features, the experimental group made significant improvements over the control group. Overall, the guided reflective journals emphasised some of the strengths of all 10 participants in the experimental group. However, these improvements may not be exclusively attributed to the use of guided reflective journals as the control group also made improvements; therefore, it is difficult to make definitive claims in defence of guided reflective journals for only this small case study. Problems in sample size and length of study may have affected the results.

However, the results suggest that guided reflective journals are a powerful tool for reducing phonological errors, improving pronunciation, and motivating students to practise and develop their linguistic skills using a variety of strategies. It was evident from the data that the mere fact of writing reflective journals served to motivate and develop the confidence of the participating students. These two important factors—motivation and confidence building—could be considered useful by-products of the reflective journal. It is not claimed, however, that the results arising from this small case study can be generalised to Japanese EIL learners in other contexts. No two students in this study had the same intelligibility difficulties, and this is also true in reality. However, previous research shows that there are certain skills and features relating to pronunciation that are more difficult to achieve than others (Celce-Murcia et al., 2007). While there is no agreement in the literature as to which skill or feature is more important or has greater influence on intelligibility, the results of this study show that overall intelligibility was most influenced by phonological features. This study further showed that suprasegmental

features in particular improved over the semester as a result of using guided reflective journals. Another positive contribution of the reflective journal to pronunciation was that it provided students with the opportunity to notice their errors and improve pronunciation. The experience of allowing the participants to record and listen to their own voice also contributed greatly not only to a motivating learning experience, but also to an increased level of awareness of their own EIL voice.

The results of the study suggest that guided reflective journals are also useful to students in other ways. For example, the participants learned how to search for new strategies to improve or address their own language acquisition problems: They became inventive and better autonomous learners. They used learning strategies such as shadowing, repetition, and singing to improve their pronunciation. Another positive outcome was that the participants developed initiatives independently and collaboratively—together with the teacher researcher and with their peers—to rectify pronunciation errors. On the whole, guided reflective journals can be considered a good way to motivate learners, promote autonomous learning, utilise intellectual initiatives, develop cognitive awareness of errors, and increase confidence.

While guided reflective journals are an autonomous learning tool used to improve pronunciation, the teacher's role cannot be underestimated. The teacher needs to continue to provide feedback and guide learning so that the students may develop metacognitive skills. Most of the participants in the experimental group had little or no experience of reflective writing. In retrospect, more time was needed to teach these skills explicitly using a range of practice tasks and models. The aspect of goal setting and action learning acted as the basis for learning over the semester. Creating a greater depth of response and understanding of how reflective skills may result in a greater breadth of learning outcomes is essential. The participating Japanese students

were somewhat unfamiliar with this style of learning and they needed training to develop and integrate these skills into their learning repertoire. Also, in order to participate in autonomous learning, learners need to be aware of their own learning styles and resources available to access a range of learning strategies in order to improve pronunciation, to the extent that it takes them beyond imitation and allows them to cognitively pronunciation skills in order to improve intelligibility. Teachers need to consider these factors and the implications of teacher time when implementing guided reflective journals.

These results have some important implications for the improvement of current pedagogy in large EIL classes and directly respond to the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) new Courses of Study standards (MEXT, 2009) for the improvement of intelligible communicative speech. That is, reflective journals can be seen as one intervention strategy to improve intelligibility and address pedagogical concerns relating to using the student-centred approach in large classes. As Savignon (2002) observed, however, implementation of a new pedagogical idea is sensitive to its socio-political context and continuous evaluation of the implementation process of any pedagogy in its local context is necessary in order to identify specific areas of implementation difficulty. From this standpoint, the format of the journal may need to be adapted to further consider the cultural and participation anomalies of the audience in order to maximise output and use. EIL journaling may also further assist in developing a new second-language or foreign-language social and cultural identity and help to break down communicative barriers, but further research is needed into the cultural context to align the task and maximise the learning potential of this intervention tool.

In this study, CALL allowed efficient use of time and resources, including allocation of time during class to develop reflective skills and set realistic pedagogical and linguistic goals.

Evidence from the guided reflective journals showed that technology enhanced the pedagogical and linguistic benefits and was one common strategy employed to practise pronunciation autonomously. There is little research available on the use and value of CALL for developing intelligibility in EIL, but current opportunities and practice point to the importance of using more blended learning pedagogy of this kind in the future: technology which complements written materials and is useful for classroom teachers to address learning needs and promote learner autonomy in pronunciation acquisition. In the case of this present study, technology has been of primary importance for awareness-raising. As Egan (1999) states, technology is an important tool for students to independently notice, monitor, and develop language. Thomson (2011) also agrees that computerized speech systems using waveform digitization and playback, automated speech recognition (ASR) software, text to speech software, and applications for speech analysis, recognition and synthesis, can improve segmental accuracy. While a native speaker or a human interface would obviously be a preferred option, the computer program *Speak!* provided elementary and intermediate practice exercises aimed at developing phonological awareness of pronunciation features including, in particular, stress, intonation, and pausing. Therefore, used within a guided pedagogical framework, technology is an invaluable teaching and learning tool for Japanese EIL learners in large classes. This is also true when used in conjunction with guided reflective journals to develop intelligible pronunciation.

6.1 LIMITATIONS OF THIS STUDY

This study was limited by a number of factors, which may have impeded results. These included, but are not limited to, the length and timing of the study, and the number of participants who completed the various data instruments or who saw the research through to completion. In

particular, the control group showed discrepancy in the number of speech sample evaluation sheets (SES) submitted, and three participants from both groups did not complete the questionnaire. This decline in participation over the semester confined the range of data collected which may have affected the overall reliability of results. This study was also constrained by the researcher's limited timeframe at the Japanese university (this small case study was conducted over one semester) and this necessarily impacted on the chosen methodology. However, in order to compensate for the limited time allowed for this study, the researcher used both qualitative and quantitative data, that is, a multivariate case study, to gain insight into the array of actual or potential users of guided reflective journals. The diverse data collection instruments included converging lines of enquiry and triangulation of evidence (Yin, 1994). The broad taxonomies developed from these data also allowed pattern matching to test multiple-variable, complex causal explanations in one single study.

Had a longitudinal study been possible, it would likely have shown greater consistency of results and provided the opportunity to explore anomalies. To conduct the analysis and account for such complexities as the motivations for L2 learning, demographic variables that impact on changes of intelligible speech, and which phonological features are most likely to affect a particular cohort of students, a longitudinal study of guided reflective journals would have been beneficial. For more reliable results, a greater sample both within a class and across a number of classes is needed to verify the effectiveness of guided reflective journals. Research also could be conducted at a number of different universities in Japan with participants from a range of faculties to determine a more comprehensive result. In addition, this case study was conducted solely with Japanese students; further research is needed to verify if these results also stand true for other EIL students from different linguistic and cultural backgrounds.

6.2 RECOMMENDATIONS FOR FURTHER RESEARCH

Traditionally, reflective journals have been used widely in medicine, psychology, and education. However, as an intervention strategy, reflective journals have received little attention in EIL, and further research is needed in this area. As aforementioned, for this cohort, guided reflective journals were a motivating tool used to improve pronunciation. The participants all agreed that the guided reflective journals were a positive intervention to stimulate learning and encourage learners to focus their learning on pronunciation, set relevant linguistic goals, and discover ways to improve intelligibility. However, the strategy of reflection needs time to be learned (Mills, 2008); the participants from the experimental group concurred that there was a need for additional in-class support and further guidance to locate learning resources. Students need guidance at the university level to become more aware of metalinguistic features and effective language learning strategies. The class teacher initially needs time to work closely with the students so that they receive adequate, relevant, and ongoing feedback on their progress in order to maximise their potential, achieve realistic learning goals, and continue to gain linguistic competence beyond the classroom. This may also mean developing metacognitive awareness; however, in short, it also means matching teacher and learner expectations (Nunan, 1995). The areas of support need to be adequately addressed so that Japanese EIL students in large classes could further benefit from this intervention strategy.

