

Lexical Diversity in English Writing and Speaking at the Beginner-Intermediate Level in Japan

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Lexical Diversity in English Writing and Speaking at the
Beginner-Intermediate Level in Japan

(初級・中級レベル日本人英語学習者の英語ライティングと
スピーキングにおける語彙の多様性)

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Chapter 1 Introduction

1.1 Background

1.1.1 Seeing Language Produced

Over the course of four years, this researcher has endeavored to observe the language produced by beginner-intermediate learners of English as a foreign language (EFL) in Japan. Language data observed in written and spoken responses were compared, and the lexical diversity (LD) in written and spoken data transcripts were analyzed. LD refers to “the range and variety of vocabulary deployed in a text by either a speaker or a writer” (McCarthy and Jarvis, 2007, pp. 459). It can be measured in different ways which will be introduced later. One benefit of such analysis is that the range and variety of vocabulary and syntax choices come to the front. They show how the two modalities, writing and speaking, are developed in relation to each other. Interestingly, this range and variety is not constant. In other words, students, especially those at the beginner-intermediate level, may exhibit a certain range and variety in writing, but a different range and variety in speaking. When teachers or instructors understand these differences, they are better able to understand why students make certain types of errors when they write and other types when they speak. Understanding LD and how it differs in written and spoken responses therefore enables teachers to improve material and to assist their students with error correction as it is needed in each modality. The ultimate goal of this research is to provide a taxonomy of word choices and syntax choices made in each modality by beginner-intermediate level EFL learners in Japan. The taxonomy was created with written and spoken data from senior high school and university students in Sendai City, Japan.

In the first study in this thesis, senior high school students (beginner level) were

observed while they gave directions to a location on a map. This easy task showed that most students could give directions orally more efficiently than they could give them in writing. Their written and spoken responses varied in length and accuracy, which shows that the modalities were developed differently. Next, written and spoken responses from two groups of students, one from a senior high school and one from a public university (closer to intermediate level) were observed. The students told a short story using a series of pictures, first in writing and then orally. These two language tasks showed how students approach the activities in each of the two modalities. Their different approaches and modality-specific mistakes in vocabulary and syntax confirmed that the two modalities were developed differently. Senior high school students preferred speaking over writing; however, university students preferred writing over speaking.

Comparing the modalities of writing and speaking must be done with caution. The reason is that the modalities have different uses. Speaking is usually done unplanned, with immediacy and with a high level of paralinguistic action such as voice tone shifts that convey intricate levels of meaning and get a message across instantly. In addition, speaking is done in relatively impermanent interactions. Writing, on the other hand, is more permanent, usually delayed, and involves action through the hands. Therefore, paralinguistic elements need to be made explicit in writing. Modern texting through internet applications often makes use of emoticons and other characters to make such paralinguistic elements tangible.

Table 1 outlines the characteristics of the two modalities. This list does not delimit the scope of this study, nor does the researcher imply that any of the observations therein are empirically testable. The list has been included here to introduce the intuitive differences between the modalities of speaking and writing—the differences easily

understandable to those with the ability to speak and write.

Table 1

The main differences in the modalities of speaking and writing

Speaking	Writing
Impermanent	Permanent
Immediate (usually unplanned)	Delayed (often planned)
Idiosyncratic	Conventional
Physical paralinguistic activity	Incorporated paralinguistic material
Communal activity	Often a solitary activity
Universal	Not acquired without instruction

The characteristics in Table 1 imply that there are differences in utility as well. Speaking is naturally used to convey messages that are decidedly communicative. These messages are generally structured with a certain level of lexical density. The unplanned nature of spoken responses makes them optimally brief, more to the point, and for the understanding of a direct receiver. Writing, on the other hand, with its planned nature and opportunity for review and editing tends to be done with a different lexical density (Halliday, 1985), and for more formal applications. Of course, writing can also be communicative, but its audience tends to be more removed, allowing the modality of writing a more hypothetical field of expression.

Comparing EFL written and spoken texts meaningfully, however, presents the researcher with many challenges concerning discourse. For one, students generally do not write in situations where they would speak, and when they chat using applications on the internet, it is generally not done in real-time—there is always an opportunity to reflect on

a piece of text, to edit it or to rephrase it before it is sent. In addition, the two modalities have specified uses in society, and the way students go about employing them for communication differs according to the type and genre of discourse. Unique to this thesis, the researcher has therefore aimed to discuss LD with discourse type, genre, and text length kept as constant as possible.

1.1.2 Lexical Diversity in Language Produced

The researcher measured all written responses and transcribed spoken responses using formulas that are already well-established in the field of linguistics. One of the most rudimentary measures of LD is type/token ratio (TTR). It is often used to gauge the level of difficulty of a piece of written text to see if the text is adequate for a certain type or certain level of reader. It involves dividing the number of new words (types) in every text or utterance by the number of repeated words (tokens) to arrive at a ratio allowing some initial insight into the lexical density.

To explain TTR, four responses from an investigation by Kroll (1981) are analyzed in this section. TTR is used throughout in the other more complex formulas in this thesis, so it is perhaps useful to explain how it works and what can be observed with it. Kroll (1981) investigated the development of the modality of writing in two groups of English as first language (L1) children, a group of ten-year-old children and a group of twelve-year-old children. In his investigation, he taught the two groups how to play a board game, and then he had them explain the rules of the game to a friend. First, they had to tell the rules to a friend, and then they had to write the rules in a note. (1a) is an extract of a spoken response and (1b) is a written note by a ten-year-old child from his study (Kroll, 1981:36).

- (1) a. Well, first you start out and you take the two little birds and you put them behind your back and mix them up, and then you put them in front and the person who you're playing...
- b. You take the two little birds and you put them behind you. Then you put them in front of you and the person you're playing chooses which hand it's in so the one they choose, you take the other one...

As can be seen, the responses are similar, almost identical. (1a) above has a TTR of 0.68 new words for every repeated word, and (1b) a TTR of 0.64. Now consider the spoken response (2a) and written response (2b) of a twelve-year-old child.

- (2) a. OK, you start out and you put one bird in each hand, and you hold it behind your back, so the other person can't see. And then you ask them which one they want and then that's the color they get...
- b. 1. One person puts a bird in each hand. The other one picks a hand and the bird in the hand he/she picks is his/her color. The other person gets the other color. 2. Put the birds on the black squares. . .

The TTR for (2a) is 0.77, and for (2b) is 0.6. For this participant, there was a bigger difference in lexical density. They spoke with a higher lexical density than that with which they wrote. In addition, a clear and distinct shift can be seen in their approach. Whereas

(2a) utilizes the first-person imperative for the most part, numbers and instructional wording are employed in (2b), as would be found in the instructions on the inside of the boxes of many board games. The direct agent 'You' in (2a) has been changed to 'One person' in (2b). Kroll (1981) analyses this shift as one from the objective approach to a hypothetical approach. In (2a), the participant was narrating events, pausing for paralinguistic activity with connecting interjections such as 'and then' and 'so then', but in (2b), there are more conventional, formally written hypothetical elements, such as 'he/she' and 'his/her' as well as numbered sentences for visual chronologic connection between steps.

By measuring and comparing the LD of written and spoken texts in this way, the development of fluency, lexical complexity, and grammatical complexity comes to the front. The twelve-year-old has become aware that spoken English and written English differ whereas the ten-year-old child has not yet reached that level of development. With such analysis, researchers can measure to what extent modality development has taken place; if a learner speaks and writes the same, they are less developed than a learner who has started to use conventions for writing in written texts.

TTR, however, only allows a rudimentary analysis. With more advanced measures, researchers can analyze lexico-grammatical choices and arrive at theories concerning why certain mistakes arise in writing, but not in speaking, and vice versa. These choices show intricate differences in the modalities of writing and speaking and allow researchers to see to what extent the written and spoken modalities are developed.

The following measures incorporate TTR and generate much more accurate qualifying as well as quantifying data concerning LD. Koizumi (2012) investigated the accuracy of three of these measures, Guiraud index, vocabulary diversity (*vocd-D*), and

measure of textual lexical diversity (MTLD). The formulas are as follows.

- 1) Guiraud index: the number of types/the square root of the number of tokens
- 2) *vocd-D*: Sample 35 tokens at random, calculate the TTR for 100 such samples, then calculate the mean TTR for all 100 samples and plot it against the rudimentary TTR for a best fit curve.
- 3) MTLD: The mean length of sequential word strings in a text that maintain a given TTR value.

These measures allow insight into fluency, lexical complexity, and grammatical complexity as well as strategies employed when forming expressions. They are all valuable measuring formulas, but all of them have the same problem—different lengths of texts affect their accuracy. It is important, therefore, to look at texts that are no less than 50 words in length, and to ensure that when two texts are compared—in this thesis, written responses and spoken responses—that they are similar in length. Of the three measures listed above, Koizumi (2012) found that MTLD is the least affected by variances in text length. Therefore, this thesis utilizes MTLD to look for variances in LD wherever the length of texts permitted it. MTLD was chosen because some of the samples did not reach the fifty-word threshold, and participant responses varied somewhat in length. The MTLD readouts should be interpreted with these fluctuations in mind. Nevertheless, most of the responses are between fifty and one hundred words in length, allowing meaningful discussions regarding differences in LD for each written and spoken response.

1.1.3 Research Rationale: The Need for a Taxonomy

LD can be expected to differ in written and spoken responses because the different practical applications of the two modalities necessitate different approaches and lexico-grammatical choices. However, little general analysis has been done on written and spoken data of high school and university students at the beginner-intermediate level in Japan. As a result, little is known about how writing and speaking are developed in relation to one another. Speaking is expected to be developed first, and therefore, to be more advanced. However, Japanese high school students initially spend more time learning basic grammar and memorizing vocabulary. Their opportunities to speak are generally limited to classroom practice with assistant language teachers and Japanese teachers of English. Because they write for practice more than they speak initially, they acquire a strong monitor (Krashen, 1982), which influences lexico-grammatical choices during speaking.

There is a need for a taxonomy of written and spoken data at the beginner-intermediate level in Japan. Such a taxonomy can serve as a reference for teachers and instructors. It can show how writing and speaking have developed, and lead researchers to see how a student has progressed in each modality. Not only can general tendencies in development be investigated, but individual student data can also help teachers to diagnose underdeveloped individuals who are behind their peers in writing development—a much needed intervention according to Oi (1984). Take, for example, two responses from the first investigation in this thesis, where a student was asked to give directions to a location on a map, first in writing, and then orally. The investigation is elaborated in Chapter 4. Students were given a map with a random location—in the case of the student in question, a flower shop. The student had to explain how to get to the

flower shop from a starting location marked clearly at the bottom of the map, which can be seen in Figure 3. The written response (3a) and spoken response (3b) have been transcribed as follows (In 3a, ‘ストレイト’ or ‘sutoreito’ is the Japanese katakana notation for the sound ‘straight’. This attempt at sounding phonetic information in writing was observed throughout the investigation.

(3) a. ストレイト

Go strate along this street and turn light
at the third Coner
It’s on your light.

b. Sure. Go straight along this street and turn right at the third corner. It’s on your right.

This taxonomological data shows that there is little difference in the lexico-grammatical choices the student made. The spoken response (3b) starts with the discourse marker ‘Sure’, but apart from that, the student seems to be at a stage of development where they can write everything they can say, albeit with significant orthographical errors such as spelling mistakes. The katakana note at the top of the written response was of much interest. Seven out of the thirty random responses in the first investigation (Appendix A) show this tendency. These students used katakana as a link between the phonological information and the orthographic information in their interlanguage. By first writing the katakana, they were able to *see* how the word would sound. In 3a, ‘ストレイト’ was

approximated using 'strate', which would be close to words more familiar to the student such as 'ate', 'late', or 'gate' than words such as 'straight' or 'freight'.

To return to the discourse marker, 'Sure', its use is of utmost interest because the student was not prompted to use it. In other words, it came from the student's interlanguage and was spontaneously activated for the spoken response but not for the written one. Kroll (1981) claims that such an awareness of the difference between spoken and written language shows that a student is in the beginning stages of differentiating the two modalities and activating them in appropriate situations—written language for written communication and spoken language for verbal communication.

However, not all the students were as capable as the student in this illustration. In Chapter 4, it will be shown that student development varied greatly, even though the students were in the same grade and had comparable histories of studying English in Japanese elementary, junior- and senior high schools.

1.2 Research Questions

Starting with the premises that the modalities of writing and speaking differ in their development, and that Japanese learners have more exposure to written activities than to speaking activities early in their English education, this thesis endeavors to answer the following three research questions.

Research Question 1

Compared to speaking, how far is the modality of writing developed in a representative group of beginner-level EFL learners in Japan?

Hypothesis 1

Based on the developmental model proposed by Kroll (1981), the students will be categorizable under one of three phases; their writing and speaking modalities will be separate, consolidated, or differentiated. There is one last phase in this model, systematically integrated, but it is improbable for a beginner-level learner to be in such an advanced phase of development.

Research Question 2

Define the lexical diversity in writing and speaking data from two representative groups of intermediate EFL learners in Japan.

Hypothesis 2

A comparison of LD data will show differently developed modalities for intermediate learners, and either confirm or deny tendencies in written and spoken narrations observed by other researchers.

Research Question 3

Would a representative group of intermediate learners benefit from typing conversations? If made to focus on their speaking data with an integrated speaking and writing activity, would there be measurable development, and what would its nature be?

Hypothesis 3

When students are given the chance to transcribe their own classroom conversations by typing them afterwards, they should benefit from having been made aware of the errors they had made while having the actual conversations. The integrated speaking and writing activity designed by Wanner (2002), in which students transcribe videoed conversations about prescribed topics in class, should allow students a chance to reflect on written and spoken production and to increase fluency.

In addition, the researcher was curious as to which modality students preferred—speaking or writing. Unfortunately, this question was only answered with a simple questionnaire. No claims can be made about preferences in this thesis, but the general tendency seemed to be in line with data from Baba, Takemoto, and Yokochi (2013) for the undergraduates under investigation in this thesis. In contrast, the high school students seemed to have the opposite opinion on which modality they preferred to express themselves in.

1.3 Organization of the Thesis

This thesis consists of eight chapters. In Chapter 1 thus far, the rationale for the investigations in this thesis has been provided, namely that there is a need to document the development of the modalities of speaking and writing for beginner-intermediate level EFL learners in Japan. The technical aspects and measurement of LD have also been introduced briefly, and the research questions that will be answered in subsequent chapters have been mentioned.

Next, in Chapter 2, the related literature is reviewed. It starts with a discussion of the modality-specific differences in the human brain. It then contrasts L1 and L2

writing acquisition by delving into how they are acquired in their respective environments. Finally, Chapter 2 briefly discusses which modality students generally prefer, writing or speaking.

In Chapter 3, the researcher discusses a compatibility study. It serves two purposes—first, to see whether the students would be able to answer easy questions in writing at all, and second, to verify that the material used to elicit written and spoken responses in Chapter 5 and 6 is not completely out of range when it comes to difficulty. This compatibility study was necessary because some point of reference was needed to assess the general level of the students. Because of time constraints, it was not possible to have them all take a full Eiken exam to assess writing skill development. Thus, the compatibility study in Chapter 3 gave the researcher a general idea of the level of writing development and showed that modified Eiken items, originally designed with senior high school students in mind, fit the students well enough. The material in Chapter 3 is much easier than the Grade Pre-1 material employed in subsequent chapters. As a result, this initial compatibility study may seem superfluous; however, there was a need for some point of reference (Taylor, 2004) that established a relation between the materials used in chapters 5 and 6 and the general writing ability of the students. Without such a reference, the question would remain whether Eiken material could effectively elicit narrations for the purposes of the investigations in Chapters 5 and 6 at all. The data in Chapter 3 showed that the material was a decent fit for the level of beginner students. Therefore, the more difficult Grade Pre-1 material could be expected to fit intermediate students as it is designed for learners who are around the first year of university (Eiken foundation, 2018).

Chapter 4 presents the methodology and results of the first investigation, which concerns Research Question 1. Towards a taxonomy of written and spoken modality

development, this chapter discusses the differences in written and spoken directions given by beginner-level students. After the data is analyzed and the results discussed, an original developmental model, based on the L1 model by Kroll (1981), is proposed for L2 learners at the beginner-level in Japan.

In Chapter 5, the second investigation, a pilot study done with third-year senior high school students, is discussed. This investigation yielded longer written and spoken responses that exhibited LD which could be measured and discussed alongside more rigid statistical data. The general tendencies in the written and spoken responses are also discussed alongside observations from other researchers in the field.

Chapter 6 uses the same methodology as Chapter 5 to discuss answers for Research Question 2. This time, the students are a representative group from Tohoku University, at the time the highest-rated public university in Japan. This third investigation replicates the pilot study discussed in Chapter 5. As the university students were more advanced than the group of high school students in the second investigation, the researcher could look for modality development traits and document how written modality in university level students differed from development traits in high school students.

In Chapter 7, the third research question is answered through the discussion of the methodology and results of an actual integrated writing and speaking activity. University students were tasked with transcribing conversations they had had after writing essays, and the researcher looked at whether this integrated speaking and typing activity would have any effect on fluency.

Chapter 8 concludes the thesis with a summary of the overall results of the four investigations. The answers to the three research questions are elaborated and the initial

hypotheses addressed. In addition, the limitations of the investigations are discussed as well as implications for further pedagogical research.

Appendix A, with transcribed written and spoken directions from senior high school students (beginner level), Appendix B, with transcribed narrations from senior high school students (beginner-intermediate level), Appendix C, with transcribed narrations from university students (beginner-intermediate level), and Appendix D, with Excerpts 1 and 2 discussed in the fourth investigation have been included after the reference list.

Chapter 2 Review of Related Literature

2.1 Modality-specific Differences in the Human Brain

Writing and speaking develop in different ways (Stotsky, 1987; Stubbs, 1980). Rapp, Fischer-Baum, and Miozzo (2015) showed that there seems to be a shared language system developed in the brain, for speaking and for writing, and that the system is employed in a different way for each modality. This proposed dichotomy works from the premise that writing is a recent cognitive process in the brain, whereas speaking can more or less be considered already genetically coded. The neural substrates for the cognitive process of speaking are thought to have been active for half-a-million years (Hewes, 1973). Writing, however, only has a history of around five-to-seven-thousand years (Harris, 1986).

Other evidence from neurological studies also suggests that the modalities of speaking and writing develop differently in the human brain. Rapp, Benzing, and Caramazza, (1997) described a patient with brain damage who could only say semantically related terms for things seen in pictures. When shown a picture of a comb, the individual would reply that it was a brush; however, when asked to write down what was seen in the same picture, the response was ‘comb’, spelled perfectly. In a subsequent study conducted at Johns Hopkins University, Rapp, Fisher-Baum, and Miozzo (2015) used five aphasiacs with left hemisphere, stroke-induced language deficits. The participants were given a set of speaking and writing tasks. They suffered from a range of difficulties producing language, but all were able to construct simple sentences. First, they were tasked with eliciting verbs in the correct forms, for example, they were shown a picture of a horse in the act of jumping over a fence, paired with a cloze cue such as ‘A

horse is _____ over a fence.’ The task was to correctly say the verb with its inflection, and then to correctly write the verb with its inflection i.e., ‘jumping’. Next, single or plural forms of nouns with their quantifiers were elicited with the same type of picture-and-cloze cues, for example a picture of two cats, which called for the explicit plural ‘s’ along with the quantifier ‘two’. If writing were parasitic on the neural substrates dedicated to speaking, then similar mistakes could be expected in the corresponding spoken and written responses. However, Rapp et al. (2015:896) found that “The results reveal clear-cut dissociations in inflectional accuracy across spoken and written modalities for both verb and noun inflection.” Spoken responses were significantly more accurate than written responses; however, the participant who had the most severe symptoms showed an opposite tendency—incredibly, she could write with 97% accuracy but spoke with a mere 42% accuracy.

These results led Rapp et al. (2015) to conclude that in this group, the basic morphological and phonological processes were in-tact. In other words, all the participants still had the ability to recognize what was needed for the sentences to be syntactically acceptable, but they deviated from these acceptable forms in different ways when they had to write and speak. The differences were, therefore, specific to each modality, and this is a valid argument that each modality uses an individually dedicated neural substrate.

Thus, from a neuropsychological perspective, the modalities of speaking and writing seem to be different in that although they both draw upon a shared perception of syntax rules, lexis, and morphological processes, information is processed and produced according to different principles in each modality. Even though the knowledge of what is acceptable and what is irregular is in-tact, whether or not this knowledge is acceptably

relayed in both speaking and writing is not guaranteed. It follows that the acquisition and development of writing skills may need to be approached differently from the acquisition and development of speaking skills.

This phenomenon serves to strengthen the argument that there is a need for instructors and researchers to be aware that the two modalities may be developing very differently when it comes to beginner-intermediate learners (Weissberg, 1994). Their writing may lag far behind their speaking development; or they may be able to write more coherently than they speak. The taxonomy of written and spoken responses discussed in this thesis is an attempt to start an academic conversation on the subject.

Another important argument that can be taken away from the literature thus far is that because the modalities are inherently different and used toward different ends, researchers have to be cautious when comparisons between the two modalities are made. Any meaningful discussion must take the differences listed in Table 1 into consideration, otherwise differences in discourse type and genre will affect data. This thesis provides novel data from investigations into beginner-intermediate level EFL speaking and writing in Japan where the discourse type and genre were kept constant.

The majority of other studies have investigated LD at more advanced levels (Moxley, 1990). At the university level in Japan, Baba, Takemoto, and Yokoichi (2013) looked at the modality preferences of a group of university students, Ellis and Yuan (2004) looked at how writing for planning affects speaking during a speech, and Fujiwara and Sato (2015) looked at how collaborative writing affects LD when university students create written stories together. Gardiner (2018) also showed that by transcribing spoken English conversations, university students in Japan can focus on lexico-grammatical errors made during speaking that are innate to their interlanguage. These studies with

more advanced-level students delivered data that could be meaningfully analyzed without paying attention to differences in discourse genre and type. For the purposes of this thesis, however, keeping these variables constant was of utmost importance in order to prevent data from being conflated.

In addition, free word order languages such as German and Japanese have been shown to activate Broca's area in different ways from canonical languages such as English (Friederici, 2011). Broca's area is thought to be responsible for the processing of complex syntactical forms. It follows that the production of English in writing and speaking at the beginner-intermediate level needs specialized approaches, modeled around Japanese as L1 learners of EFL. The excerpts that form the taxonomy in the subsequent investigations in this thesis show, for example, numerous instances of repetition in speaking, which indicate the stress on the student to produce syntactically correct phrases. Such signs should not be interpreted as flaws but categorized and addressed. Creating a taxonomy of written and spoken diversity would allow an instructor to classify behavior and take effective measures to help each student individually. The next sections elaborate the differences in L1 and L2 writing acquisition and processing.

2.2 Acquiring First Language (L1) Writing

The work of Kroll (1981) has already been introduced in Chapter 1. This section elaborates his developmental model for the acquisition of L1 writing. He proposed a developmental model for the processes of writing and speaking in English as L1, whereby he stated that "speaking and writing progress through four principal relationships: separate, consolidated, differentiated, and integrated" (Kroll, 1981, pp. 32).

As explained in Chapter 1, his group of ten-year-old participants differed from the group of twelve-year-old participants in that the latter group exhibited a more hypothetical approach in their writing. This, in itself, is evidence for a developmental model. As the students became older and were exposed to the conventions of written language, their written modality developed. This development influenced their approach, and in turn, their word choices. Kroll (1981, pp. 32) explains that “wherever development occurs, it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration.” The twelve-year-old students separated their spoken and written modalities, whereas the ten-year-old students still used a system in a relatively global state. The development model is therefore an accurate paradigm in which to discuss the concept of writing and speaking modality development. It serves to explain how the ten-year-old children seemed to be in a state of relative globality; their written responses mimicked their spoken responses almost perfectly. The twelve-year-old children found themselves in a state of differentiation; they were aware of the differences in spoken and written modalities and chose a written approach which adhered more to writing conventions i.e., numbering sentences and using hypothetical subjects, thereby solidifying each modality as an independent skill.

To elaborate, the first phase, in which the two modalities are separate, involves developing the basic motor skills necessary for the act of writing, such as holding a writing instrument or pressing keys on a keyboard as well as learning the corresponding markings or letters for the sounds produced during speaking. In this first stage, there is little correspondence between speaking and writing. After this first stage, normal development follows through a stage of consolidation where, as illustrated by the ten-

year-old participants, speaking and writing are much alike. In the consolidated stage, there is little difference in the language approach. If a child in this stage opts for direct imperative statements while speaking, they are likely to opt for the same approach while writing, and therefore are prone to similar fluency, lexical complexity, and grammatical complexity in both modalities. Following the consolidated stage, this researcher proposes that the differentiation stage can be characterized by the following states of awareness:

1. An awareness that speaking and writing are different modalities.
2. An awareness that the conventions are different in each modality.
3. An awareness that language approach is a choice, and that each modality tends to call for a different approach.
4. The realization that language choices need to be made in line with each approach.

The differentiation stage is therefore an important phase during which the child constantly moves between the two modalities, drawing upon experiences and input from language heard and read, and chooses appropriate words and phrases for each modality.

Thus, the questions pertaining to this thesis arose: In which state do beginner-intermediate students in Japan generally find themselves? Are their writing and speaking modalities consolidated? To what extent can they differentiate written and spoken English? Would the words they choose when they write in English differ from the ones they choose when they speak? The problem is that in a typical Japanese senior high school, levels of development can fluctuate dramatically within the same group, with some students being consolidated and others lagging in the separate phase, still unable to create sounds for the English words they can say effortlessly.

The fourth phase in this model, systematic integration, is the phase in which

educated individuals have mastered the art of moving between the modalities, and of making choices for effect as the context requires. What sets the systematic integration phase apart from the differentiation phase is the ability to manipulate both modalities for effect, depending on the “context, audience, and purpose of communication” (Kroll, 1981:40). An individual in this stage of development is able to recognize the different language choices made in, for example, an advertisement, an obituary, and a political speech. Because the students in this thesis were at the beginner-intermediate level, it was highly unlikely that any of them would be systematically integrated.

These four phases are not necessarily linear. As language users develop, they are bound to move back and forth in a multidimensional way. Writers often ask themselves if their choice of words is appropriate and consult a thesaurus for words to sound more ‘academic’ or ‘friendly’ or ‘poetic’. They may have a spoken approach in mind at first and abandon it for a written approach in the end or vice versa. Likewise, the language drawn upon for spoken utterances is often influenced by whomever the utterance is intended for; and spoken language choices can be altered mid-utterance as thoughts interactively cross a busy mind.

The four phases that follow the preparation stage are therefore extremely valuable to the research in this thesis because they serve as a starting point from where the development of L2 writing and speaking modality can be discussed. Both modalities affect word choices in first language users because of their inherent differences, and because of the applications to which the modalities are naturally suited. In the English L1 users in the experiments by Kroll (1981), the modalities were found to be separate at first, then consolidated to form one system of communication as was observed in the ten-year-old participants and continued to become differentiated as illustrated in the group of

twelve-year-old participants, where the two modalities start to be utilized to different ends: speaking for communicative, direct interactions, and writing for indirect, more hypothetical audiences. The most important point thus far is that both speaking and writing draw upon a body of linguistic resources that the child has accumulated. Where, then, do the beginner-intermediate level EFL students find themselves in this spectrum? It is safe to presume that all of them have moved through the preparation phase, because they should all be able to write the letters of the alphabet and spell easy words effectively. What is left is to find out whether they are in the consolidated phase or in the differentiated phase.

Other researchers have highlighted the different processes at work during L2 writing and speaking. First, consider the speaking model put forward by Levelt (1989): A message is generated or conceptualized, then phonologically and grammatically encoded, then articulated, and then uttered. Second, for L2 writers and speakers, all the while throughout this process, a monitor is in place which guides the process along each step. However, the overall process is more cumbersome for writing. An example of the struggle to saddle the extra burden of orthographical processing has been illustrated in (3a) in Chapter 1.

2.3 L1 and Second Language (L2) Acquisition and Processing

This section highlights the contrasting situation in which English L2 learners find themselves in Japan, where listening-and-reading comprehension along with learning how to write grammatically correct precede speaking development. Language education in Japan has a recorded history, traceable as far back as the 19th century, of being

influenced by ideology that puts precision above all else (Eto, 2008). Many of the students in the following investigations showed that there was little in the form of perceptually acquired internal linguistic resources available for autonomous speaking-and-writing production.

Whereas L1 writing development is usually a top-down process with the child drawing upon a wholistic body of naturally acquired linguistic resources, L2 writing development in Japan is in reverse; it develops from a controlling speaking-and-writing grammar, in other words, it is a bottom-up process where language is pieced together bit-by-bit with the help of a monitor which may not be adequately developed. In addition, students generally have vocabulary quizzes and tests at school, but not adequate time to cement words in their working vocabulary.

Kellogg, (1996) explained the role of working memory during writing. His proposition of the visuo-spatial sketchpad, central executive, and phonological loop working in on the planning and translating phase explains why writing is more laborious than speaking—all of these preliminary processes need to be completed before the final cognitive programming and execution of writing can be done. His model helps to explain why the beginner-level students giving directions in the first investigation in this thesis had such difficulties producing written approximations of the phonological information in their working memory.

The ten-year-old participants and the twelve-year-old participants in the experiments by Kroll (1981) illustrated that in the typical development of the two modalities in English L1, speaking precedes knowledge about written conventions and draws upon a wholistic body of naturally acquired language resources. In Japan, however, the order is often reversed. Most Japanese students are required to exhibit listening-and-

reading comprehension and grammar knowledge before they are expected to express themselves autonomously in writing and in speaking. They are, as it were, given a strict monitor.

However, it is also necessary to consider how L1 acquisition and processing differ from L2 acquisition and processing in more general terms. Ellis (2006a) claims that language learners are “intuitive statisticians” (Ellis, 2006a:1 citing Peterson and Beach, 1967), and that people acquire and use their L1 rationally. This means that language acquisition and processing are optimal. They solve the problems concerning information input and output as effectively as possible under normal circumstances. According to Ellis (2006a), there are three effects that affect L1 language acquisition and processing.