Furthermore, whether in the form of additional resources or recommended reading as part of the unit outline, students also need to have access to an initial database of online and offline materials and be introduced to a variety of methods, strategies, and resources to further pursue their interests and learning. As this research demonstrated, participants required ongoing teacher feedback and teacher support to discover their own learning style so that they could become

effective autonomous learners. Japanese students may also benefit from using a pronunciation textbook in class at university level, or incorporating a more structured syllabus into the teaching program, which focuses on developing core skills.

The teacher also had a crucial role in ensuring that Japanese learners were adequately equipped to undertake the task and to understand fully the requirements and expectations to maximise learning while using guided reflective journals. The positive response generated from the participants in the experimental group suggests that with training and further scaffolding of tasks, reflective journaling may be a welcomed language learning strategy, particularly as a goal-setting tool. Teachers would need to allow time in class to integrate critical reflective skills into students' strategic repertoire so that they could optimally use reflective journals as an intervention and learning tool. In other words, reflective journal writing needs adequate explanation and practice exercises for students who are not familiar with this genre to gain greater depth of reflection and reflexive discussion. Implementing guided reflective journals would, therefore, impact on the teacher's workload. However, improvements not only in reflective journal design but also in implementation could make this intervention strategy more effective in improving the oral output features of EIL Japanese students in large classes.

The concerns outlined above may have been particular to this case study; however, they correspond to prior research (Goh, 1997; Jing, 2006; Vitanova & Miller, 2002). The design needs to suit the cultural context, aims, and goals of the task and the audience. To address these needs, a minimum word limit could be applied to encourage learners to engage in reflection. Considering Bloom's (1956) taxonomy, the guiding reflective questions could be further developed to extend critical analysis, synthesis, and evaluation. Design may be adapted to suit the phonological focus, the teacher, and the type and number of students in a large class, as well.

These factors are a major consideration for teaching using this intervention strategy in large classes.

In conclusion, this study has demonstrated that pronunciation should be treated pedagogically as an integral part of developing communication and discourse in and outside the classroom, rather than in isolation. Guided reflective journals provide a framework that focuses the learners and encourages them to make meaning in communicative situations. The notion of teachability of various components of pronunciation features should be taken into account, along with factors such as motivation. There should also be an enhanced role for listening. The onus is on the teacher, as an educator and mentor, to encourage the student to learn to listen, both to themselves and to other speakers, and to address features of their speech, which may make it difficult for effective communication for mutual understanding. Learners also need to be exposed to varieties of English, particularly local L2 Englishes in which learners are interested, and which they are likely to need for real communication.

Learners also need the opportunity to be trained to use relevant resources so that they can identify the salient metacognitive information necessary to develop intelligible features, and practise these in a communicative and integrated context that promotes a learner-centred environment. Also, the extent to which technology can be exploited as a multi-media resource is enormous; as with all materials, teachers should be judicious in what students are exposed to so that materials enhance pronunciation features and aid the practice and learning of intelligible communication. Computer applications have great potential for independence and self-access situations, particularly in Japan (Lockley & Promnitz-Hayashi, 2012). It is the job of the teacher to be able to evaluate these materials and ensure the learner has made the best selection for his or her level and needs.

Therefore, developing a plethora of intervention strategies empowers both the teacher and the learner, and potentially maximises learning. Guided reflective journals are one possible strategy to improve pronunciation. While further research is needed in the area of reflective journals, this study has provided the first indications that guided reflective journals were beneficial for a specific cohort of Japanese EIL students who had difficulties with pronunciation and who did not receive sufficient opportunities to improve the intelligibility of their English speech because of the size of their university classes.

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APPENDIX A PHONETIC CHART

ɪ READ	ɪ SIT	ʊ BOOK	u: TOO	ɪə HERE	eɪ DAY		
e MEN	ə AMERICA	ɜ: WORD	ɔ: SORT	ʊə TOUR	ɔɪ BOY	əʊ GO	
æ CAT	ʌ BUT	ɑ: PART	ɒ NOT	eə WEAR	aɪ MY	aʊ HOW	
p PIG	b BED	t TIME	d DO	tʃ CHURCH	dʒ JUDGE	k KILO	g GO
f FIVE	v VERY	θ THINK	ð THE	s SIX	z ZOO	ʃ SHORT	ʒ CASUAL
m MILK	n NO	ŋ SING	h HELLO	l LIVE	r READ	w WINDOW	j YES

Adapted from *A Guide to the use of the International Phonetic Alphabet* by International Phonetic Association, 1999. Copyright 1999 by University Press.

APPENDIX B ETHICS APPROVAL

Griffith University Animal Ethics Committee / Griffith University Human Research Ethics Committee

Project Title

The effectiveness of reflective journals as autonomous learning tools to develop intelligible features of pronunciation in large English as an International Language classes.

Applicant

LEAR, Louise Emmaline

Completed the Griffith University Research Ethics Scope Checker on 24 June 2008. In completing the checker they indicated:

1. About or involving humans? Yes
2. Archival research. No
3. Administrative or service delivery. Yes
- 3a) Reported/ published beyond University No
- 3b) Participant identification. No
- 3c) Participants placed at risk. No
- 3d) Sensitive aspects of participants' behaviour. No
4. Quality assurance or audit. No
5. Exercise or test for teaching purposes Yes
- 5a) Participants identifiable No
- 5b) Reported/ published beyond University. No
- 5c) Participants placed at risk. No
- 5d) Sensitive aspects of participants' behaviour No
6. Routine experiment or procedure for teaching purposes. Yes
- 6a) Researcher qualified/ experienced/ licensed. Yes
- 6b) Biosafety clearance. NA
- 6c) Participants identifiable. No
- 6d) Participants placed at risk. No
- 6e) Sensitive aspects of participants' behaviour. No
7. Work/ data collection by student only for teaching/ learning. Yes
- 7a) Published/ presented other than for assessment. No
- 7b) Formal analysis. No
- 7c) Vulnerable participant group. No
- 7d) Participants identifiable. No
- 7e) Participants placed at risk. No
- 7f) Sensitive aspects of participants' behaviour. No

On this basis the described activity is outside the scope of the University's animal ethics and human research ethics arrangements, and as such does not require University ethical review.

This is a service maintained by the Office of Research on behalf of AEC and HREC.

APPENDIX C PILOT STUDY 1

Reflective Journal 1

Task: Think and reflect on what you have learned this semester (300-500 words)

Due Date: Week 10 , Friday 20 June, 2008

Weighting: 10%

Write about the following areas:

1. Identify your language learning goals this semester.
2. Has your English improved so far? Consider, fluency, pronunciation, vocabulary, etc.
3. Ask these questions: What happened? How do I feel about it? What do I think about it?
What did I learn?

Reflective Journal 2

Task: Think and reflect on what you have learned this semester (300-500 words)

Due Date: Week 15, Friday 25 July, 2008

Weighting: 10%

Revisit your language learning goals this semester.

1. Where and when will you use English in the future?
2. What are your goals for using and learning English in the future?
3. How has your English improved this semester?
4. In particular, what tasks, topics and activities helped you to develop your English this semester? Why and how did these help?

APPENDIX D PILOT STUDY 2

The following form was handout out to workshop participants to complete before listening to each speech recording. The presentation was adapted for the participants.

Intelligibility

Definition:

Student 1

1. Is this student intelligible?

1 = not at all 2 = somewhat 3 = generally 4=mostly 5=completely

2. Please explain what hinders intelligibility: _____

3. What strategies would you use to improve intelligibility? _____

Student 2

1. Is this student intelligible? (Please circle one)

1 = not at all 2 = somewhat 3 = generally 4=mostly 5=completely

2. Please explain what hinders intelligibility: _____

3. What strategies would you use to improve intelligibility? _____

APPENDIX E COURSE DESCRIPTION

Experimental Group

Code	Day	Period	Class category	Teacher	Student Affiliation
134317	Fri	4	English (Speaking)	E. Lear	Letters/Economics/Law

Objective of the course:

To develop students' ability to communicate and make logical, critical presentations in English.