1. Recency
2. Frequency
3. Context

The effect of recency dictates that we choose words from memory for production that we have heard or read most recently. This is intuitively easy to accept since buzzwords and fads move in-and-out of use in communities. Statistical evidence for this first effect exists as well. Anderson and Schooler (2000) demonstrated that there is a direct relationship between the probability of a word occurring in a New York Times newspaper headline and the amount of time that has passed since it last occurred. In other words, a word recently found is likely to be found again soon, and one that has not been used in a while is likely to be used less and less. Likewise, there is a direct relationship between the probability of a word being chosen and retrieved from memory for production and the last time it was chosen and retrieved. An additional factor that adds to the validity of this claim is the forgetting curve (Ebbinghaus, 1885), which indicates that the likelihood of

being able to recall, choose and retrieve a word from memory for production is predicted by the duration of time since it was last recalled. Words that have not been recalled for a long time have therefore a greater probability of not being chosen for production. Of most importance to this thesis is the fact that “our rate of forgetting perfectly reflects the decreasing power function of time with which information becomes redundant in the environment” (Wixted & Ebbesen, 1991 cited in Ellis, 2006a:5). This point will be elaborated later, but for now it is important to note that this effect has serious implications for English L2 speakers in Japan who have comparatively little English in their daily environment outside of pedagogical situations and therefore a comparatively smaller body of recent, non-redundant words to draw upon.

The second effect, frequency, implies that when words are recalled, retrieved, and chosen frequently, the process becomes quicker and easier for those words. This effect is present in all learning and processing that requires automatization (DeKeyser, 2001), such as learning to play the piano or guitar, or learning to type or to ride a bicycle, but this effect diminishes with time, i.e., once the word has been retrieved frequently enough, frequency ceases to be a factor, and recency takes over. This means that constant repetition of words for acquisition is only effective for a while, and when repetition ceases, words are gradually forgotten again according to the effect of recency.

The third effect, context, dictates that “a particular word is more likely to occur when other words that have co-occurred with it in the past are present” (Schooler & Anderson, 1997 cited in Ellis, 2006a). Schooler and Anderson showed that fragments are harder to complete out of context than when they are paired with other words which add context. They use other examples to illustrate, but here follow three original examples. It is rather uncertain what the spaces of (2a), (2b), and (2c) may contain below:

- (2) a. **com**_____
- b. _____**iant**
- c. **e**_____ent

However, the certainty increases with contextual hints, as can be seen in (2d), (2e) and (2f) below:

- d. desktop **com**_____
- e. absolutely _____**iant** idea
- f. kind to the **e**_____ent

These examples illustrate how context plays an important role in word choices, and it can be inferred that language processing will be quicker and more accurate in contexts familiar to the language user.

Together, recency, frequency and context show how L1 language acquisition and processing are rational, i.e., they follow similar models of cognition as the ones at work when other rational tasks are performed during associative learning, such as singing or playing an instrument.

L2 language acquisition and processing are rational as well. What sets L2 language acquisition and processing apart from the processes in L1 is an additional set of effects. In addition to recency, frequency, and context, L2 acquisition and processing are influenced by the following seven effects (Ellis, 2006b).

4. Contingency
5. Cue competition
6. Saliency
7. Interference
8. Overshadowing

9. Blocking
10. Perceptual learning

The first three of this second set of effects, contingency, cue competition, and salience are associative learning factors. In other words, they affect acquisition and processing by their activity in conditioned responses. It has long been known that language learning is not a stimulus-response process, but rather a contingent stimulus-response process (Rescorla, 1968), where the conditioned response is contingent on the stability of the temporal pairing of that which needs to be learned or processed and the context, recency, and frequency with which it is presented.

What language users produce in both their L1 and L2 is contingent upon what language resources they have acquired. They cannot draw upon something that is not there. Therefore, language acquisition and processing are in a probabilistic system. In speaking, the user, or intuitive statistician, reads or hears an utterance, searches it for meaning, compares it to previously heard utterances of the same sort, and then retrieves from memory a response that fits the context of the utterance, expressed in words chosen according to their recency and frequency of being used in the same context. The same process is at work in experienced writers, but not necessarily in inexperienced ones. For now, it is imperative to remember that output is completely contingent upon prior intake.

English, however, abounds in false paradigms that create contingency problems. Ellis (2006b) gives the example of third person singular 's', possessive 's', and plural 's' being wrongly grouped as a contingency paradigm and highlights how much more difficult it is to process the contingency of such intricate morphological phenomena. It is far easier, for example, to process the paradigms of subject before verb in active voice or verbs at the front for imperative statements. It is therefore necessary that contingencies

as well as false contingencies be made explicit for L2 learners.

Cue competition, the second effect in this set, influences language choices and the accuracy of language processing. As the term suggests, different cues in the language compete for attention, and as L2 cues are less frequently processed than L1 cues, they are more difficult to process, with the most recent cues or cues in the most familiar context being the most easily and most accurately processed. Less frequently processed and more unfamiliar contextual cues do, however, pop up and confuse L2 processing, hence the cue competition effect.

The salience of these cues, the third effect, also determines how effectively they are processed. More salient cues are automatically preferred over less salient cues because of their ease of processing. As a result, less salient cues may be ignored or discarded in favor of more salient cues. The problem is that the 'correct' or most appropriate cues are not always the most salient. Ellis (2006b, pp. 171) illustrates using clitics, particles that form prosodic units with other morphemes such as the 'v' in 'I've (contracted form of 'I have') as examples of cues with low salience that take a lot of attention to acquire and process. He goes on to highlight the fact that if fluent native speakers can only hear these grammatical functors from the bottom-up evidence of input 40 percent-50 percent of the time, second language learners may find it close to impossible to hear them and thence learn their function. L1 speakers acquire these functors and use them with the top-down support of their plethora of linguistic resources; L2 speakers lack these resources and thus have a much harder time learning how to use these functors.

Interference, the fourth effect in this second set, involves L1 patterns in language interfering with newly processed L2 patterns. The L2 patterns most similar to patterns in the L1 are remembered easiest, but their differences affect production if they are so

similar that they become competing cues in form-meaning mapping. The forgetting curve illustrates how a cue not processed for a while will be less accessible if a newer interfering cue competes. The newer cue will then be accessed instead. Ellis (2006b) gives the example of the difficulty of remembering an older car license plate number when one has bought a new car with a new number. The cue 'license plate number' now has two versions in a similar context. One is more recent and accessed more frequently, which renders it as an interference that hampers the memory of the older license plate number. As anecdotal evidence, this researcher often struggles with interfering Japanese terms (third language). They interfere with English (L2) and Afrikaans (L1) cues, often causing the researcher to reply with Japanese expressions spontaneously. For example, when one is surprised after hearing an unbelievable story, some people in Japan casually respond with 嘘! 'Usō!', which has the same effect as saying 'You're lying!' in English or 'Jy lieg!' in Afrikaans. This researcher has often accessed this newer Japanese cue when shocked or surprised whilst on the phone with family in South Africa who are speaking Afrikaans, much to their amusement.

The fifth and sixth effects in the second set, overshadowing and blocking operate in a cause-effect relationship. When two cues compete for attention, the more salient cue is selected and processed. The less salient cue is overshadowed and then discarded. If this process is repeated for this latter cue, it may become blocked, and be even less likely to be selected in the future. This is because the less salient cue becomes more redundant every time it is overshadowed. The only way to fix this problem is to make it explicit. As a side note, in Japan, grammar translation or *yakudoku* (訳読) is an effective means by which the attention of students can be retuned to notice less salient cues, for example the

clitic in *'I've never been abroad.'* to fix the erroneous *'I never been abroad.'*. In this example, there are two competing cues: a) include the 'v' sound, and b) ignore the 'v' sound; since it is easier to miss and ignore the 'v', the latter is more salient and overshadows, and with time becomes a blocking cue. *Yakudoku* has a bad reputation and is often blamed for the shortcomings in communicative competence; however, as a consciousness raising method, *yakudoku* is extremely effective. It allows the learner to focus on less salient cues, to drill them into memory, and to practice substituting them for those blocking cues that have become erroneously ingrained due to overshadowing.

The first six effects that affect L2 acquisition and processing mentioned thus far belong to the associative learning paradigm. They involve becoming conditioned to stimuli or cues, and responding in rational, predictable ways. As mentioned earlier, learning to play an instrument and learning to sing belong to the same paradigm. The last effect in this set, perceptual learning, however, is in itself a different paradigm.

Perceptual learning, according to Seitz and Watanabe (2003), involves tuning as a result of experience. Ellis, (2006b, pp. 181) puts it this way: It has "more to do with the organization of the whole system and the dimensions of the underlying psychological space." The psychological space refers to all the concepts to be acquired and processed, and perceptual learning is the process by which these concepts are organized, separated, grouped together, and sorted for meaning. Ellis cites an illustration by William James who tells of an amateur wine taster who is unable to differentiate between a claret and a burgundy, but with time, as a simple result of repeated exposure, the two wines become night and day, totally different. The wine taster tuned his perception of the wines by expecting certain overall qualities, tones, fragrances, tastes, etc. and then judging overall which is which. This paradigm differs from associative learning in that it does not focus

on stimuli one by one; rather, it focuses on the overall characteristics of all the stimuli in relation to one another. Perceptual learning involves a holistic assessment of all cues in a tuned environment (James, 1890).

More proof for the perceptual learning involved in L1 can be seen in the work done with language acquisition in infants. Infants learn their first L1 sounds perceptually. They effectively attune their psychological space dedicated to language production to the characteristics of their L1 (Werker & Tees, 1984; Werker & Lalonde, 1988). At first, infants are universally able to perceive and recognize all the sounds of all the languages in the world, but they start tuning into their L1 between the ages of roughly six months and eleven months, after which they become increasingly sensitive to the sounds of their L1, and start to recognize that other sounds are less relevant. Werker and Lalonde (1988) used a procedure in which thirteen infants from Hindi and English families were subjected to head-turn conditioning before they underwent a range of experiments. The infants were given sound cues in different pairings, first with real language sounds, and then with synthetic, non-language sounds. The infants in each group were consistently similar in their ability to distinguish their L1 sounds and other sounds at first, but then developed into a phase where it became more difficult to distinguish sounds that were not in their L1.

This development from a blank encompassing perception to a discerning associative search for familiar stimuli is evidence that L1 sound recognition follows more or less the same developmental model that Kroll (1981) introduced for the acquisition of writing. Both indicate a shift from noticing *what* is present to noticing *how* it is present, and *how* it differs by association.

L2 learning is not necessarily perceptive. It is distinctly associative in situations

where learners are made aware of how languages differ before they have the opportunity to perceive enough amounts of intake naturally. Therefore, L2 learners with their lack of natural reinforcement must find the means to approximate frequency, recency, and context, and need explicit guidance to notice contingencies, and to deal with cue competition, ill-defined salience, interference and overshadowing in order to prevent blocking.

In summary, L1 and L2 acquisition and processing are rational processes, subject to development, but whereas infants acquire their L1 first through perception and then through association, L2 learners typically acquire their L2 associatively from the start. The L2 learner builds language into an L1 environment that is already tuned for optimal processing of their L1. The new patterns required in memory to produce L2 expressions first move through the psychological space of the L1, are inevitably colored and contoured with the characteristics of the L1, and therefore require additional processing to be made distinct from the character of the L1. This is observable in developed L2 writing and speaking; no matter how thoroughly speakers and writers master the principles and structures of an L2, those who have lived with the same language as their L1 inevitably find slight oddities in expressions revealing the additional load of L2 processing.

As for the role of these effects in beginner L2 speaking and writing, Chapter 4 discusses inexperienced English L2 writers and speakers at the senior high school level in Japan in order to taxonomize the differences between writing and speaking under the influence of the effects of L2 processing mentioned thus far.

With the added load of processing to approximate non-existent frequent input, recent input, and context, and to combat and overcome contingency issues, cue

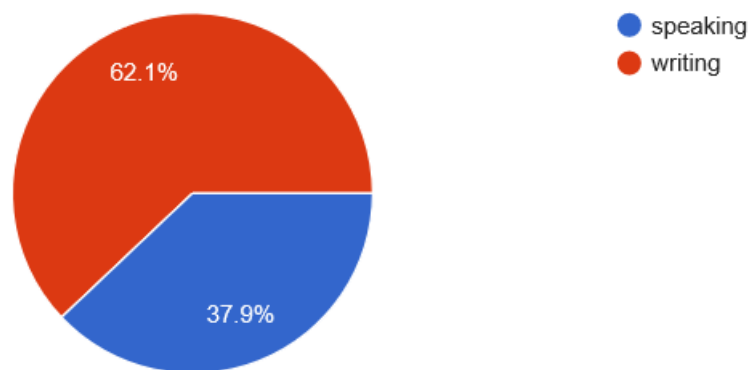
competition, ill-defined salience, interference, overshadowing, and blocking, it can be expected that L2 learners would prefer speaking over writing because there is arguably less orthographical processing necessary in speaking. However, Baba, Takemoto, and Yokoichi (2013) found that a group of university students preferred writing over speaking in class. This counter-intuitive finding was of extreme interest to this researcher. As a result, a rudimentary study with a questionnaire was done to see if university and high school students would respond the same. Unfortunately, due to time constraints, the ad-hoc study was not done with rigorous statistical analysis. In hindsight, it would perhaps be worthwhile to revisit the issue and investigate the modality preferences of high school students and university students in Japan in more general terms with larger amounts of data and better-designed approaches. Nevertheless, a simple questionnaire that looked at modality preferences was given to the students in the second and third investigations. The next section elaborates the findings.

2.4 Student Attitudes toward Writing and Speaking

Student-centered perception of each modality is bound to affect development in each modality respectively. The affective filter (Krashen, 1982) has been documented to cause arrested development in students who do not like speaking in front of their peers. Indeed, Baba, Takemoto, and Yokoichi (2013) attested to this fact by reporting that the majority (around 70%) of the university students in their study preferred writing over speaking.

In this thesis, this tendency was confirmed. Alongside the writing responses elicited from a group of university students (N=86), the researcher also enquired as to whether they

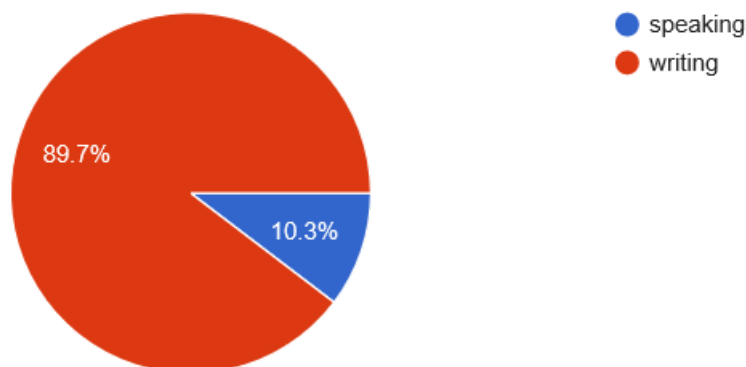
preferred writing or speaking. The question was simply asked at the beginning of the elicitation, with students ticking a box for either writing or speaking. Of the 86 responses to the online questionnaire, 62.1% replied that they preferred writing, and 37.9% replied that they preferred speaking, as is shown in *Figure 1*.



N=86

Figure 1. Modality preferences of university undergraduates.

Because asking a preference leads to a rather opaque answer, the students were also asked which they found easier. A total of 89% answered that they found writing to be easier than speaking, with only 10.3% replying that speaking is easier, as can be seen in *Figure 2*.



N=86

Figure 2. Which is easier, writing or speaking?

These attitudes towards the modalities of writing and speaking are in line with what Baba, Takemoto, and Yokoichi (2013) also found in their studies with university students. It seems that undergraduates in Japan dislike speaking in English in general and would prefer to communicate in writing if given the choice.

The data for beginner-level (high school) students (N=322) showed the opposite tendency. This time, by simply asking students to write down their preference (all elicitation at the high school level was done with students handing in written replies on paper) the researcher enquired briefly into their general preference. In stark contrast with the data for beginner-intermediate level (university) students, 172 (53%) of the high school students wrote that they preferred speaking, and 135 (42%) wrote that they preferred writing; 15 students declined to answer. These results were of great interest but cannot be interpreted as academically referenceable because the design of the questionnaire did not include rigid statistical methodology, such as a Likert scale for frame of reference. Nevertheless, the contrast was apparent. Why would there be such a shift in perception? Whereas the university students seem to prefer writing over speaking, the high school students clearly prefer speaking over writing. It became clear that more research is needed to investigate the reasons for this shift; however, time constraints and access to student class time hindered this line of investigation to be pursued any further. A future study is in the works to investigate this phenomenon with more rigid academic methodology.

In summary, whereas the university students investigated in this thesis corroborated the findings by Baba, Takemoto, and Yokoichi (2013), namely that writing is perceived to be more agreeable than speaking, the high school students preferred speaking over writing. These results can be interpreted in two ways: First, the group of

high school students under investigation here were still struggling with writing and found it a laborious task, whereas the university students were developed to a point where writing was less laborious as a means of expressing a message in English. Second, at some point in their English education, university students start feeling less inclined to speak. They would rather go through the effort of writing to express themselves in English. In more academic terms, the affective filter against speaking in class may be more of a hindrance for university students than it is for high school students.

Chapter 3 Verifying Materials Used to Elicit Written and Spoken Responses

3.1 Introduction: Textbooks and Eiken Material

To elicit the responses discussed in this thesis, which make up the bulk of the data under investigation, material had to be chosen very carefully. Chen (2004) states that all models of learning processes require that teachers should base decisions, materials, grading, and reporting on concrete knowledge of student attainment and progress toward learning goals. As mentioned earlier, the modalities of writing and speaking are used to different ends and in different situations. It follows that any material chosen to elicit comparable written and spoken responses would have to adhere to certain criteria. For one, written and spoken responses must be communicative and recordable immediately without too much time given to participants for the editing of their written responses. The responses also have to be of such a nature that they do not change according to their discourse genre or type. Any significant changes in the response types would affect data. Consequently, the researcher had to choose material that kept confounding variables such as text length and discourse type constant. Lastly, the material had to be familiar to the students. Material that did not take their level and exposure to English in consideration would fail because the student responses would be hindered in ways that would affect the data. With these considerations in mind, the researcher chose material for the first investigation from an English textbook that is widely used in Japan. However, since the second and third investigations were done not only with high school students but also with university students, viable material could not be chosen with the same ease. It was necessary to find material that would be a proper fit for the students in the investigations. If the material

does not fit the background or the level of development of the students, they will find it difficult to write or to talk about the material (Yanase, 2009). As a result, the data will be affected, with the difficulty of the material becoming a confounded variable. When all these factors are considered, the need for material that is both compatible and relatable to the students is clear. In order to establish that the Eiken system could be one system that was compatible and relatable, the researcher designed this compatibility test following methodology proposed by MacGregor (1997).

The Ministry of Education, Culture, Sport, Science and Technology (MEXT) has considered Eiken material as one of the candidate systems to become the entrance exam for universities in Japan. The researcher kept this in mind while the material for the second and third investigations in this thesis were chosen because they involved high school students and university students as participants. A picture narration task was consequently sourced from Eiken material for the elicitations in Chapters 5 and 6.

As for the first investigation, a standardized textbook dialogue about giving directions, approved by MEXT, was utilized, so there was no need to empirically establish that the material is relatable and not too difficult for the students to respond to.

In order to be sure that the material is a good fit for the high school students in this investigation, a set of listening and written response questions were tested against the in-house assessments of the high school students. This was done to make sure that the students were at least on par when it came to their level of writing development as prescribed by the Eiken foundation. The university students did not need to be tested because they were already in a public university where they had to pass an entrance test which requires higher levels of proficiency than the material discussed here. In other words, the university students had already proven themselves capable beyond the

proficiency level discussed in this section, so there was no need to confirm whether they would be able to respond to Eiken material without its difficulty being a confounding variable in the statistical analyses.

MEXT suggests that students in Japan pass Eiken Grade 3 (CEFR A1) at the end of junior high school, and Grade Pre-2 or Grade 2 (CEFR A2 and B1) at the end of senior high school. To make sure that the level of Eiken material is suited to the level of the high school students in this investigation, the following sections elaborate on how Grade 3 material correlated with the in-house assessments of the students. First, the Eiken material is explained briefly, and then tested using a set of correlation statistics.

From Grade 3 to Grade 1, the official Eiken test is administered in two stages. Test takers must pass a listening-and-reading comprehension test as well as a short essay writing assessment in order to qualify for the second stage, which involves a reading aloud test and an oral face-to-face interview (Eiken Foundation, 2018). According to the Eiken Foundation, more than 6 million Japanese people take the Eiken test every year. Listening and writing Grade 3 level criteria are listed in Table 2.

Table 2

Can-do list for Eiken Grade 3 (Eiken Foundation, 2018)

Can understand the following:	
Listening	<ol style="list-style-type: none"> 1. Talks and monologues appropriately paced about everyday life e.g., school, clubs etc. 2. Simple announcements about departures and arrivals, places to meet up etc. 3. Simple directions to a location 4. Contracted forms, blends, and conjugations in common expressions

Table 2 continued

Can-do list for Eiken Grade 3 (Eiken Foundation, 2018)

	Can write simple texts:
Writing	<ol style="list-style-type: none">1. A self-introduction—hobbies, likes, and dislikes2. Short expository diary entries3. Cards and postcards4. Short reported messages

The topics in the Grade 3 Can-do list are applicable to high school students (Yanase & Matsudaira, 2007). This level should therefore be compatible with the participants used in the second and third investigations in this thesis.

The researcher aimed to gauge the viability and compatibility of a selection of twenty items from a 2017 Grade 3 Eiken listening section using K-R20 reliability and Item Facility (IF) statistics. How the students performed on this mini test was compared to how they performed on in-house performance assessments. If the two sets of scores correlate well with an acceptable Pearson Product-Moment Correlation Coefficient (r), then a high-scoring student in class has a good chance of being a high-scoring student on the relevant Eiken level. Finally, the researcher hoped to gain insight into where problematic areas in the Eiken mini test hindered performance, and for what reasons.

3.2 Methodology

A set of twenty items were taken from the official No.2 Grade 3 Eiken of 2017. They were the first twenty items from the listening section of the test. The first ten items

involved a short, incomplete conversation to which students listened and which they then had to complete by choosing the best response from a range of options. A complete transcript is available for free by accessing the Eiken downloads site; (1a) below is an example of one of these conversations, with 3 as the correct answer (Eiken Foundation, 2018).

(1) a.

★I'm hungry, Annie.

☆Me, too. Let's make something.

★How about pancakes?

☆1 On the weekend.

☆2 For my friends.

☆3 That's a good idea.

The second set of questions, 11 to 20, was approached differently. They also involved short dialogs, but instead of choosing a response from a range of options, students had to answer a question about each dialog in writing. In the official tests, subjects have to answer these questions on an answer sheet in a multiple-choice fashion, but the researcher wanted to gauge the ability of the students to respond with a written expression, thus in this investigation, the ability to respond in writing was added as a proficiency criterion. In the official Eiken Grade 3, there is an essay section at the end which assesses writing, but due to time constraints, the writing element was included in this second set of questions as a written response required for each question. Each written response was

graded thus: one point for a coherent answer in English (disregarding spelling and grammar); one point in a separate column for a coherent answer in Japanese (indicating that they did understand but could not form an English response); and a zero for no response or an incorrect or incoherent response in English or Japanese. Their English and Japanese scores were then added up for an overall indicator of number of questions understood and responded to coherently overall. Since this approach is not dichotomous, it was not possible to conduct a K-R20 analysis on items 11 to 20. Instead, the Item Facility (IF) of each question was calculated to see the rate of acceptable answers for each item. The formula is as follows: $IF = N1$ (number of correct answers) / $N2$ (number of answers). Calculating IF allows the researcher to see which items were problematic. Table 4 shows which items caused the most problems for two sample classes (19 second years and 20 third years).

3.3 Participants

The participants were a group of 80 (N=80) senior high school students, 31 students in the second year and 49 students in the third year in a private senior high school in Sendai City, Japan. The average age of the students was 17 years, ranging between 16 years and 18 years. At the start of this investigation, they were all asked whether they had taken the Eiken Grade 3 or higher prior to the study, and those who answered in the affirmative were excluded from the datasets. The original sample included 85 participants, of which 5 were excluded.

3.4 Procedure

Since the first ten questions were dichotomous i.e., they had only a right or wrong answer, the K-R20 statistic could be applied to gauge the internal consistency and reliability of these first ten items (Brown, 1996):

$$\rho_{KR20} = \frac{k}{k-1} \left(1 - \frac{\sum_{j=1}^k p_j q_j}{\sigma^2} \right)$$

where k = number of questions; P_j = number of correct answers for each j ; q_j = number of incorrect answers for each j ; and σ^2 = variance of all scores. An acceptable K-R20 ranges from .85 to .95.

The Standard Error of Measurement (SEM) was also computed using the following formula (Brown, 1996):

$$SEM = s\sqrt{1-r}$$

where s = the standard deviation of all the scores; and r = the K-R20 statistic. This measure is useful for making predictions on how a student would score on the test if they were given the test again at some point.

The second set of questions were not dichotomous, so the Item Facility (IF) of each question was calculated to see the rate of acceptable answers for each item (IF = N1 (number of correct answers) / N2 (number of answers)).

3.5 Results

The first ten items were a reliable tool for assessing the listening comprehension of the third years; however, the second years were not reliably constant. Items 11 to 20 required writing skill in addition to listening comprehension, and there were items that were problematic for both groups. The descriptive statistics for the first set of ten questions are outlined in Table 3.

Table 3

Descriptive Statistics for Questions 1 to 10

	Second years	Third years
Number of participants (N=80)	31	49
Highest score	10	8
Lowest score	0	0
Mean	4.2	5.1
Standard deviation (σ^2)	2.2	2.4
K-R20	.65	.89
SEM	1.4	1.08

From Table 3 it can be inferred that the third years did better overall than the second years (mean score = 5.1). This set of questions were, however, not a good fit for this group of second years—the K-R20 = .65, which is well below the benchmark. The K-R20 = .89 result for the third years was much better.

From Table 4 it can be seen that items *12*, *13*, *17*, and *19* were most problematic overall for this sample group. The vocabulary, syntax, and discourse in these dialogs is

briefly analyzed in a later section to discuss why they posed such a challenge.

Table 4

Item Facility of Items 11 to 20

Item	2 nd Year	3 rd Year	Number of coherent		Number of coherent		Number of	
	IF (%)	IF (%)	English answers		Japanese answers		incorrect answers	
			2 nd Year	3 rd Year	2 nd Year	3 rd Year	2 nd Year	3 rd Year
11	63.1	70	1	14	12	4	6	2
12	10.5	15	1	3	2	3	16	14
13	5.2	25	3	5	1	0	15	15
14	57.8	25	2	6	11	5	6	9
15	36.8	20	3	0	7	4	9	16
16	42.1	20	2	4	8	1	9	15
17	15.7	15	1	3	3	0	15	17
18	31.5	10	1	2	6	2	12	16
19	5.2	5	0	0	1	1	18	19
20	21.0	30	2	2	4	6	13	12

The first ten multiple choice items were not a good fit for the second years ($K-R20 = .65$); however, they were a decent fit for the third years ($K-R20 = .89$). For reference, the internal consistency of a test is usually expected to be around .90. Woodford (1992) reported an internal consistency for TOEIC with a KR-20 value of .92.

Items 11 to 20, answered in writing, had among them a set of problematic items which need to be analyzed further to see why most students struggled with these answers.

As for how well performance assessments corroborated the mini test scores, PEARSON r was calculated overall with results as in Table 5.

Table 5

In-house Assessments and Eiken Linear Correlation Overall

	Second years	Third years
Average score on Eiken (20)	7.9	8.8
Average score in-house (100)	65.7	62
PEARSON r	0.77	0.52

As can be inferred from Table 5, it is clear that there was a stronger correlation between this modified Eiken mini test and the in-house assessments among the second years ($r = 0.77$) than among the third years ($r = 0.52$).

3.6 Summary

The first ten items proved to be more compatible and a more reliable tool for assessing the listening comprehension of the third years; the second years were not reliably constant in their performance on this first set. Items 11 to 20 required writing skill as well as listening comprehension, and there were a set of items that were particularly problematic for both groups. Let us take a quick look at the most problematic items.

Item 12 was a listening dialog scripted as follows:

A: The library is really crowded today, Mike.

B: Yeah. There are no free tables.

A: Let's study in the classroom.

B: That's a good idea.

Question: Why can't they study in the library today?

Since the content is perfectly matched to this sample of high school students, there have to be particular words and phrases that were difficult to comprehend. Perhaps the word “crowded” and the concept of something being free (not free of charge) were the culprits. Item 13 involved the following dialog and question:

A: My dad is moving to Australia for his new job in March.

B: Really? What about you and your mom?

A: We'll move in June.

B: Maybe I can visit you in July.

Question: When will the girl and her mother move to Australia?

The topic and theme are well suited to this group of participants, but the names of months can be challenging for students, and the added cognitive load of working out which is which when confronted with a set of three is particularly challenging in real-time for students who first convert English names to Japanese names that count months with numbers (三月, 六月, and 七月, or ‘third month’, ‘sixth month’, and ‘seventh month’). It is possible that this item caused confusion for students who could not sort these names for the corresponding months immediately. The next problematic item, no. 17 was scripted as follows:

A: Welcome to our company.

B: Thanks. I'm looking forward to working here.

A: Your desk is over there, next to the copy machine.

B: Great. Thanks.

Question: Where are they talking?

This topic is not exactly aimed at high school students, but it is a general introductory situation, in line with the Can-do list in Table 2, and the vocabulary is straightforward with “*copy machine*” even correlating well phonetically with one of its Japanese counterparts, コピー機 or ‘kopi-ki’. Perhaps the students struggled with forming a general concept of where the people were talking. Those who attempted an answer generally got it right; there were no incorrect attempts, so the problem may have been that students did not understand the question or the situation overall. Lastly, item 19 was scripted as follows:

A: Do you have my bicycle key, Mom?

B: No, I don't. Did you ask your brother?

A: Yes, but he doesn't have it. I'll go and ask Dad.

B: Good idea.

Question: Who will the boy speak to next?

Apart from the level of inference expected, which is quite high, the content is again matched wonderfully to the sample group. Perhaps the flow of dialog was too fast, and the declaration “*I'll go and ask Dad*” may have been too sudden; the researcher has often found that model dialogs in textbooks follow very predictable give-and-take patterns. This sudden declaration paired with the phrase “*go and ask*”, which when spoken at normal pace can be difficult to parse, may have been the hurdles.

Whatever the causes, since these items were problematic throughout, the researcher recognizes the need to include similar material in regular classes to make sure students are better prepared when they take the real Eiken.