Course aims:

This course will develop communicative and public speaking skills needed to give individual and group presentations using visual aids. Students will also be asked to critically evaluate, argue and express their ideas and opinions on current global and social issues.

Textbook:

Peaty, David. You, me and the world. A course in Communicative English for Global Citizenship. Kinsedo.
ISBN:978-4-7647-3689-4

Recommended readings and references:

Materials will be provided

Method of evaluation:

Participation (including preparation and participation in classes) 20%
Reflective Journal 20%
Presentations (2) 60%

Comments (if any):

Students will need to do preliminary reading and preparation for class in order to actively participate in pair and group discussion.

Control Group

Code	Day	Period	Class category	Teacher	Student Affiliation
132228	Tue	2	English (Speaking)	E. Lear	Human Sciences Literature

Objective of the course:

To develop students' ability to communicate and make logical, critical presentations in English.

Course aims:

This course will develop communicative and public speaking skills needed to give individual and group presentations using visual aids. Students will also be asked to critically evaluate, argue and express their ideas and opinions on current global and social issues.

Textbook:

Peaty, David. You, me and the world. *A course in Communicative English for Global Citizenship*. Kinsedo.
ISBN:978-4-7647-3689-4

Recommended readings and references:

Materials will be provided

Method of evaluation:

Participation (including preparation and participation in classes) 20%
Reflective Journal 20%
Presentations (2) 60%

Comments:

Students will need to do preliminary reading and preparation for class in order to actively participate in pair and group discussion.

APPENDIX F LETTER OF CONSENT

English Version

October 2009

Dear Student:

I am currently completing a Doctor of Education at Griffith University in Australia. My project is to research pronunciation using reflective journals. During the semester, you will be asked to participate in the project by answering questions about your language learning experiences. Also, you will be asked to record your voice, evaluate your pronunciation and keep a journal of your learning progress. Most data will be collected during class time or as a homework task, however, you may be asked to participate in an interview outside classroom time. Your participation in this project is voluntary and choosing to participate or not will in no way affect your English grade this semester. All information collected will remain anonymous and not be used for anything other than the purpose of this research project. Thank you for your participation.

Sincerely,

Emmaline Louise Lear

.....
I agree / do not agree to participate in the Doctoral research project this semester.

Name: _____

Student ID: _____

Class (Please circle one): BTC / Speaking II / Elective English / Speaking IV

Japanese Version

研究プロジェクトへのご参加のお願い

GRIFFITH UNIVERSITY
School of Education and Professional Studies
Faculty of Education
Mt Gravatt Campus Queensland Australia

学生各位

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2008年10月

Emmaline Louise Lear

.....

同意書

I agree / do not agree to participate in the Doctoral research project this semester. 博士課程の研究プロジェクトに 参加します 参加しません。

Name 姓・名: _____

Student ID 学籍番号: _____

Class 履修授業 (Please circle one 一つをお選びください):

BTC / Speaking II / Elective English / Speaking IV

APPENDIX G QUESTIONNAIRE

Dear Student,

Please take 15 minutes to answer the following questions.

1. How many years have you been learning English? _____
2. Why do you want to learn English? _____
3. What do you most like about learning English? _____
4. What do you least like about learning English? _____

5. Please identify your strongest to weakest skills (1=strongest, 4=weakest)

Listening	Speaking	Reading	Writing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please identify your strongest to weakest skills (1=strongest, 3=weakest)

Grammar	Vocabulary	Pronunciation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Which skill is the most important when learning English? Please explain.

8. Please indicate the extent you agree or disagree with the following statements.

	SD	D	N	A	SA
1. Studying English is important to me because other people will respect me more if I have a knowledge of a foreign language					
2. Studying English will allow me to communicate with people who speak English as their first language.					
3. Studying English will allow me to communicate with people from many different non-native English speaking countries.					
4. Studying English will allow me to meet and converse with more and varied people.					
5. Studying English will make me a more knowledgeable person.					
6. Studying English will enable me to better understand and appreciate English culture, art and literature.					
7. English will someday be useful for my job.					

8. It is important to sound like a native English language speaker.					
9. I want to speak English with an accent.					
10. It is important that non-native English speakers understand me when I speak English.					
11. It is important that native speakers understand me when I speak English.					
12. I want to improve my pronunciation.					

9. What do you do outside the classroom to improve your pronunciation?

10. What do you do outside the classroom to improve your English language skills?

Thank you for your participation.

APPENDIX H REFLECTIVE JOURNALS

Reflective Journal 1

Reading Passage

I'm a doctor and I'm from England. I work in Rwanda with the World Health Organisation. At first, I planned to only stay 6 months. That was three years ago, and I'm still here. We work very hard because there are so many sick people with cholera and malaria especially. The children suffer most because they don't get enough to eat. But despite all the problems, the refugees give us presents they have made and share their music and culture with us (Peaty, 1997).

Listen to your voice recording. Listen to the original recording. Answer the following questions.

1. What aspects of your pronunciation do you like?
2. What aspects do you not like? Why?
3. Please indicate the extent you agree or disagree with the following 12 statements.

	SD	D	N	A	SA
1. My speech is easy to understand.					
2. I like my accent.					
3. My accent does not interfere with intelligibility.					
4. I would like to change my accent.					
5. I pronounce words clearly.					
6. I pronounce consonants clearly.					
7. I do not have any word-final vowel insertions (Eg; let = let'o')					
8. I do not have any vowel insertions. (Eg; active=a'ku'tiv)					
9. I need to improve my word stress.					
10. I need to improve my sentence stress.					
11. My intonation is varied.					
12. My pausing is natural.					

4. Please identify which of the following phonemes are most difficult to pronounce.

/b/ ☐ /v/ ☐ /r/ ☐ /l/ ☐ /f/ ☐
 /h/ ☐ /s/ ☐ /th/ ☐ /w/ ☐ /y/ ☐

5. Please indicate which of the following are most difficult for you when talking.

Word stress

Sentence Stress

Pausing

Intonation

☐☐☐☐

6. Do you notice anything else about your pronunciation?

7. What parts of your pronunciation do you most want to improve?

8. After listening to your voice recording and the original recording, reflect on your pronunciation and write three pronunciation learning goals for this semester.

Reflective Journal 2

Reflect on your pronunciation goals over the semester and record your progress.

1. Record what you do to achieve your goals.

2. Reflect on the strategies you use. Are they effective or not, why?

Pronunciation Goal	What will I do to achieve this?	What am I doing to achieve this?	Is this effective? Why? Why not?

Reflective Journal 3

Revisit your pronunciation learning goals this semester.

1. Are your goals still important to you?

2. Do you want to add/change/delete any goals? Why/Why not?

3. Has your English pronunciation improved?

4. What tasks, topics and activities helped you develop your pronunciation?

Why and how have these helped?

5. Reflect on what else you need to do now to achieve your pronunciation goals?

Reflective Journal 4

Reading Passage

I'm a doctor and I'm from England. I work in Rwanda with the World Health Organisation. At first, I planned to only stay 6 months. That was three years ago, and I'm still here. We work very hard because there are so many sick people with cholera and malaria especially. The children suffer most because they don't get enough to eat. But despite all the problems, the refugees give us presents they have made and share their music and culture with us (Peaty, 1997).

Listen to your voice recording

1. What aspects of your pronunciation do you like?
2. What aspects do you not like? Why?
3. How has your English pronunciation changed?
4. What tasks, activities, topics helped you develop your pronunciation the most?
5. What tasks, activities, topics helped you develop your pronunciation the least?
6. What is the most important feature that you would like to improve now? Why?
7. Please indicate the extent you agree or disagree with the following 12 statements.