The mini test used twenty authentic Eiken Grade 3 listening comprehension

questions, and the first ten were statistically not a reliable assessment for the second years, but not a bad tool for assessing the third years. The researcher added a writing component to the second set of questions, which is not the way the questions were designed to be answered, but an IF analysis showed that there were nevertheless a clear set of difficulties that were constant, and therefore the study proved successful in isolating areas where attention was needed to better prepare students for the real Eiken. Areas that seem to need immediate attention are vocabulary, e.g., “*crowded*” and the names of months, phrases such as “*go and ask,*” and the natural flow of spontaneous discourse that does not necessarily follow predictable textbook patterns of give and take.

Towards the goals of this thesis, the test proved to fit the third years to some extent (KR-20=.89), but the second years varied more in their compatibility (KR-20=.65). The decision was made to employ Eiken material in the second and third investigations discussed later in this thesis since the senior high school students in the second investigation were at the beginning of their third year where the data in this chapter proved a fit with an acceptable compatibility index.

Chapter 4 Giving Directions in Written and Spoken Form: First Investigation

4.1 Introduction

In this first investigation, a group of beginner-level high school students were observed while they gave directions to a location on a map from a textbook. One of the goals was to see how the second set of effects from Ellis (2006b) listed in Chapter 2 (contingency, cue competition, salience, interference, overshadowing, and blocking) are at work in each modality. Another was to investigate where these students found themselves in the phases proposed by Kroll (1981). The researcher wanted to know whether all the students were in the consolidated phase or whether some of them had already moved into the differentiated phase (Research Question 1). The data proved that the rate and stage of development varied considerably even though the students were in the same grade of high school and had received comparable English as L2 instruction in their earlier school curriculums. Some of the students in this investigation still seemed to find themselves in the preparation stage as they were not able to write letters of the alphabet to express the phonological information in their interlanguage.

This first investigation examines how inexperienced English L2 writers draw upon internalized language resources in the different modalities when asked for directions to a location on a map. Giving directions is a popular theme, generally a staple topic in L2 textbooks. The target phrases for giving quick directions are short, to the point, and usually form neat paradigms, therefore students internalize them with relative ease. Knowing left from right is after all universally important, and this fact, coupled with the brief, pragmatic way in which most languages deal with giving directions, make this

theme ideal for this first investigation. As far as discourse analysis is concerned, directions can be written and spoken almost identically without having to account for differences in register and tone.

4.2 Methodology

4.2.1 Participants

The participants for this first investigation were a group of first-and-second year students (N=322) in a private senior high school in northeastern Japan. Their courses were called English Expression I and II. The participants were enrolled in a practical course, which is aimed at assisting students to find employment after graduation or to enter a tankidaigaku (短期大学) or junior college. According to school data, less than 25 percent of all practical course students in this school move on to tertiary education every year, so it is safe to say that the participants in this first investigation were of lower-level academic ability. Three of the participants had taken and passed the Eiken test Grade 3 (Common European Framework of Reference (CEFR) A2 Level) in the same year; however, none of the students could be described as being able to have a simple conversation in English.

English became a compulsory subject for fifth-year elementary school students in 2010 (MEXT, 2018); therefore, the end of the second year in a Japanese senior high school now marks more or less seven years of English instruction. Nevertheless, this group of lower-level participants found themselves right at the start of a new era of education policies that had not yet been around long enough to be evaluated for efficacy. The participants were all between the ages of 16 and 18 years old and all were native

speakers of Japanese.

4.2.2 Materials and Initial Impressions of Student Responses

Before the task, the students were given a fifty-minute textbook-based lesson to introduce the basic phrases for giving directions in English. This material is not new to students at this level in senior high school. In fact, this group of students is ideal for this study due to the fact that all of them had graduated from junior high schools in Japan where prescribed English textbooks are used. Thus, the group could be expected to have been instructed and tested on fairly similar material. This uniformity adds to the reliability of the data in some respect. The reason is that writing and speaking development on average can be seen as products of a shared educational milieu, with comparable years of exposure to English instruction and materials overseen by MEXT.

The ability to give directions is taken up in most English communication textbooks for junior high school students approved by MEXT in Japan. Table 6 lists the vocabulary and phrases for giving directions introduced in junior high school in year one and reviewed and expanded upon in year three. In the second year, there is a section on directions as well, but the area of focus is outside of the scope of this study. It involves taking a bus and asking questions about the trip, where to get on and off, and the duration of the ride (Kasajima, J. et al. (2016) *New Horizon English Course 2*).

Table 6

Junior high school level phrases for giving directions

	<u>Textbook:</u>
	Kasajima, J. et al. (2016) <i>New Horizon English Course 1</i>
Junior high	Excuse me. I'm looking for...
Year 1	Go down this street. Turn left at the second traffic light.
12-13 years of age	It's by...
	Thank you. / You're welcome.
	Go straight, and you can see it on your right.

	<u>Textbook:</u>
	Kasajima, J. et al. (2016) <i>New Horizon English Course 3</i>
Junior high	Could you tell me how to get to...
Year 3	Sure. Take the Ginza Line to...
14-15 years of age	How many stops is Aoyama-itcho from here?
	Three stops.
	It's the train on Track 2.
	Thank you very much. / My pleasure.

The phrases listed in Table 6 were familiar to the participants in this study but needed review to be activated for production (Harklau, 1994).

To this end, the initial fifty-minute textbook-based lesson concentrated on phrases 1 to 5 for giving directions to a pedestrian on a sidewalk (Haseya, N. et al. (2017:35) *Vivid English Expression I New Edition*):

1. "Could you tell me how to get to...?"
2. "Go straight along this street and turn left/right at the first/second/third signal."
3. "It will be on your right/left."
- 4 "I see."
5. "Thank you very much. / You're welcome."

This first fifty-minute lesson consisted of a greeting, followed by an introduction to the topic, after which the instructor asked students if they had ever given directions in English. All students answered that they had no experience giving directions in English, apart from classroom practice.

Since the participants hailed from an area in Japan where contact with foreigners is a rare occurrence, they did not have opportunities to converse in English outside of pedagogical situations such as English classes or extracurricular English instruction sessions at conversation schools or juku cram schools.

After the researcher concluded the introduction, the students opened their textbooks to page thirty-five where there is a map with various locations, recreated as Figure 3. With the aid of the map, the instructor started a dialogue with a Japanese teacher who co-instructed the class. The students listened and circled the location under discussion. The instructor then checked that everyone understood the location, how the directions were given to the location, and then asked students to listen to the dialogue again to take note of the main phrases under focus.

◆地図を用いて、道案内の練習をしましょう。
Use the map and model dialogue to practice giving directions in English.



Figure 3. Senior high textbook map for giving directions, adapted from Haseya, N. et al. (2017:35) *Vivid English Expression I New Edition*.

Next, the phrases 1 to 5 were practiced in listen-and-repeat activities to make sure that all participants could pronounce the phrases adequately for other participants to understand. This was done very briefly because all participants seemed familiar with the pronunciation of the phrases. Finally, all participants were tasked with writing directions to the Department Store (Figure 3), starting at the ‘You are here’ position.

Although participants were instructed to use the textbook for reference while writing, this writing exercise proved challenging conceptually because many students hesitated when there were more steps involved than were practiced in the model dialogue.

Getting to the department store involves one more step after the *'Turn left at the third signal'* direction. Simply adding *'The department store will be on your right'* is sufficient, but many students raised their hands and asked whether they should add anything else, since it is further removed by one block on the map than, for example, the hotel and flower shop. The department store was chosen for exactly this reason; to see how the participants would deal with this extra step. It is an opportunity to gain insight into the langue vs. parole (Saussure, 1966), the competence/performance, or the external E-Language vs. structured internal interlanguage dichotomy as it pertains to writing and speaking in English as L2 at this level. The terms E-language and structured interlanguage are employed here to denote the difference between competence of language acquired, reviewed, processed and produced (E-Language), and internal linguistic resources individually retrieved from memory, processed and produced (structured interlanguage), also referred to in more encompassing terms as interlanguage (Selinker, 2009).

When the data in Table 7 is considered, these labels are appropriate since the participant who wrote attempt no.5 in Table 7 made up the phrases 'cross-street' and 'front right' using a set of internalized morphological-and-syntactical rules for his L2. Rothman and Slabakova (2018) also discuss this segmentation of language knowledge. They state that there are three different types of language resources at play: knowledge that comes innately (also referred to as universal grammar), knowledge that comes from the mother tongue (in this case Japanese L1 transfer), and knowledge that comes from the L2 (in this case E-language). The end result of the perceptual combining of these types of knowledge is structured interlanguage.

Another example of structured interlanguage observed is the use of the contracted, very natural 'It's' in attempt no.7 in Table 7. Since this option was nowhere

to be seen in the textbook pages related to the lesson of the day, the student had to have drawn upon his structured interlanguage. In addition, the contracted 'It's' is a standard spoken form, often used for giving directions and as already listed in Table 6, taught in the first-and-second year of junior high school. Therefore, this earlier cue, acquired by this participant at an earlier stage, overshadowed the '*The department store will be*' option, and was retrieved from memory and written down instead, in line with tendencies described by Ochs (1979).

Some students were at a loss. They struggled to complete the last leg of the journey conceptually. It seemed that most participants were able to write down directions up until the third signal, which was until where the standard expressions were of use, but after that, they had to call upon original directions, either modeled on the phrases in the textbook (E-Language) or made up on the spot (interlanguage), to complete the task. A model answer for this task, giving directions to the department store, would resemble (3a):

(3) a.

Go straight along this street and turn left at the third signal. The department store will be on your right. (20 words)

Such a response would constitute an understanding of the target phrases, in other words, an ability to commit the relevant E-Language to memory, to recall it, and to produce it on command. However, it does not give any insight into whether the student would be able to give directions effectively. The structured interlanguage that each student employs must also be taken into consideration; a student who successfully attempts a more in-

depth explanation using both E-language and interlanguage can be considered more autonomous than a student who merely utilizes the textbook E-language. As the department store is a block away from the turn, there is an incentive to add another instruction. Extra instructions were not awarded any extra credit or praise, as this would have influenced the willingness to draw upon preexisting linguistic resources. Examples of eight extra phrases are listed in Table 7.

Table 7

Additional E-Language and structured interlanguage during preparation

Extra E-Language and structured interlanguage	
1	Go straight along this street and turn right. (inserted before “ <i>It will be on your right.</i> ”)
2	Then go straight one block. (inserted before “ <i>It will be on your right.</i> ”)
3	...and Go straight along this street. (inserted at the end)
4	Department Store. (inserted at the end)
5	Go straight along this street at the first cross-street. It will be on your front right.
6	Then go straight one block. (inserted before “ <i>It will be on your right.</i> ”)
7	Go straight along this street and cross the street. It’s on your right.
8	Walk own more blocks the Department store will be on your right. [sic]

Eight example phrases attempted by participants can be seen in the standard set of directions in various positions in Table 7. Completely original items are referred to here as structured interlanguage items. These items are of importance because they were not

uttered by any of the instructors, were nowhere to be seen in the textbook, and thus had to have come from the preexisting linguistic resources of the participants themselves, produced autonomously.

As mentioned earlier, the participant who wrote attempt no.5 made up the phrases 'cross-street' and 'front right' and used them intuitively with internalized morphology and syntax. To a lesser extent, the contracted, very natural 'It's' in attempt no.7 also indicates, at the very least, that this participant has some confidence in writing structured interlanguage in situations deemed appropriate. The other attempts are safe approximations using the studied E-Language of the textbook lesson. Although these other attempts are acceptable and demonstrate competence and the ability to produce acquired expressions, they do not guarantee the ability to utilize the expressions autonomously and pragmatically in the future. In this setting, the use of structured interlanguage items, retrieved from internalized linguistic resources, is a better indicator of reliable pragmatic proficiency than the recitation of studied E-Language structures because the structured interlanguage resources are already automatized whereas the only certainty about E-language structures is that they are momentarily accessible in the short-term memory.

Kellogg, (1996), in his cognitive approach, explains the role of working memory during writing. What he calls the visuo-spatial sketchpad, central executive, and phonological loop affect the planning and translating phase. This can be seen clearly in the data in the next section. The students had the phonological encoding done to a much better extent than the orthographical and grammatical encoding.

4.2.3 Procedure

After a period of two weeks, the same participants were given a copy of the same map, but this time they were instructed not to use any kind of additional resources such as textbooks, dictionaries, or help from friends. This part of the investigation mimics the procedure Kroll (1981) employed in his studies with English L1 children. Without any assistance to draw upon, the participants would have to use interlanguage and whatever E-language they had internalized over a period of two weeks.

Each map had one position circled in red by the instructor. At random, each participant received a map with one of the following locations circled: the convenience store, the hospital, the flower shop, the bank, or the video shop (Figure 3). They were then given thirty minutes to write directions to the circled location. At the same time, the instructor conducted an oral performance test. One by one, participants were randomly summoned to a quiet corner of the classroom or to the hall outside. They were then recorded while they gave directions orally to the same location on the map. They could not refer to the written directions while their voice was being recorded.

At the end of the class, all the maps with written directions were gathered, and later a random sample of 80 spoken responses were transcribed by the researcher. After gathering the maps and transcribing the responses, the spoken-and-written directions were compared following similar procedures as the ones conducted by Kroll (1981) with his instructions to a board game, and Tannen (1980) in her discussion on the discourse of speaking and writing in story-telling.

4.3 Results

4.3.1 Discussion of Results

Utilizing the four phases as postulated by Kroll (1981), preparation, consolidated, differentiated, and integrated, a rough estimation of the stage of development can help to qualify where the students are in the development of their writing modality. If they are still struggling to write simple sentences, with little or no morpho-syntactic awareness, then they can be labeled as being in the preparation phase. If they speak and write very similarly, they can be qualified as being in the consolidated phase. If they exhibit an awareness of a difference between the modalities and vary their approaches, then they can be considered in the differentiated phase. It was clear from the outset that none of the participants were in the integrated phase yet, because there were no flawless responses indicative of the mastery of both modalities.

Starting with the overall average amount of words produced in writing, and the overall words used in speaking, there was a significant decrease compared to the overall average of words produced in writing during the preparation lesson two weeks earlier. On average, the participants produced 21.4 words in their first written directions during the first preparation lesson two weeks earlier. Recall that the standard response—'Go straight along this street and turn left at the third signal. The Department store will be on your right'—has a word count of 20 words.

One of the participants refused to write anything down on the first day and became an outlier in the dataset. She had been diagnosed with an anxiety disorder but was functional in most lessons throughout the year. Her refusal to write anything down meant

that she would have to have been removed from the dataset, but since she represents actual classroom situations in Japanese senior high schools where students with certain disorders are accommodated in regular classes and supported individually, and since she was fully functional and cooperative during the round of delayed responses two weeks later, she was kept in the dataset. This decision makes statistical sense as even with her zero, the average for the first words used during the preparation lesson still proved to be significantly higher, and the standard deviation ($\sigma=5.69$) was not significantly different from that of the delayed writing average ($\sigma=6.01$) and delayed speaking average ($\sigma=6.93$).

After a period of two weeks, the delayed written directions averaged 15.1 words overall, but the spoken directions averaged 17.9 words overall. This means that the participants produced more words overall during speaking to give the same amount of directions than they did during writing. Although this does not indicate anything worthwhile yet, it is at least indicative of a difference in the amount of words retrieved, processed, and produced for the same task in different modalities. On average, around three words more were produced during the delayed speaking exercise.

A word count can, however, only give a rudimentary qualification of a difference. Moreover, speaking involves rephrasing and interjections for repair (Tannen, 1980) while a busy mind is processing language in real-time, which accounts to some extent for the higher average of words in the delayed spoken responses. Nevertheless, there proved to be a significant difference ($F(2,218) = 18.78; p < 0.05$) between the average word count for the first preparation lesson, and the delayed spoken-and-written responses. The results of the ANOVA for this first investigation are outlined in Table 8.

Table 8

ANOVA of Word Count: First Investigation

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	Fischer Ratio (F)
SS Between	1546	k-1=2	1546/2	773
SS Within	8974	N-k=218	8974/218	41.16
Total	10519.7			F(2,218)=18.78

As can be seen in Table 8, a one-way ANOVA reaffirmed that there was a significant decrease in words used during the delayed written-and-spoken directions. In the first preparation lesson with textbooks, 21.4 words were used on average, in the delayed writing exercise two weeks later, 15.1 words were used, and in the delayed spoken responses in the same session, 17.9 words were used on average.

In summary, if these results are indicative of general student behavior at the beginner level in Japan, then students at his level can be expected to say more words than they can write. However, with samples as short as these, no claims can be made towards discernible differences in LD.

4.3.2 Towards a Taxonomy of Written and Spoken Diversity

The participants in this group were shown to be able to write autonomously to some extent. It follows that they may no longer find themselves in the preparation phase as they exhibit knowledge of morpho-syntactic rules and are able to write many of the sounds of English phonetically, albeit with numerous spelling errors. However, compared to the ten-year-

old group in the studies by Kroll (1981), this group seemed far less uniform. There are many instances in this group where development seems to lag. In these instances, the participants would not be classified as beyond the preparation phase. Here, this thesis delivers original taxonomical data for reference by other researchers and teachers. Consider, for example, Figure 4, the written response by participant No. 2 during the delayed writing sessions. She would not be considered beyond the preparation stage.

go straight two
department
セイト
(左) 左
(右) 右

Figure 4. Participant No.2 showing breakdown in orthographical processing.

As can be seen in Figure 4, this participant was still unable to link orthographical cues with phonological cues in the L2, opting for Japanese katakana to approximate and reproduce the phonological cues as they were retrieved from memory. Figure 5 shows the response by the same participant during the first writing exercise outlined in Section 4.2.2, which was done with the aid of a textbook and instructors in class.

Go straight along this street and turn left
at the second corner.
It will be department store.

Figure 5. First written response by Participant No. 2 during preparation.

Figure 5 shows that participant No.2 was able to copy the E-Language phrases from the textbook during the first preparation lesson, but she was not able to give effective directions; the turn should be made at the third corner, not the second, and the last direction ‘It will be Department Store’ is irregular. In addition, she left holes in the directions where she then inserted information regarding the specified location. It is plausible that she copied the words one by one from the textbook and inserted the information to the best of her ability but did not internalize the phrases or the language point. In other words, input did not become intake. No autonomous language was produced.

Figure 4 and Figure 5 show that this participant had trouble from the start, not only with speaking and writing in English, but also with conceptualizing the directions to the department store. However, she fared much better when she was asked to give directions orally to where the hospital was located on the map (Figure 3), but exhibited the same irregular constructions.

“Ee...go straight...to second corner...ee...hospital. Go to the second corner...right. [Prompt: It’s on your...] It’s on your ...hospital.”

When this spoken response is compared with her written response in Figure 4, it is clear that the phonological mapping to the lexical units is stronger than the orthographical mapping, and that she had great difficulty with the necessary grammatical encoding. The fact that she wrote the words she could not spell in katakana serves as additional evidence. In other words, she knew what information needed to be relayed, but she was better able to relay it orally in around forty seconds than she was able to relay it in writing in thirty minutes. The phrase, “*It’s on your ...hospital.*” is illustrative of a false contingency (Ellis, 2006b) formed by the participant as she repeated it even after the instructor helped with

the prompt, trying to elicit a better response. Interestingly, she opted for the marker *corner*, which was another option in the textbook for *signal*, listed below the model dialogue. The fact that she opted for *corner* over *signal* from the outset indicates that she had the ability to make lexical choices and chose an option that may have been more familiar. Nevertheless, she could not write what she could say; therefore, she would be a better candidate for the preparation phase. As she has not yet become able to write what she can say, she cannot be described as fitting into the next phase, the consolidated phase. It came as no surprise that she attested to preferring speaking over writing as well.

A better example of a student in the consolidated phase would be participant No.3. This participant exhibited the ability to retrieve, process, and produce E-language using both phonological and orthographical systems. She was able to write exactly what she could say, although she did add katakana above two words, *straight* and *street*, which are phonetically similar, [streit] and [stri:t]. These two words present a problem for many students at this level of development. They are phonetically very similar, i.e., the differences in their pronunciations are not easily picked up by English as L2 learners at this level in Japan. These non-salient differences in two very similar cues obviously caused the participant some uncertainty. She added katakana to help her spell the words, and these additions illustrate how the phonology of the L2 moves through the psychological space of the L1. Figure 6 shows the second written response by participant No. 3:

Go straight along this street.
And turn right at the second signal
It's on your left.

Figure 6. Second written response by Participant No. 3

When the delayed written response in Figure 6 is compared to the spoken response, “*Sure. Go straight along this street. And turn right at the second signal. It's on your left.*” it is apparent that this participant would make a better candidate for inclusion in the consolidated phase. She wrote and spoke almost identically. There is one indicator that she has started to differentiate the two modalities as well: she started her spoken response with the very natural “*Sure.*”, which is absent from her written response.

Thus far, the overall decrease in words produced on average during delayed speaking and writing, along with the more detailed analysis of Participant No.2 and No.3, indicate that the ability to reproduce E-Language is not a reliable predictor of an ability to produce structured interlanguage because of the limitations of memory and the capacity for internalization, and a definite developmental difference could be seen in the two modalities at this stage. It also proved more problematic than was first thought to assign participants to a certain phase of development.

In L1 there are factors that affect the development of the modality of writing, such as education, exposure to reading and writing, reinforcement, and motivation (Gardner, 1985), but in L2 development these factors are compounded by issues of contingency, cue competition, salience, interference as has been illustrated in the participants discussed up to here. It is therefore more difficult to assign labels to the

phases of development of L2 learners. In this group of participants of comparable ages and educational backgrounds, the modalities of speaking and writing were in varying phases of development.

As for spelling, English and French are examples of languages with opaque orthographies. Even L1 speakers have trouble acquiring and memorizing spelling rules in such languages. The acquisition and memorization of prescribed spelling is made yet more challenging for L2 learners due to the effects of cue competition, false contingencies, salience issues, overshadowing, and blocking. It is therefore of more use to put spelling aside for the moment, and to concentrate on the ability to produce phrases that are more or less syntactically and morphologically intact. The participants in this study are only starting to develop autonomy in speaking and writing. If all of their written words and phrases with irregular spelling are discarded, there would be little data left to analyze.

Many of the participants employed the kana system to either assist their writing, or to check on it. Katakana is often used to approximate L2 phonetics for beginners. It is effective because it facilitates an introduction to the phonetics of languages such as English and French by connecting the alphabet sounds with already familiar kana sounds in the L1. In fact, katakana is useful for memorizing the pronunciations of phrases in French that blur word boundaries. The phrase, ‘Ceci est très difficile’, when transcribed in katakana could be written as ‘セ トレ デイフィシル’, or in *romaji* as ‘se tore difishiru’. The reduction of the second syllable, and indeed the whole second word, ‘ci est’ is indicated by a blank space in the katakana and fairly easy to understand. However, L2 learners need to be weaned from this practice at some point in order for them to develop autonomy in the orthography and phonology of the L2.

Spelling aside, this first investigation links with the research done by Kroll

(1981) by aligning itself with the differences in approaches and overall awareness exhibited in his four phases, but because the responses are short and guided by E-Language items, and due to the innate difficulties faced by the less proficient L2 participants in this group, a subdivision of the first phase proposed by Kroll (1981), the preparation phase, became necessary.

The researcher found it more useful to group the participants according to the ability to retrieve and relay E-Language and structured interlanguage in a coherent series of spoken or written utterances and to focus on how each modality differs by association. The participants were thus divided into four modality development groups: L1 Grounded, with participants unable to write or speak coherently in the L2; L2 Phono-Low, with participants able to reproduce some sounds orally and in writing with the help of katakana; L2 Ortho-Low, with participants able to write the majority of the phrases they can say phonetically using the alphabet, albeit with spelling errors; and lastly, Consolidated (Kroll 1981), with participants exhibiting the ability to write and speak with similar proficiency.

These four groups classify the abilities of the participants in each of the modalities and facilitate a more meaningful discussion of their level of proficiency in each modality. Without these divisions, many of the participants would be considered more or less in the consolidated phase, although none of these seventeen-year-olds would be on par with the ten-year-olds in the experiments done by Kroll (1981). Table 9 lists the four groups, a description of each group, and the number of students who could be classified under each descriptor.

Table 9
Modality Developmental Groups

Group	Description	Number of Students
L1 Grounded	Both writing and speaking grounded in L1	9
L2 Phono-Low	Phonological and morphological progress in L2	22
L2 Ortho-Low	Phonetical and orthographical progress in L2	40
Consolidated	Phonetical and orthographical progress more or less on par with speaking	6

Table 9 lists the four proposed modality developmental groups and illustrates a set of characteristics by which each group can be set apart. This original taxonomy is useful because participants can belong to more than one group and move in a multidimensional way between the groups under various circumstances according to their experience in a certain type of discourse. It allows for a more precise analysis of modality development, one that is better suited to Japanese learners at the beginning stages of writing development.

At this level of L2 writing and speaking development, the phases proposed by Kroll (1981) to distinguish levels in L1 development are inadequate. As can be inferred from Table 9, there needs to be a more precise set of divisions before the modalities could be considered consolidated. Labeling the 71 participants who are not yet consolidated as being in the preparation stage is of little use. To this end, the L1 Grounded, L2 Phono-Low, and L2 Ortho-Low subdivide the preparation phase and can assist educators and students with identifying where progress is needed.

A typical L1 Grounded learner would need to review the basic phonetics

involved in writing and pronouncing English words and phrases. These would have to be taught explicitly. Expecting such a student to participate in, for example, task-based activities or content and language integrated learning (CLIL) activities with the other students in this class would be of little use and possibly cause a lot of frustration for both the instructor and learner. Figure 7 illustrates a response that was made by a participant who could be classified as L1 Grounded; their ability to write down the alphabet seems to be intact, but attempting even simple words or sentence structures is still challenging for them.

Go strate [end of attempt]

Figure 7. Example of written response by L1 Grounded student.

Since the participant who responded with nothing more than the two lexical items seen in Figure 7 had the same type of instruction beforehand and was given the same time to complete the assignment, it is safe to say that they were behind the other participants in as far as writing and speaking development is concerned. The spoken response by this participant was identical: ‘Go straight’.

In comparison, L2 Phono-Low learners need to be given more writing instruction to bring about an awareness of the orthographical rules for writing English sounds. The two words, straight and street, were instrumental in identifying if participants were able to deal with diphthongs and elongated vowels phonetically in speaking and writing. As can be seen in Table 9, there were 22 participants who were unable to write many sounds in English although they could say them with relative success. As far as consonants are concerned, the ‘l’ and ‘r’ in ‘left’ and ‘right’ also still cause a lot of interference and overshadowing problems for learners in this category, because their L1 katakana notation

for these sounds are syllabary, and involve a similar initial [r] phone- ʌ or re for left, and ɾ or ra for right. Figure 8 illustrates a written response from a participant who could be classified as L2 Phono Low.

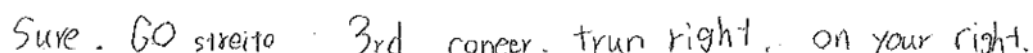
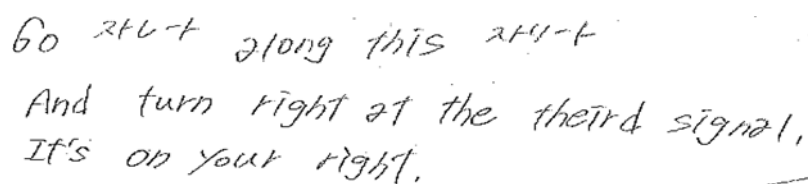


Figure 8. Example of written response by L2 Phono-Low student.

As can be seen in Figure 8, students in the L2 Phono-Low group still struggle with writing phonological information down; however, they generally have the ability to approximate sounds using the alphabet. Their orthographic knowledge, as far as explicit rules such as capital letters at the head of sentences after periods are concerned, is also not developed at this stage. The spoken response by this participant showed an ability to express all the relevant phonological information: ‘Sure. Go straight and third corner and turn right and on your left.’ The natural ‘Sure’ at the start of the response highlights the rift between written and spoken modality development. This participant was orally much more capable to give directions. Writing modality development is still in its beginning stages. The basic conventions of written English need to be made explicit for such a student.

Participants in the L2 Ortho-Low group exhibit a better ability to approximate sounds, albeit with errors in spelling. They attempt words and phrases with enough success that a native reader would be able to understand which words or phrases are being attempted. In the response in Figure 9, it can be seen that this participant had a better

ability to map phonological information to orthographical information. This participant is starting to develop phonetic awareness. There are two instances where words were approximated with katakana notation; straight was approximated with ストレート (sutore-to) and street with ストリート (sutori-to).



Go strait along this strait
And turn right at the third signal,
It's on your right.

Figure 9. Example of written response by L2 Ortho-Low student.

Learners in this group need integrated instruction to improve phonetic competence for problematic sounds in writing, but they generally have no problem recreating the sounds orally. The spoken response by this participant was recorded as follows: ‘Go straight along this...this...street. Go...turn...turn...right turn right at the...third signal. It’s on your left...it’s on your right.’ When compared to the written response, this spoken response is practically identical when the repetition and repair mechanisms are ignored. This participant could write most of the words they could say, apart for the two very similar-sounding cues, ‘straight’ and ‘street’. The excessive repetition may have been because of nerves, but when this spoken response is compared to the arguably more fluent ‘Sure. Go straight and third corner and turn right and on your left’ by the participant who was earlier classified as L2 Phono-Low, there is a noticeable difference in development when it comes to speaking modality. In essence, what sets the L2 Ortho-Low group apart

from the L2 Phono-Low group is illustrated in Figure 8. The example shows an L2 Phono-Low learner who wrote ‘3rd’ instead of ‘third’. It is a clear indicator of orthographical knowledge, connected to phonological information, but not to phonetical approximations of the sound of the word. In other words, this learner remembered ‘3rd’ as another option for ‘third’, whereas similarly grouped participants who were not yet at this level had trouble spelling ‘third’, and either opted for the katakana サード (*saad*) or a phonetic approximation such as ‘theid’, ‘thad’ or ‘therd’. The option ‘3rd’ was nowhere to be found in the textbook used during the first lesson, so it had to have come from the structured interlanguage of the participant. Moreover, his shortened phrases, almost native-like in their brevity and imperative tone were unlike the perfect model textbook phrases, but effective, nonetheless. His confidence in his structured interlanguage made him opt for language choices that got the job done, rather than choices that mimicked textbook phrases but may have been only half-remembered. Thus, it becomes clear that the L2 Phono-Low group and the L2 Ortho-Low group are not necessarily in a certain order. Development may start with reliable explicit knowledge of written English orthography but depend at first heavily on katakana (Figure 9) or develop pragmatically with a heavier influence from spoken conventions (Figure 8).