	SD	D	N	A	SA
1. My speech is easy to understand.					
2. I like my accent.					
3. My accent does not interfere with intelligibility.					
4. I would like to change my accent.					
5. I pronounce words clearly.					
6. I pronounce consonants clearly.					
7. I do not have any word-final vowel insertions (Eg; let = let'o')					
8. I do not have any vowel insertions. (Eg; active=a'ku'tiv)					
9. I need to improve my word stress.					
10. I need to improve my sentence stress.					
11. My intonation is varied.					
12. My pausing is natural.					

8. Please identify which of the following phonemes are most difficult to pronounce.

/b/ ☐

/v/ ☐

/r/ ☐

/l/ ☐

/f/ ☐

/h/ ☐ /s/ ☐ /th/ ☐ /w/ ☐ /y/ ☐

9. Please indicate which of the following are most difficult for you when talking.

Word stress Sentence Stress Pausing Intonation

☐ ☐ ☐ ☐

10. Do you notice anything else about your pronunciation?

11. After listening to your voice recording and the original recording, reflect on your pronunciation and write three pronunciation learning goals for the future that you intend to work on.

Thank you for your participation.

APPENDIX I SPEECH EVALUATION SHEET (CONROL GROUP)

Pre Test

Reading Passage

I'm a doctor and I'm from England. I work in Rwanda with the World Health Organisation. At first, I planned to only stay 6 months. That was three years ago, and I'm still here. We work very hard because there are so many sick people with cholera and malaria especially. The children suffer most because they don't get enough to eat. But despite all the problems, the refugees give us presents they have made and share their music and culture with us (Peaty, 1997).

Listen to your voice recording. Listen to the original recording. Answer the following questions.

1. What aspects of your pronunciation do you like?
2. What aspects do you not like? Why?
3. Please indicate the extent you agree or disagree with the following 12 statements.

	SD	D	N	A	SA
1. My speech is easy to understand.					
2. I like my accent.					
3. My accent does not interfere with intelligibility.					
4. I would like to change my accent.					
5. I pronounce words clearly.					
6. I pronounce consonants clearly.					
7. I do not have any word-final vowel insertions (Eg; let = let'o')					
8. I do not have any vowel insertions. (Eg; active=a'ku'tiv)					
9. I need to improve my word stress.					
10. I need to improve my sentence stress.					
11. My intonation is varied.					
12. My pausing is natural.					

4. Please identify which of the following phonemes are most difficult to pronounce.

/b/ ☐ /v/ ☐ /r/ ☐ /l/ ☐ /f/ ☐
 /h/ ☐ /s/ ☐ /th/ ☐ /w/ ☐ /y/ ☐

5. Please indicate which of the following are most difficult for you when talking.

Word stress

Sentence Stress

Pausing

Intonation

☐☐☐☐

6. Do you notice anything else about your pronunciation?

7. What parts of your pronunciation do you most want to improve?

Thank you for your participation.

Post Test

Reading Passage

I'm a doctor and I'm from England. I work in Rwanda with the World Health Organisation. At first, I planned to only stay 6 months. That was three years ago, and I'm still here. We work very hard because there are so many sick people with cholera and malaria especially. The children suffer most because they don't get enough to eat. But despite all the problems, the refugees give us presents they have made and share their music and culture with us (Peaty, 1997).

Listen to your voice recording

1. What aspects of your pronunciation do you like?
2. What aspects do you not like? Why?
3. How has your English pronunciation changed?
4. What tasks, activities, topics helped you develop your pronunciation the most?
5. What tasks, activities, topics helped you develop your pronunciation the least?
6. What is the most important feature that you would like to improve now? Why?
7. Please indicate the extent you agree or disagree with the following 12 statements.

	SD	D	N	A	SA
1. My speech is easy to understand.					
2. I like my accent.					
3. My accent does not interfere with intelligibility.					
4. I would like to change my accent.					
5. I pronounce words clearly.					
6. I pronounce consonants clearly.					
7. I do not have any word-final vowel insertions (Eg; let = let'o')					

8. I do not have any vowel insertions. (Eg; active=a'ku'tiv)					
9. I need to improve my word stress.					
10. I need to improve my sentence stress.					
11. My intonation is varied.					
12. My pausing is natural.					

8. Please identify which of the following phonemes are most difficult to pronounce.

/b/ ☐ /v/ ☐ /r/ ☐ /l/ ☐ /f/ ☐

/h/ ☐ /s/ ☐ /th/ ☐ /w/ ☐ /y/ ☐

9. Please indicate which of the following are most difficult for you when talking.

Word stress Sentence Stress Pausing Intonation

☐ ☐ ☐ ☐

10. Do you notice anything else about your pronunciation?

Thank you for your participation.

APPENDIX J PRE-TEST POST-TEST SPEECH EVALUATION SHEET (RATER)

Student Name: _____ Student ID : _____

1. Please indicate the extent you agree or disagree with the following 12 statements.

	SD	D	N	A	SA
1. This student's speech is intelligible.					
2. The accent is difficult to understand.					
3. Accent does not interfere with intelligibility.					
4. I am familiar with this accent.					
5. All words are pronounced clearly.					
6. Phonemes interfere with intelligibility.					
7. Word-final vowel insertion interferes with intelligibility. (Eg; let = let'o')					
8. Vowel insertion interferes with intelligibility. (Eg; active=a'ku'tiv)					
9. Word stress interferes with intelligibility.					
10. Sentence stress interferes with intelligibility.					
11. Intonation interferes with intelligibility.					
12. Pausing interferes with intelligibility.					

2. Please identify which of the following phonemes interfere most with intelligibility.

/b/ ☐ /v/ ☐ /r/ ☐ /l/ ☐ /f/ ☐
 /h/ ☐ /s/ ☐ /th/ ☐ /w/ ☐ /y/ ☐

3. Any other comments?

Thank you for your participation.

APPENDIX K SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Why do you want to learn English?
2. Do you enjoy learning English?
3. Is English important for your future?
4. What are the greatest difficulties that you have learning English?
5. What do you do to overcome these difficulties?
6. How would you rate your pronunciation?
7. Have you had any pronunciation teaching in the past?
8. If any, have you found this useful? Why/why not?
9. What kind of things do you do to improve your pronunciation?
10. Do you find the reflective journal useful?
11. What do your other teachers do in class to help you improve your pronunciation?
12. What type of activities do you find most useful/least useful? Why?

APPENDIX L PRE-TEST POST-TEST PHONEMIC COMPARISON OF SPEECH

SAMPLES (EXPERIMENTAL GROUP)

Participant	Pre Test		Post Test	
	Student	Raters	Student	Raters
1	/w/, /o/	/w/, /o/, /s/, /a/	/ θ /, /l/	/l/
2		/l/, /r/, / θ /, /c/, /a/, final /t/	/f/	/l/, /r/, / θ /
3	/r/	/l/, /r/, / θ /, /w/, final /d/	/r/	/l/, /r/, / θ /
4		/l/, /r/, /f/, / θ /, /w/	/v/	/l/, /r/, / θ /, /f/, /w/
5	/v/, /w/, / θ /, /h/	/l/, /r/, / θ /, /y/, /u/, /a/, /o/, /ea/, /ee/	/r/, / θ /	/l/, /r/, / θ /, /w/, /v/
8	/v/, /r/	/l/, /r/, /or/, /ea/, /p/	/l/, /r/	/l/, /r/, / θ /
9		/l/, /r/, /f/, / θ /, /y/	/b/, /s/, /v/, / θ /	/l/, /r/, / θ /, /w/
10	/v/, /r/, / θ /	/l/, /r/, / θ /, /w/		/l/, /r/, / θ /
11	/v/, / θ /	/l/, /r/, /f/, / θ /	/v/, / θ /, /f/	/l/, /r/, / θ /