Within this model, only 6 students out of 77 could be categorized as being in the consolidated phase, i.e., on par with the ten-year-old group in the experiments done by Kroll (1981). Illustrated in the response in Figure 10, these students exhibited an ability to manipulate English phonetics and orthography to more or less the same extent when it came to giving directions and made exactly the same or similar morphological and syntactical choices in writing and speaking without assistance.

Go ^{ジヤク}straight along this ^{ジヤク}street.
And turn right at the second signal
It's on your left.

Figure 10. Example of written response by Consolidated student.

When the written response in Figure 10 is compared to the spoken response—‘Sure. Go straight along this street, and turn right at the second signal. It’s on your left.’—it becomes clear that this participant was a good candidate for the Consolidated group. Interestingly, the two problematic cues ‘straight’ and ‘street’ have the katakana notation above. This participant was still using her L1 phonological rules to approximate English orthography.

The L1 Grounded, L2 Phono-Low, L2 Ortho-Low, and Consolidated model of modality development, although far from perfect, allows a more usable classification of the state of the relationship between the modalities of writing and speaking investigated here. For Japanese L1 learners of English, it is necessary because as Abrams (2016) also notes, while the physical act of writing is fairly automatic for adult writers, in the L2 it becomes a conscious process once more, especially if the L2 orthography is different from the L1. The cognitive process of approximating orthographical information for phonological and morphological information already internalized is one that needs to be given adequate attention when it comes to Japanese L1 learners of English. The opaque orthography of English baffles even experienced writers. Its acquisition and processing warrant more attention because of the leap that needs to be made in each modality.

In addition, the structured interlanguage attempts by some of the participants should be of interest to researchers interested in LD and lexico-grammatical choices made by beginner English L2 learners in Japan. As already mentioned, L2 E-Language, taken in and internalized associatively, becomes structured interlanguage, or interlanguage

inevitably tainted by the L1 which was acquired perceptively and developed naturally through years of exposure.

In the process of compiling this taxonomy, other interesting tendencies were observed in the data. There were instances of structured interlanguage recorded that showed original constructions. Table 10 below lists the words and phrases that constitute complete original structured interlanguage. They qualify as structured interlanguage items because they were not taught or implied in any material during the preparation lesson and were not exact replicas of items taught in junior high school or first year of senior high school. In other words, they are completely original, "... independent of other elements in the world" (Chomsky, 1995:15), but structured using both L1 and L2 linguistic resources before being expressed in either speaking or writing.

Table 10

Structured interlanguage items observed in written and spoken responses

Participant No.	Structured Interlanguage Item	Modality
15	Go stalight 3rd coner turn right.	Writing
	Go straight. Third corner turn right.	Speaking
16	Sure. Go streito 3rd coneer. trun right. on your right.	Writing
	Sure. Go straight and third corner and turn right and on your right.	Speaking
17	Prease stop at the first coner.	Writing
	Video shop is on your right side.	
	Go straight along this street and please stop at the first corner. Video shop is on your right side.	Speaking

The items in Table 10 can be construed as structured interlanguage items due to the fact that they were not taught during the preparation lesson, were not in the prescribed material for these participants up to this point, and even though they may have been acquired as E-Language items elsewhere, for example in a cram school or during a private English lesson outside of school, they are structured in somewhat irregular phrases, yet they sound perfectly acceptable pragmatically. In other words, they make sense and would effectively direct a native speaker to the specified location. Moreover, the phrases ‘Third corner turn right’ and ‘...on your right side’ could be considered as natural in spoken English as the model phrases suggested in the textbook. Regardless of where the resources to form these phrases were acquired, the phrases were structured using internalized morphology and syntax for English, using a set of individually internalized rules that generated structured interlanguage. These interlanguage structures may have been opted for instead of the textbook phrases because they were either easier to process and produce or were more accessible in memory.

As an added note, the participants, No.15, No.16, and No.17 sat in the same row in the classroom during this investigation, hence their sequential numbers. They were good friends and had very positive attitudes toward the study of English. It is likely that they influenced each other while they were writing and getting ready to undergo the oral session of the investigation, but apart from the orthographical ‘3rd’ shared by No. 15 and No.16, and the use of ‘corner’ instead of ‘signal’ throughout, they gave varying responses, especially in writing, each attuned to their individually structured interlanguage.

Participants who opted for interlanguage structures during writing tended to opt for the same structures during speaking. This is in line with the characteristics for writers

in the consolidated phase (Kroll 1981). Structured interlanguage is a better indicator of real ability. E-Language items may constitute a temporary ability to recite learned material in writing and in speaking, but structured interlanguage items constitute an internalized pragmatic competence. Although many of the participants still struggled with spelling, they were concentrating on “. . . the interaction among speaker, listener, utterance, and context . . .” (Olson, 1977b:272 cited in Kroll, 1981:48). In turn, they drew upon their interlanguage syntax and morphology to structure interlanguage pragmatically towards a discourse goal—instead of simply reproducing textbook phrases. Regarding their phases of development, participant No.15 and No. 16 were good candidates for the L2 Ortho-Low group while participant No.17 seemed to be more consolidated.

4.3.3 Summary of Results

With this group of beginner-level L2 writers, it has thus far been illustrated that the four phases suggested by Kroll (1981) for first language writing development are useful, but inadequate at this level. The effects of L2 processing as discussed earlier using the list from Ellis (2006b) are active in both modalities and cause inconsistencies in production; the majority of the participants could speak more proficiently than they could write.

There were no instances of participants writing a direction without being able to say the same direction, therefore it is plausible that the cognitive connection to a word or phrase is first made through ‘sound’, and produced easiest orally, and that the L1 phonology is employed to approximate phonological and subsequent phonetical cues for production, in line with the production model proposed by Kellogg (1996) and neurological data concerning the role of Broca’s area (Friederici, 2011). Only after this is

the morphological information processed using the phonological information to make a phonetical and orthographical approximation in writing. Finally, these two processes are used to check or monitor the written product, as could be seen in the many cases of erased and edited written directions from the participants. The addition of katakana above already written English words is more evidence of this process of phonological confirmation afterwards.

Regarding Research Question 1, if the L1 development model from Kroll (1981) is employed, then 71 participants seemed to be in the preparation phase, with 6 participants more or less in the consolidated phase. However, the researcher proposes utilizing the modality development model original to this thesis. Thus, 9 participants were in the L1 Grounded phase, 22 participants were in the L2 Phono-Low phase, 40 participants were in the L2 Ortho-Low phase, and 6 participants were consolidated.

Another observation is that ‘sounds’ were much more accessible in memory. After a period of two weeks, the overall ability to produce written approximations of sounds was inferior to the overall ability to remember and reproduce the sounds orally. This was proven by two results in this first investigation: autonomously written words averaged 15.1 words per participant, while orally produced words averaged a higher 17.9 words, both with a significant decrease from an average of 21.4 words written during the preparation lesson; and the fact that many words were written using katakana or misspelled phonetic approximations. The researcher finds this interesting, since the participants spend a lot of time learning and practicing Japanese kanji, and often ‘write’ the kanji on their palms with their fingers to remember the stroke order and correct parts of each one. It was expected that English words would be remembered in the same way, as pictures to be recreated, but considering the samples taken here, with so many instances

of katakana used to approximate English sounds and irregular spelling used to approximate phonetic notation (61 instances in total can be seen in Appendix A), it is more plausible that the core information of words and phrases are in ‘sound’ form in the memory, not in ‘picture’ form. For the participants in this study, it seemed that the modality of writing in their L2 is developing secondary to the modality of speaking, which seems to act as a primary link between structured interlanguage and E-Language.

Chapter 5 Written and Spoken Narrations: Second Investigation

5.1 Introduction

The samples under investigation in in Chapter 4 were brief due to the type of discourse and the proficiency level of the students. Because the samples were shorter than fifty words on average, they could not be analyzed for LD, and as a result, no conclusions were possible regarding differences in overall LD in the modalities of writing and speaking.

This chapter moves on to discuss LD using longer passages. The participants in this second investigation were of a higher academic level than the participants discussed in Chapter 4, and thus were able to produce longer texts with longer sentences and more varied vocabulary.

Rie Koizumi (2012) inspected the impact of different lengths of text and found that, ideally, samples of texts subjected to measures of LD should be close to a hundred words. Therefore, the short responses by the participants giving assisted and delayed directions in writing and in speaking in Chapter 4 are too short to be measured for LD. The responses averaged 21.4 words during the assisted preparation lesson, 15.1 during delayed writing, and delayed spoken directions averaged 17.9 words.

Using pictures to elicit written and spoken responses benefits this investigation in the following ways. First, because all participants use the same pictures, their written and spoken responses can be meaningfully compared as they describe and elaborate similar events. Any differences in approach, words choices, and phrases are therefore good indicators of participant-specific characteristics. Second, from a discourse analysis perspective, events that occur synchronically, such as the series of events in the pictures

chosen here, can be described and narrated similarly in writing and speaking. Synchrony calls for well-laid out paradigms, such as those formed by discourse markers like ‘The next week’, ‘Six months later’, and ‘A few days later’ (Figure 11). Confounding variables in the form of inherent modality differences are therefore minimized. Lastly, the pictures help participants to conceptualize a response by adding visual cues. The pictures were chosen for the participants with the following factors in mind: their educational background, the compatibility of Eiken material (validated in Chapter 3), as well as current Japanese educational developments concerning social subjects such as smoking in public.

5.2 Methodology

5.2.1 Design of the Second Investigation

As mentioned earlier, a special version of the Eiken system, one that tests reading, listening, speaking, and writing in one session, is currently being considered as a nationwide university English entrance exam (MEXT, 2018). The researcher took these developments into account along with the results of the compatibility study in Chapter 3, and consequently chose a series of pictures from the Eiken Grade Pre-1 test for the purposes of this research. The pictures have been recreated as Figure 11. As can be seen, there are four pictures in total, each with some hints in the form of English phrases. During the official Eiken speaking test, test takers are expected to narrate the events. They are given one minute to prepare and are awarded points for narrating all the events within a period of two minutes (fluency and pronunciation), for using acceptable vocabulary and

phrases (lexical complexity), for forming appropriate sentences (syntax and morphology), and for answering one question from the examiner who usually asks how the test taker would handle the situation if they were to find themselves as the main character. This last question phase is not included in this investigation.

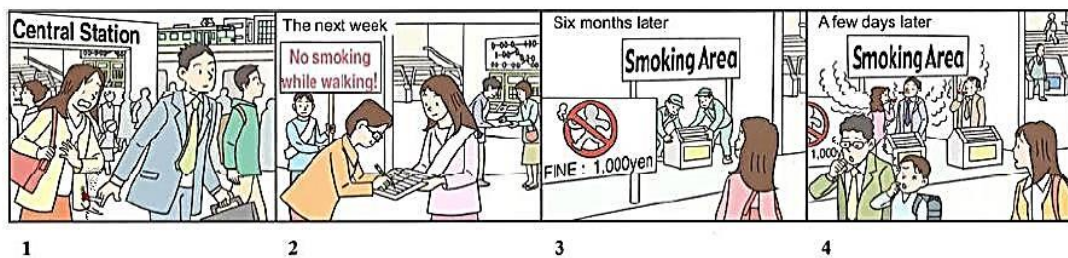


Figure 11. Eiken sourced picture series for narration in writing and in speaking.

The series of pictures in Figure 11 is fairly easy to understand, and test takers are usually familiar with the type of language expected by the test since directions and sample topics are free to download from the Eiken website. However, none of the participants in this investigation had ever taken the Grade Pre-1 test, and the researcher made sure that none of the participants had ever seen this specific series of pictures before the investigation.

The Eiken test more or less determines the correct tense for the narration. It does this by prompting the test taker with the sentence: 'One day, a woman was walking in Central Station.' The test taker then tends to continue in the past progressive tense, using the past form of *be* collocated with the gerund form of the verb throughout to form the correct conjunction for the past progressive. How well the test taker can keep to this format throughout the narration then makes up a big part of the score for syntax and morphology. Lexical complexity is assessed by looking at how well the test taker recognizes and describes the people, places, things, and situations in each picture with the

help of the English hints. Every picture narrated is then given an overall score out of five according to the impression of the examiner, with five being the highest.

This investigation, however, did not dictate a tense for narration. Furthermore, it differed from the official test in that the students could choose their own approach, use their dictionaries, and had forty minutes to write an English narrative in any which way they chose. They were told that the best response would receive a small prize in the form of a library coupon. At random, fifteen students were then chosen to go to an adjoining classroom and to narrate the events orally into a voice recorder.

5.2.2 Participants

The participants in this second investigation were a class of third year senior high school students in a private high school in the northeast of Japan. The students were enrolled in the *tokubetsu bunri shingaku ko-su* (特別文理進学コース) or specialized literature and science course. According to school data, more than 85% of the students in this course go on to tertiary education every year, so it is safe to say that the students were of an average to higher level of academic proficiency. Five students in the class had taken and passed the Eiken Grade 3 test (CEFR A2), and two students had passed the Grade Pre-2 test (CEFR B1). Many of the students were able to have simple conversations in English, and in general, the students showed a positive attitude toward the study of English.

There were 35 (N=35) written responses gathered in total, but due to time constraints, only 15 of the participants were able to give spoken responses as well. It would have been ideal to have all participants give a spoken response; however, since only one period of 50 minutes was available for the data gathering process, 43% of the

participants ($n=15$) were randomly called to give a spoken response while they were busy with their written responses. Collecting more spoken responses afterwards was an option, but since there would have been a longer delay in the time since the written response was conceptualized, there would have been no way to account for confounding variables caused by a longer delay.

5.2.3 Procedure

After a period of fifty minutes, all the written responses were gathered, and the spoken recordings were transcribed (see Appendix B for full transcripts). The written responses and spoken responses of the fifteen students under investigation were then analyzed for differences in word count, MTLTD, and approach.

The efficacy of writing for planning speech acts, such as speeches or presentations, is well documented (Cumming, 1989; Ellis, 1983; Williams, 2008); however, the ways in which beginner-intermediate level Japanese students of English as L2 go about writing and speaking autonomously are not. Most of the studies done to date concentrate either on reading and writing relationships, or on listening and speaking relationships (Belcher & Hirvela, 2008), or on the writing and speaking relationships of more advanced writers preparing for speeches (Adams & Ross-Feldman, 2008; Casanave & Sosa, 2008; Weissberg, 2006). To add to this growing body of research, research questions 1 and 2 in this thesis serve to scaffold upon the findings already discussed in Chapter 4 with inexperienced English L2 writers. To reiterate the research questions, to what extent is the writing modality of this group of beginner-level high school students ($N=35$) developed? (Research Question 1); what is the nature of the LD when written

responses and spoken responses of a sample ($n=15$) of the group are compared for MTLT? (Research Question 2). In other words, to what extent are phrases conceptualized during writing present in spoken responses? From a developmental perspective, if the written and spoken responses are made up of similar phrases, employed with a corresponding approach, then the two modalities are consolidated (Kroll, 1981), whereas if the spoken responses show different phrases characteristic of spoken language discourse, then the modalities can be considered differentiated. From a cognitive perspective, structured interlanguage items present in writing can be expected to carry over into the spoken responses to some extent. However, E-language items such as the English hints in the pictures ('Central Station', 'The next week', etc.) will definitely be present in both writing and speaking. Students can look at the pictures as they write and while they are speaking, thus E-Language items are expected to make up most of the phrases in both modalities. The focus is on the forms in which structured interlanguage and E-Language phrases are present in the written and spoken responses. If the phrases are similar in form, lengthwise, morphologically, and syntactically as well as employed with a corresponding approach, then parallels can be drawn, and writing can be considered an efficient tool for helping students notice forms. It can also then be a way for them to test out new forms that have a good chance of being reflected in spoken responses. On the other hand, if the spoken responses show little influence from the written concepts, then the modalities can be considered differentiated from both developmental and cognitive perspectives.