APPENDIX M PRE-TEST POST-TEST PHONEMIC COMPARISON OF SPEECH

SAMPLES (CONTROL GROUP)

Participant	Pre Test		Post Test	
	Student	Raters	Student	Raters
3	/v/, /r/, / θ/	/l/, /r/, / θ /	/l/, /r/	/l/, /r/, / θ /
7		/l/, /r/, /g/, / θ /, /v/, /w/		/l/, /r/, /v/, /w/
12		/l/, /r/, / θ /, /w/, vowels, CV		/l/, /r/, / θ /, /w/
15	/r/	/l/, /r/	/r/	/l/, /r/, / θ /
16		/l/, /r/		/l/, /r/
20	/r/	/l/, /r/	/r/	/l/, /r/
21		/l/, /r/, / θ /, /w/, /au/		/l/, /r/, / θ /, /w/
22		/l/, /r/, /θ /, /w/		/l/, /r/
25	/v/	/l/, /r/, / θ /, /w/	/r/, /w/, / θ /	/l/, /r/
29		/l/, /r/, /t/, / θ /, /w/		/l/, /r/
37	/th/	/l/, /r/, / θ /	/r/, /v/, / θ /	/r/
39	/r/, / θ /	/l/, /r/	/r/, /v/	/l/, /r/

APPENDIX N REFLECTIVE JOURNAL GOALS

Student	Goal 1	Goal 2	Goal 3
1	Improve sentence stress	Pronounce clearly <i>Improve intonation</i>	correct accent
2	Improve /l/	improve /v/ <i>Speak British English / improve intonation</i>	improve /r/ <i>Smooth reading/ improve pausing</i>
3	Improve /r/	Speak fluently <i>Improve word stress</i>	Say what I mean clearly <i>Speak clearly/improve intonation</i>
4	Breathing appropriately <i>Improve sentence stress</i>	Make my English like a native <i>Increase vocabulary</i>	Improve word stress
5	Clear <i>Improve intonation</i>	Natural <i>Improve pausing</i>	Improve word stress
6	Pronounce more clearly <i>Improve intonation</i>	Pause naturally	Improve sentence stress
7	Improve word-final vowel	Pronounce clearly, loudly; “speak faithfully to basis” <i>Improve pausing</i>	Improve stress
8	Pronounce words clearly <i>Improve word stress</i>	Improve sentence stress	Pause naturally
9	Improve intonation	Improve pausing	Improve stress
10	Pronounce words clearly <i>Improve word stress</i>	Convey meaning and thoughts <i>Improve intonation</i>	While reading a sentence, I try to understand what it means <i>Improve pausing</i>

Note. Goals in *italics* indicate goal was revised

APPENDIX O REFLECTIVE JOURNAL RESULTS (EXPERIMENTAL GROUP)

Likert Items

Item	Journal	SD	D	N	A	SA
1. My speech is easy to understand.	1		2	3		
	4		2	3		
2. I like my accent.	1	1	2		2	
	4		3	1	1	
3. My accent does not interfere with intelligibility.	1	1		3	1	
	4			2	2	1
4. I would like to change my accent.	1			2	2	1
	4			1	4	
5. I pronounce words clearly.	1		1	1	3	
	4	1	3	1	3	
6. I pronounce consonants clearly.	1	1	2	1	1	
	4	1	2	2		
7. I do not have any word-final vowel insertions. For example, let = let'o'	1		3	2		
	4	2	1		2	
8. I do not have any vowel insertions. For example, active=a'ku'tiv	1		3	2		
	4			2	2	
9. I need to improve my word stress.	1	1		1	3	
	4			2	3	
10. I need to improve my sentence stress.	1	1		1	3	
	4			1	3	1
11. My intonation is varied.	1	1	1	2		1
	4					
12. My pausing is natural.	1	1		1	3	
	4	1		3	1	
13. Stress, pitch and intonation are used to convey meaning and feeling.	1	1		2		1
	4		1	3		1

Note. Numbers correspond to the number of student responses for each item.

Question	Journal	Participant 1	Participant 2	Participant 3
1.	1			
	4	Pronunciation of /t/	My reading speed	/v/, /f/ sound very good
2.	1			Need to speak more clearly
	4	My pausing is a bit short	My reading is not smooth. I need to consider stress placement.	Sentence stress
3.	1	/w/, /o/		/r/
	4	/θ/, /l/	/f/	/r/
4.	1	Sentence stress		Intonation
	4	Sentence stress, pausing	Sentence stress	Intonation
5.	1	Improve sentence stress Pronounce clearly Develop correct accent	Speak /l/ clearly Speak British English Develop smooth reading	Speak clearly Improve /r/ sound Improve word stress
6.	3	No. I have very little time. I don't speak English often so I don't fully understand SS. The more I speak, the more my SS improves. Need more change to listen to NS. I need to slow down when I practice	Yes I am still not good at the /l/ sound. I am becoming better at reading sentences. I need to record my voice and analyse it.	Yes I cant speak fluently while thinking about my goals
7.	3	Watching BBC and repeat.	Reading has improved	Pronunciation has improved, especially accent and word stress
	4	Pronunciation improved. Sentence stress improved	My pronunciation is a little better. My reading has improved	Seem to have become accustomed to speaking English
8.	3			Class. The opportunity to speak English and consider my pronunciation. Listen to podcasts
	4	Listening to music Watching TV programs	Listening to my voice recording	Listening and singing
9.	4	Sentence stress, pausing	Stress. I want to speak more impressively and be more emotional.	/r/ sound

Question	Journal	Participant 4	Participant 5	Participant 6
1.	1			Speaking speed. I don't speak fast so it is easy to hear what I say
	4		Pronunciation is clearer than before	My rhythm of speech
2.	1			I have a quiet voice
	4	My pronunciation at the beginning and end of words is weak	On my voice recording, some words are unclear. The meaning of the words is also unclear.	/l/ and /r/ sound vague
3.	1	/v/, /w/, /θ/, /h/		/v/, /r/
	4	/v/	/r/, /θ/	/l/, /r/
4.	1	Intonation		Sentence stress
	4		Intonation	Sentence stress
5.	1	Breathing appropriately Make my English like a native speaker Improve my word stress	Speak clearly Speak naturally Improve my word stress	Improve my final word vowels. Speak clearly and loudly. Use appropriate sentence stress and pausing
6.	3	Yes Also, to increase my vocabulary. Speaking fluently needs vocabulary.	Yes	Yes
7.	3	Listening has improved. Pronunciation not fully. I need to speak more and shadow.	I am not conscious of any change. I need more practice, make English speaking friends, use software.	My pausing and sentence stress have improved
	4	Pronunciation has improved.	My pronunciation is clearer.	My pausing has improved. My pronunciation has not improved enough. I am not sure if my sentence stress has improved.
8.	3	Listening to NS	'Speak!' software program. I realize clearly my good and bad points. I also watch videos.	Listening to English news. Watching presentations and movies. For example, children's movies are easy to understand.
	4	Listening to English news		
9.	4	Sentence stress	Sentence stress because I want to express what I say more fluently	Final vowels

Question	Journal	Participant 7	Participant 8	Participant 9
1.	1		Word stress. Also, I speak slowly and it is easy to understand	
	4	My pausing		Intonation
2.	1		Sentence stress. My pronunciation is unclear. It is flat. I am apt to stutter	
	4	Pronunciation of some words is unclear. I cannot identify /v/ and /b/		Pausing, long and short
3.	1		/v/, /θ/, /r/	/v/, /θ/
	4	/b/, /s/, /v/, /θ/		/v/, /θ/, /f/
4.	1	Sentence stress, pausing	Word stress	
	4		Word stress, pausing	
5.	1	Pronounce words clearly Improve my sentence stress Pause naturally	Improve my intonation Improve my pausing Improve my stress	
6.	3	Yes I want to add one more goal: to pronounce consonants clearly	Yes	
7.	3	Only a little	A little	
	4		My intonation has improved a little	
8.	3	Recording my voice and comparing it with a NS. Listen to English radio. Shadowing. Feedback.	Dictation from TOEIC Listening tests	
	4		Presentations	
9.	4		Pausing. I don't know how long to pause.	

APPENDIX P SPEECH EVALUATION SHEET RESULTS (CONTROL GROUP)

Likert Items

Question	SES	SD	D	N	A	SA
1. My speech is easy to understand.	1		1		3	
	2		3		3	
2. I like my accent.	1	1	2		1	
	2		2	2	2	
3. My accent does not interfere with intelligibility.	1		1	3		
	2			3	1	
4. I would like to change my accent.	1		2			3
	2			2	2	
5. I pronounce words clearly.	1		1	1	1	1
	2		1	2	1	
6. I pronounce consonants clearly.	1	1		1		1
	2		1	2	1	
7. I do not have any word-final vowel insertions. For example, let = let'o'	1		2	1	1	
	2		1	2	1	
8. I do not have any vowel insertions. For example, active=a'ku'tiv	1		2	2		
	2		2	2		
9. I need to improve my word stress.	1					4
	2		1	1	4	
10. I need to improve my sentence stress.	1					4
	2			1	2	1
11. My intonation is varied.	1		2	2		
	2	1	1	2		
12. My pausing is natural.	1	2	2			
	2		2	2		
13. Stress, pitch and intonation are used to convey meaning and feeling.	1	2	2			1
	2		1	2		1

Note. Numbers correspond to the number of student responses for each item.

Question	SES	Participant 1	Participant 2	Participant 3
1.	1	Each word is spoken apart. It is easy to understand		Reading speed
	2	It is easy to understand	Pronunciation	
2.	1	I speak very slowly. Each word is not pronounced smoothly.		Clarity
	2	It lacks inflection.	Pronunciation of /r/. I would like to speak more clearly.	
3.	1	/v/, /r/, /θ/	/r/	/r/
	2	/l/, /r/	/r/	/r/
4.	1	pausing	Sentence stress	Intonation
	2	Intonation	Pausing	Intonation
5.	1	Pronounce English smoothly	Sentence stress, clarity, natural	/r/, fluency, clarity
	2	Speak more expressively. Speak fluently in casual conversations.	My pausing and to make my speech more expressive.	
6.	2	My pronunciation has changed. I speak at a faster tempo.	It is more fluent	
7.	2	Practice speaking scripts for presentations	The computer software program 'SpeaK!'	

Question	SES	Participant 7	Participant 9	Participant 10
1.	1	Reading speed	Pronunciation of words is easy to understand	I think there seems to be efforts at speaking fluently.
	2	Word stress	Easy to understand.	I can speak correctly when I meet words I've known.
2.	1	Pronunciation. Not native English	Pausing is not natural. Japanese-English pronunciation	I spoke too fast. There was few pause. I seomtimes made mistakes of accents. I think this come from my poor vocabulary.
	2	Accent. Not native speaker English	Pausing is not natural because the position of pausing is inappropriate.	My speech has little intonation, so I dislike.
3.	1	/v/	/θ/	/r/, /θ/
	2	/r/, /w/, /θ/	/r/, /v/, /θ/	/r/, /v/
4.	1	Sentence stress	Pausing	Sentence stress, word stress, pausing, intonation.
	2	Pausing	Pausing	Sentence stress, pausing, intonation
5.	1			
	2	Sentence stress	My pausing and to make my speech more expressive.	Sentence stress. I want to speak emotionally.
6.	2	Word stress has improved	My pronunciation has become a little clearer.	Word stress has improved
7.	2	I try to speak more emotionally	Recording my voice on the computer.	Shadowing CD's, preparation for TOEIC or TOEFL

APPENDIX Q SPEECH EVALUATION RESULTS (RATER)

Experimental Group

STUDENT 1		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			√						√	
	2		√								√
	3				√					√	
2. The accent is difficult to understand.	1		√						√		
	2				√			√			
	3			√				√			
3. Accent does not interfere with intelligibility.	1				√					√	
	2		√							√	
	3			√						√	
4. I am familiar with this accent.	1		√							√	
	2				√						√
	3		√					√			
5. All words are pronounced clearly.	1		√							√	
	2	√								√	
	3			√							√
6. Phonemes interfere with intelligibility.	1				√		√				
	2				√				√		
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
9. Word stress interferes with intelligibility.	1			√				√			
	2					√		√			
	3					√			√		
10. Sentence stress interferes with intelligibility.	1		√							√	
	2			√			√				
	3				√				√		
11. Intonation interferes with intelligibility.	1	√								√	
	2				√			√			
	3			√					√		
12. Pausing interferes with intelligibility.	1			√						√	
	2				√		√				
	3				√				√		

STUDENT 2		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1					√				√	
	2				√						√
	3		√							√	
2. The accent is difficult to understand.	1	√						√			
	2				√			√			
	3				√			√			
3. Accent does not interfere with intelligibility.	1					√				√	
	2		√							√	
	3		√							√	
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3				√				√		
5. All words are pronounced clearly.	1				√					√	
	2		√						√		
	3			√							
6. Phonemes interfere with intelligibility.	1	√						√			
	2				√			√			
	3				√				√		
7. Word-final vowel insertion interferes with intelligibility.	1	√						√			
	2	√					√				
	3		√						√		
8. Vowel insertion interferes with intelligibility.	1			√			√				
	2	√						√			
	3		√					√			
9. Word stress interferes with intelligibility.	1				√			√			
	2				√			√			
	3				√			√			
10. Sentence stress interferes with intelligibility.	1		√					√			
	2			√					√		
	3				√			√			
11. Intonation interferes with intelligibility.	1	√						√			
	2					√			√		
	3				√			√			
12. Pausing interferes with intelligibility.	1			√						√	
	2					√	√				
	3					√		√			

STUDENT 3		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			√					√		
	2		√							√	
	3			√						√	
2. The accent is difficult to understand.	1			√					√		
	2				√				√		
	3			√					√		
3. Accent does not interfere with intelligibility.	1			√					√		
	2		√					√			
	3			√					√		
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3				√					√	
5. All words are pronounced clearly.	1			√					√		
	2	√						√			
	3			√				√			
6. Phonemes interfere with intelligibility.	1	√							√		
	2				√					√	
	3				√					√	
7. Word-final vowel insertion interferes with intelligibility.	1		√					√			
	2	√					√				
	3			√					√		
8. Vowel insertion interferes with intelligibility.	1				√		√				
	2				√			√			
	3			√					√		
9. Word stress interferes with intelligibility.	1				√				√		
	2				√			√			
	3				√					√	
10. Sentence stress interferes with intelligibility.	1			√							√
	2				√					√	
	3			√					√		
11. Intonation interferes with intelligibility.	1		√								√
	2				√					√	
	3				√				√		
12. Pausing interferes with intelligibility.	1		√								√
	2				√					√	
	3				√				√		

STUDENT 4		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			√					√		
	2		√						√		
	3	√						√			
2. The accent is difficult to understand.	1			√						√	
	2				√					√	
	3					√			√		
3. Accent does not interfere with intelligibility.	1		√					√			
	2		√					√			
	3	√						√			
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1		√						√		
	2	√						√			
	3	√						√			
6. Phonemes interfere with intelligibility.	1			√					√		
	2				√					√	
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3				√					√	
9. Word stress interferes with intelligibility.	1		√							√	
	2				√		√				
	3			√					√		
10. Sentence stress interferes with intelligibility.	1			√						√	
	2			√			√				
	3			√					√		
11. Intonation interferes with intelligibility.	1			√					√		
	2					√			√		
	3					√			√		
12. Pausing interferes with intelligibility.	1		√								√
	2				√		√				
	3				√				√		

STUDENT 5		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2		√							√	
	3	√						√			
2. The accent is difficult to understand.	1		√					√			
	2				√					√	
	3					√					√
3. Accent does not interfere with intelligibility.	1				√					√	
	2		√					√			
	3	√					√				
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3			√					√		
5. All words are pronounced clearly.	1			√				√			
	2		√					√			
	3	√					√				
6. Phonemes interfere with intelligibility.	1			√						√	
	2				√				√		
	3					√			√		
7. Word-final vowel insertion interferes with intelligibility.	1		√					√			
	2	√					√				
	3		√					√			
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√						√			
	3		√					√			
9. Word stress interferes with intelligibility.	1				√				√		
	2				√			√			
	3		√					√			
10. Sentence stress interferes with intelligibility.	1			√					√		
	2				√					√	
	3				√				√		
11. Intonation interferes with intelligibility.	1	√							√		
	2				√					√	
	3					√				√	
12. Pausing interferes with intelligibility.	1	√								√	
	2				√					√	
	3					√			√		

STUDENT 6		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1					√			√		
	2				√					√	
	3		√					√			
2. The accent is difficult to understand.	1	√							√		
	2				√				√		
	3				√					√	
3. Accent does not interfere with intelligibility.	1				√					√	
	2		√					√			
	3		√					√			
4. I am familiar with this accent.	1			√						√	
	2					√				√	
	3					√					√
5. All words are pronounced clearly.	1				√					√	
	2		√					√			
	3		√					√			
6. Phonemes interfere with intelligibility.	1			√				√			
	2				√				√		
	3				√					√	
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√					√			
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3			√					√		
9. Word stress interferes with intelligibility.	1				√				√		
	2				√			√			
	3				√					√	
10. Sentence stress interferes with intelligibility.	1				√				√		
	2		√							√	
	3				√					√	
11. Intonation interferes with intelligibility.	1			√						√	
	2				√					√	
	3					√					√
12. Pausing interferes with intelligibility.	1				√					√	
	2		√							√	
	3				√					√	

STUDENT 7		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√					√	
	3	√					√				
2. The accent is difficult to understand.	1		√					√			
	2		√						√		
	3				√					√	
3. Accent does not interfere with intelligibility.	1			√						√	
	2				√			√			
	3	√					√				
4. I am familiar with this accent.	1				√					√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1				√			√			
	2		√					√			
	3			√					√		
6. Phonemes interfere with intelligibility.	1			√					√		
	2		√						√		
	3				√					√	
7. Word-final vowel insertion interferes with intelligibility.	1	√						√			
	2	√					√				
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√								√	
	3			√					√		
9. Word stress interferes with intelligibility.	1				√					√	
	2		√					√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3				√					√	
11. Intonation interferes with intelligibility.	1	√						√			
	2		√						√		
	3					√					√
12. Pausing interferes with intelligibility.	1			√					√		
	2				√					√	
	3					√					√

STUDENT 8		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2		√							√	
	3	√							√		
2. The accent is difficult to understand.	1		√					√			
	2				√			√			
	3					√				√	
3. Accent does not interfere with intelligibility.	1				√				√		
	2		√						√		
	3	√						√			
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1				√			√			
	2		√					√			
	3	√						√			
6. Phonemes interfere with intelligibility.	1			√						√	
	2				√				√		
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3			√					√		
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3			√					√		
9. Word stress interferes with intelligibility.	1				√			√			
	2				√		√				
	3					√					√
10. Sentence stress interferes with intelligibility.	1				√				√		
	2				√		√				
	3					√					√
11. Intonation interferes with intelligibility.	1			√				√			
	2				√		√				
	3					√				√	
12. Pausing interferes with intelligibility.	1			√						√	
	2				√			√			
	3					√				√	

STUDENT 9		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			√						√	
	2				√						√
	3	√						√			
2. The accent is difficult to understand.	1		√						√		
	2				√		√				
	3				√				√		
3. Accent does not interfere with intelligibility.	1				√					√	
	2		√						√		
	3	√						√			
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3				√						√
5. All words are pronounced clearly.	1			√						√	
	2	√								√	
	3			√					√		
6. Phonemes interfere with intelligibility.	1			√					√		
	2				√		√				
	3					√				√	
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3			√					√		
9. Word stress interferes with intelligibility.	1					√			√		
	2				√			√			
	3					√				√	
10. Sentence stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3				√					√	
11. Intonation interferes with intelligibility.	1				√					√	
	2				√			√			
	3					√			√		
12. Pausing interferes with intelligibility.	1			√						√	
	2				√			√			
	3					√			√		

STUDENT 10		POST TEST					PRE TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√				√		
	2				√			√			
	3		√				√				
2. The accent is difficult to understand.	1		√							√	
	2				√			√			
	3					√				√	
3. Accent does not interfere with intelligibility.	1				√			√			
	2		√						√		
	3	√						√			
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1				√				√		
	2		√						√		
	3		√						√		
6. Phonemes interfere with intelligibility.	1			√				√			
	2				√			√			
	3					√				√	
7. Word-final vowel insertion interferes with intelligibility.	1	√						√			
	2	√					√				
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2				√			√			
	3				√					√	
9. Word stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3					√					√
10. Sentence stress interferes with intelligibility.	1					√					√
	2				√						√
	3				√					√	
11. Intonation interferes with intelligibility.	1					√					√
	2				√						√
	3					√					√
12. Pausing interferes with intelligibility.	1				√						√
	2				√						√
	3					√					√

Control Group

STUDENT 1		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2					√		√			
	3	√					√				
2. The accent is difficult to understand.	1		√					√			
	2	√						√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1			√						√	
	2				√					√	
	3	√					√				
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√					√		
	2		√					√			
	3	√						√			
6. Phonemes interfere with intelligibility.	1			√				√			
	2		√					√			
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√								√	
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1		√				√				
	2	√						√			
	3			√					√		
9. Word stress interferes with intelligibility.	1				√			√			
	2				√						√
	3			√					√		
10. Sentence stress interferes with intelligibility.	1				√			√			
	2		√							√	
	3			√					√		
11. Intonation interferes with intelligibility.	1			√				√			
	2		√							√	
	3				√					√	
12. Pausing interferes with intelligibility.	1				√			√			
	2				√						√
	3				√					√	

STUDENT 2		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1					√				√	
	2			√						√	
	3	√							√		
2. The accent is difficult to understand.	1			√				√			
	2				√				√		
	3				√				√		
3. Accent does not interfere with intelligibility.	1			√				√			
	2		√						√		
	3	√							√		
4. I am familiar with this accent.	1		√						√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1				√					√	
	2		√					√			
	3	√								√	
6. Phonemes interfere with intelligibility.	1				√					√	
	2				√			√			
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√					√			
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√					√			
9. Word stress interferes with intelligibility.	1			√						√	
	2				√					√	
	3			√				√			
10. Sentence stress interferes with intelligibility.	1			√					√		
	2				√					√	
	3			√				√			
11. Intonation interferes with intelligibility.	1			√				√			
	2				√				√		
	3					√					√
12. Pausing interferes with intelligibility.	1				√					√	
	2				√			√			
	3				√			√			

STUDENT 3		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√					√	
	3	√						√			
2. The accent is difficult to understand.	1		√					√			
	2			√				√			
	3				√				√		
3. Accent does not interfere with intelligibility.	1			√						√	
	2				√					√	
	3	√						√			
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√						√	
	2		√							√	
	3			√					√		
6. Phonemes interfere with intelligibility.	1			√				√			
	2		√				√				
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√						√			
	2	√							√		
	3		√					√			
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√					√			
9. Word stress interferes with intelligibility.	1					√		√			
	2			√				√			
	3				√					√	
10. Sentence stress interferes with intelligibility.	1					√				√	
	2				√					√	
	3				√					√	
11. Intonation interferes with intelligibility.	1			√					√		
	2				√					√	
	3					√					√
12. Pausing interferes with intelligibility.	1				√						√
	2		√				√				
	3			√						√	

STUDENT 4		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√						√
	3			√						√	
2. The accent is difficult to understand.	1	√						√			
	2		√				√				
	3			√				√			
3. Accent does not interfere with intelligibility.	1				√					√	
	2				√					√	
	3		√					√			
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√						√	
	2		√						√		
	3	√								√	
6. Phonemes interfere with intelligibility.	1		√						√		
	2		√					√			
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
9. Word stress interferes with intelligibility.	1					√				√	
	2			√				√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3			√					√		
11. Intonation interferes with intelligibility.	1		√					√			
	2			√				√			
	3				√					√	
12. Pausing interferes with intelligibility.	1					√					√
	2			√				√			
	3				√					√	

STUDENT 5		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√						√
	3	√					√				
2. The accent is difficult to understand.	1		√				√				
	2		√					√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1				√					√	
	2			√						√	
	3	√					√				
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1				√					√	
	2			√						√	
	3		√					√			
6. Phonemes interfere with intelligibility.	1		√				√				
	2		√					√			
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
9. Word stress interferes with intelligibility.	1				√				√		
	2				√			√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1			√						√	
	2				√			√			
	3			√					√		
11. Intonation interferes with intelligibility.	1		√						√		
	2				√			√			
	3				√					√	
12. Pausing interferes with intelligibility.	1					√				√	
	2				√				√		
	3				√					√	

STUDENT 6		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1									√	
	2				√						√
	3			√						√	
2. The accent is difficult to understand.	1							√			
	2		√				√				
	3			√					√		
3. Accent does not interfere with intelligibility.	1									√	
	2				√			√			
	3		√					√			
4. I am familiar with this accent.	1								√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1									√	
	2				√				√		
	3	√					√				
6. Phonemes interfere with intelligibility.	1							√			
	2		√					√			
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1						√				
	2	√					√				
	3			√					√		
8. Vowel insertion interferes with intelligibility.	1						√				
	2	√					√				
	3			√					√		
9. Word stress interferes with intelligibility.	1								√		
	2				√			√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1								√		
	2				√			√			
	3			√				√			
11. Intonation interferes with intelligibility.	1							√			
	2				√			√			
	3		√					√			
12. Pausing interferes with intelligibility.	1									√	
	2		√					√			
	3		√					√			

STUDENT 7		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			√					√		
	2				√					√	
	3	√					√				
2. The accent is difficult to understand.	1			√				√			
	2				√			√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1			√					√		
	2		√						√		
	3	√					√				
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1		√							√	
	2		√					√			
	3				√					√	
6. Phonemes interfere with intelligibility.	1		√						√		
	2		√					√			
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√						√			
	2	√							√		
	3	√					√				
8. Vowel insertion interferes with intelligibility.	1		√				√				
	2			√			√				
	3	√					√				
9. Word stress interferes with intelligibility.	1				√						√
	2				√			√			
	3				√					√	
10. Sentence stress interferes with intelligibility.	1			√							√
	2				√					√	
	3				√					√	
11. Intonation interferes with intelligibility.	1				√						√
	2				√					√	
	3			√					√		
12. Pausing interferes with intelligibility.	1				√						√
	2				√		√				
	3			√					√		

STUDENT 8		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1			** *				√			
	2		√							√	
	3	√					√				
2. The accent is difficult to understand.	1									√	
	2				√			√			
	3					√				√	
3. Accent does not interfere with intelligibility.	1								√		
	2		√							√	
	3	√						√			
4. I am familiar with this accent.	1							√			
	2					√					√
	3		√					√			
5. All words are pronounced clearly.	1								√		
	2		√						√		
	3	√						√			
6. Phonemes interfere with intelligibility.	1								√		
	2				√			√			
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1						√				
	2	√					√				
	3				√					√	
8. Vowel insertion interferes with intelligibility.	1						√				
	2			√			√				
	3				√					√	
9. Word stress interferes with intelligibility.	1										√
	2					√				√	
	3				√					√	
10. Sentence stress interferes with intelligibility.	1										√
	2				√			√			
	3				√					√	
11. Intonation interferes with intelligibility.	1										√
	2				√			√			
	3			√					√		
12. Pausing interferes with intelligibility.	1										√
	2				√		√				
	3			√					√		

STUDENT 9		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√					√	
	3	√						√			
2. The accent is difficult to understand.	1		√					√			
	2		√					√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1				√					√	
	2				√					√	
	3	√						√			
4. I am familiar with this accent.	1			√						√	
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√					√		
	2			√				√			
	3	√							√		
6. Phonemes interfere with intelligibility.	1		√						√		
	2		√					√			
	3					√					√
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3					√					√
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3			√					√		
9. Word stress interferes with intelligibility.	1			√						√	
	2		√					√			
	3				√					√	
10. Sentence stress interferes with intelligibility.	1			√						√	
	2				√					√	
	3				√					√	
11. Intonation interferes with intelligibility.	1			√						√	
	2				√					√	
	3			√					√		
12. Pausing interferes with intelligibility.	1			√						√	
	2				√					√	
	3			√					√		

STUDENT 10		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√				√		
	2		√						√		
	3	√						√			
2. The accent is difficult to understand.	1			√				√			
	2				√			√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1			√					√		
	2		√							√	
	3	√						√			
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√					√		
	2	√						√			
	3	√						√			
6. Phonemes interfere with intelligibility.	1				√				√		
	2				√		√				
	3					√				√	
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3					√				√	
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3					√				√	
9. Word stress interferes with intelligibility.	1				√						√
	2				√			√			
	3					√			√		
10. Sentence stress interferes with intelligibility.	1			√					√		
	2				√					√	
	3			√					√		
11. Intonation interferes with intelligibility.	1			√							√
	2				√					√	
	3				√					√	
12. Pausing interferes with intelligibility.	1				√						√
	2					√				√	
	3				√					√	

STUDENT 11		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√					√	
	3			√				√			
2. The accent is difficult to understand.	1		√					√			
	2		√					√			
	3			√				√			
3. Accent does not interfere with intelligibility.	1			√						√	
	2			√				√			
	3			√				√			
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3			√						√	
5. All words are pronounced clearly.	1			√						√	
	2		√					√			
	3	√						√			
6. Phonemes interfere with intelligibility.	1				√			√			
	2			√					√		
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√				√				
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3		√				√				
9. Word stress interferes with intelligibility.	1			√						√	
	2				√			√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3			√					√		
11. Intonation interferes with intelligibility.	1		√						√		
	2				√			√			
	3				√				√		
12. Pausing interferes with intelligibility.	1				√					√	
	2				√			√			
	3				√				√		

STUDENT 12		PRE TEST					POST TEST				
Question	Rater	SD	D	N	A	SA	SD	D	N	A	SA
1. This student's speech is intelligible.	1				√					√	
	2				√					√	
	3		√					√			
2. The accent is difficult to understand.	1		√					√			
	2		√					√			
	3				√					√	
3. Accent does not interfere with intelligibility.	1			√						√	
	2				√				√		
	3		√					√			
4. I am familiar with this accent.	1			√					√		
	2					√					√
	3					√					√
5. All words are pronounced clearly.	1			√				√			
	2		√						√		
	3	√							√		
6. Phonemes interfere with intelligibility.	1		√					√			
	2		√						√		
	3			√					√		
7. Word-final vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
8. Vowel insertion interferes with intelligibility.	1	√					√				
	2	√					√				
	3	√					√				
9. Word stress interferes with intelligibility.	1				√					√	
	2				√			√			
	3			√					√		
10. Sentence stress interferes with intelligibility.	1				√				√		
	2				√			√			
	3			√					√		
11. Intonation interferes with intelligibility.	1			√							√
	2				√			√			
	3				√					√	
12. Pausing interferes with intelligibility.	1				√					√	
	2		√						√		
	3				√					√	