The extent to which phrases conceptualized during writing are present in spoken responses can be discussed by measuring MTLT for an overall comparison of LD. Baba, Takemoto, and Yokoichi (2013) followed a similar approach, but this measure only allows

for an overall impression of general tendencies. It is mostly used to make the research relatable. For a more meaningful discussion of lexical diversity in the two modalities, phrases need to be given individual attention, especially when students are encouraged to be original. Nevertheless, the MTLN readout serves as a starting point from where lexical diversity can be discussed. The formula has already been introduced, but since four of the written texts and ten of the spoken responses did not reach the fifty-word threshold where MTLN is most accurate, it is necessary to clarify the formula for shorter texts. MTLN shows the average number of words that keep to a certain type/token ratio (TTR). It is more accurate than TTR because it is less sensitive to varying text lengths. In this study, the MTLN of shorter texts, less than fifty words in length, was calculated as in (1a) below, the spoken response by Participant No. 2 (see Appendix B for full transcripts):

(1a) *Her jacket take a tobacco. Picture two. Smoke...sign...tobacco...no smoking...volunteer...[konokanji de iindesuka] [Sanbanga] Smoking herself...volunteer works... no smoking, but smoking area built.*

The Japanese interjections, '[konokanji de iindesuka] [Sanbanga]' translated as 'Is it okay like this? In number three...' are left out of the word count. The MTLN for the remaining 23 words is calculated as follows: Start at the first word and calculate the TTR of every word until the text TTR of 0.72 is reached. When it is reached, this set of words becomes a factor. In this text, it was reached after the 21st word, 'smoking', and there were two words left, 'area built', which is added to the denominator as 0.07. The word count is then divided by the number of factors, of which there was one, and a surplus piece of text of two words, 'area built', (a surplus value of 0.07).

Thus, the MTLT for the spoken response by Participant No. 2 ((1a)) can be expressed as:

$$\begin{aligned}\text{MTLD} &= \text{Number of words} / (\text{number of times TTR reached } 0.72) + (0.07) \\ &= 23 / (1+0.07) \\ &= 21.50\end{aligned}$$

The process for texts longer than fifty words is automated, and all MTLT values for longer texts were calculated using an Internet based tool, Textinspector (2018).

To qualify differences in approach, the ways in which the responses differed can be discussed by comparing phrases and discourse markers. Conventions for written discourse differ from those for spoken discourse (Coulthard, 2014). How the students decided to express themselves during the writing session with discourse markers is expected to differ from the ways in which they expressed themselves orally. Since the pictures included discourse markers to indicate the passage of time, these E-Language items were available during both writing and speaking sessions. How the students chose to incorporate them during writing and during speaking indicates their approach in each modality.

For an overall perspective of differences in fluency, each written and spoken response was also measured for its word count, which counts every lexical item produced. A word count is only a rudimentary measure, but it highlights differences in student fluency under the effect of a time limit. Students who produced more language within the given time can be considered more fluent in their production although they may not necessarily be more accurate.

Similarities in the written and spoken responses are to be expected. The participants use the same set of pictures during the writing session and during the speaking session; therefore, the material is expected to influence both responses, and E-

Language hints in the pictures (Figure 11) will undoubtedly feature throughout. Measuring how written responses differ from spoken responses will then show how the participants chose to approach the task differently in each modality. Their original phrases show how they conceptualized their written and spoken responses. By looking at how much of their original written structured interlanguage and E-Language phrases are present in their spoken responses, similar to the research already done with more advanced L2 learners (Yuan & Ellis, 2003), the researcher is able to gauge to what extent these less advanced students focused on form during writing and carried this focus over into speaking, and whether or not the students tried out new forms during writing and used them during speaking.

In order to find evidence for these two tendencies, the following two hypotheses were tested using a one-way ANOVA for each proposition.

1. Word count will decrease during speaking.
2. Lexical Diversity (LD) will decrease during speaking.

If the null hypothesis for the first hypothesis is rejected, it will be proof of the fact that students use fewer words during speaking to narrate the events; if the null hypothesis holds, then students retrieve, activate, and produce the same or more words to narrate orally. If the null hypothesis for the second hypothesis above is rejected and a decrease in MTLT during speaking is found, it will be proof of the fact that it is difficult during speaking for students to remember morpho-syntactical forms conceptualized during writing. This would confirm the weak interface position (Ellis, 1993 cited in Williams, 2008), which holds that writing does not necessarily facilitate the conversion of E-Language into structured interlanguage, at least not instantaneously. It does, however, strengthen structured interlanguage through activating frequently used words, recently

used words, and by automatizing the retrieval of target words, therefore similar words will inevitably be found in writing and speaking, even if they are fresh input from dictionaries or other E-Language sources. A decreased word count will also serve to demonstrate the effect of the immediacy of speaking, of how speaking puts additional stress on processing structured interlanguage and E-Language in real-time, resulting in fewer accessible words and shorter phrases for production. LD is expected to decrease as students repeat words, stalling to process how the words are to be strung together to form syntactically similar phrases to the ones they had just produced during the writing session.

In addition to confirming or denying the two hypotheses above, the discourse in the responses will also be analyzed to discuss how each approach differed. The students were encouraged to be original, and their approach will affect their word counts and LD in each modality, as Weissberg (2000a; 2000b) and Baba, Takemoto, and Yokoichi (2013) have also found with more proficient L2 learners in Japan. This final analysis of the discourse will compare the results of this group of beginner-intermediate EFL learners in Japan to the results of more proficient learners, drawing upon prior research done on this type of discourse analysis by Tannen (1980, 2015) and McCarthy (1991). The next section discusses the results of the first investigation

5.3 Results

Thirty minutes into the investigation, after they had had time to conceptualize their written responses, fifteen students ($n=15$) were selected from the group of thirty-five to go to an adjoining room and to record a spoken response. After a period of fifty minutes, the session was concluded and all written and spoken responses transcribed. The fifteen

written responses under investigation averaged 61.06 words per student, with the longest response measuring 98 words, and the shortest, 18 words. During speaking, the responses averaged 39.06 words, with the longest response measuring 64 words, and the shortest, 10 words. Thus, there was a decrease in word count (hypothesis 1 is confirmed). This is self-explanatory to some extent as the students had more than ten times the amount of time to form a written response; however, two students, participant No. 4 and No.6 had higher word counts for speaking than they did for writing. No. 4 wrote a narration of 22 words, but narrated the events orally in 47 words, more than double the amount of words more. No. 6 wrote a response of 27 words, and used one word more, a total of 28 words, to form an oral narration, as can be seen in Figure 12.

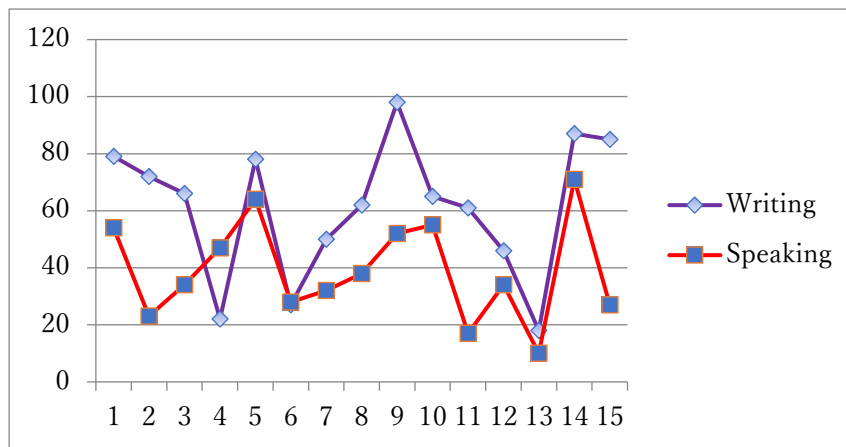


Figure 12. Plots for word count in the second investigation.

Nevertheless, the one way ANOVA confirmed a significant decrease in average words used during speaking for the group as a whole, as is outlined in Table 11

Table 11

ANOVA of Word Count: Second Investigation

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	Fischer Ratio (F)
SS Between	3630	k-1=1	3630/1	3630
SS Within	12577.87	N-k=28	12577.87/28	449.2
Total	16207.87			F(1,28)=8.08

As can be seen in Table 11, the variances within groups and between groups, even with the two outliers, Participant No. 4 and No. 6 who spoke with longer word counts, were not extensive enough to render the overall decrease in word count insignificant. The average word count was therefore significantly less during speaking ($F(1,28)=8.08$); ($p=0.008$). An additional T-Test also presented a low probability of getting the same results randomly ($p=0.008$).

The same procedure was followed to analyze the variances within-and-between groups for MTL D to look for a statistically significant decrease in LD. Overall, MTL D decreased from an average of 52.7 during writing to an average of 27.8 during speaking, confirming hypothesis 2. The student with the highest LD during writing was Participant No. 11 with an MTL D readout of 82.79, and the student with the lowest LD had an MTL D readout of 11.5. During speaking, the student with the highest LD was Participant No. 5, who had a slightly higher MTL D readout, 55.08, than she had during writing, 54.44, as can be seen in Figure 13.

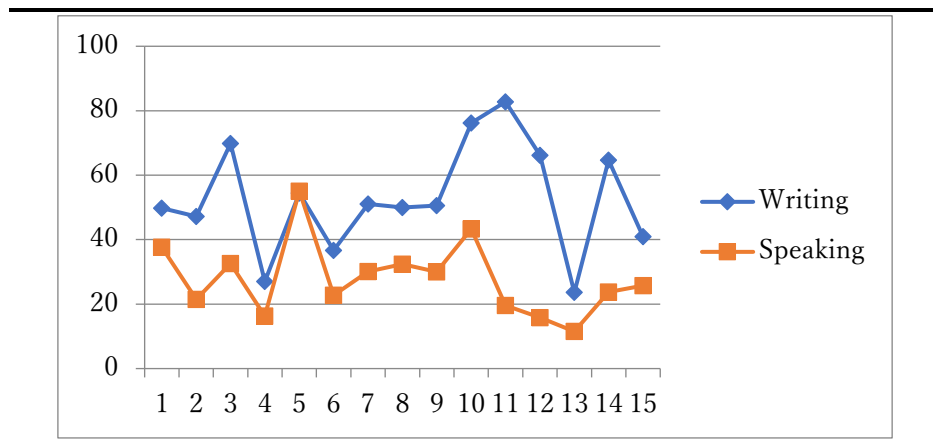


Figure 13. Plots for MTL D in the second investigation.

The lowest LD during speaking was by Participant No. 13, who also had the lowest word count during speaking. Table 12 outlines the ANOVA for MTL D.

Table 12

ANOVA of MTL D: Second Investigation

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	Fischer Ratio (F)
SS Between	4635.644	k-1=1	4635.644/1	4635.644
SS Within	5859.006	N-k=28	5859.006/28	209.25
Total	10494.65			F(1,28)=22.15

The variances between-and-within groups were even less influential in the case of the MTL D readouts, as can be seen in Table 12. Even with the slightly higher MTL D readout during speaking for Participant No.5, there was a significant decrease in the readouts on average (F(1,28)=22.15); ($p=0.00006$).

5.4 Summary: Second Investigation

5.4.1 Addressing the Initial Hypotheses

Both word count and MTLTD decreased significantly during speaking, confirming hypothesis 1 and 2 for this investigation. The causes of the decreases cannot be isolated in this investigation; however, the results are indicative of clear differences in processing and production in the modalities of writing and speaking for Japanese learners of English as EFL at this level. Although there were two instances of students speaking with more words than the amount with which they wrote, in general, students can be expected to use fewer words in their spoken narrations at this level of proficiency. According to the MTLTD readouts, students can also be expected to speak with a lower LD than that with which they write when given plenty of time. This taxonomical information on the modalities of speaking and writing allow certain initial claims towards Research Question 2 of this thesis: The LD in written narration and spoken narration varies even when discourse variables are kept constant. At this level, EFL learners in Japan can be expected to speak with a lower LD than that with which they can write when given adequate time and access to E-Language sources.

Decreases in word counts and MTLTD make the research relatable to the work already done by others, such as Baba, Takemoto, and Yokoichi (2013). In their studies at the university level in Japan, they found a similar result, with MLTD, text length, and sentence length significantly lower during speaking. However, to qualify the differences in approach during both modalities for students at the beginner-intermediate level, more detailed analyses of individual lexico-morphological choices and discourse markers are

necessary.

The following sections discuss discourse observed during writing and speaking. It delivers a taxonomical discussion of the aspects of the modalities that can be expected as factors affecting autonomous production in each modality.

5.4.2 Taxonomical Data of Development in the Different Modalities

As far back as 1979, Ochs (1979) already laid out a useful set of parameters by which written and spoken discourse could be compared for differences in approach, albeit with native speakers of English. She states that written language, with its elements of conceptualizing, planning, and monitoring, differs from spoken language in that spoken language shows a higher incidence of morphosyntactic structures acquired earlier in life. Indeed, the students in this investigation seemed to revert to easier, safer, well-rehearsed phrases (structured interlanguage for the purposes of this thesis) in their spoken responses, even when they seemed to have some modicum of control over how they structured sentences in their written responses. Take, for example, the start of the spoken and written responses by Participant No. 2 below (see Appendix B for full transcripts).

Participant No. 2 Written Response:

*'Her jacket **took** a **smoke**. A men is smoking while walking. She volunteer works of "No smoking while walking", and sign for people the next week at the central station. She built bord but smoking area built by city of hall for six months later...'*

Participant No.2 Spoken Response:

*"Her jacket **take** a **tobacco**. Picture two. Smoke...sign...tobacco...no smoking...volunteer...[konokanji de iindesuka] [Sanbanga] Smoking*

herself...volunteer works... no smoking, but smoking area built.”

Her opening already illustrates this tendency well. She opted for the better-known word ‘tobacco’ over ‘smoke’. The reason for this is that ‘tobacco’ is a direct translation for the Japanese *tabako* (タバコ), which refers to cigarette, and it can be surmised that she found this description for a cigarette more readily processed than the word ‘smoke’. She also reverted to the less accurate present tense of ‘take’ instead of ‘took’. She had time during writing to consider how English narrations are formulated and had the knowledge that narrations are usually done in past tense as they are in Japanese, but this explicit knowledge of E-Language forms did not successfully carry over into her spoken response. Her structured interlanguage had not generated this contingency yet, and as a result, she reverted to a better known, perhaps more frequently used version of the irregular verb, which is in the present form, ‘take’.

Ochs (1979) goes on to state that in spoken responses, there is more reliance on context immediately perceptible, such as things seen in the immediate environment, emotions being processed in real-time, and the relationship with the speaker. This is also clearly illustrated in the differences in the written and spoken extracts by Participant No. 3.

Participant No. 3 Written Response:

*‘One day, a woman’s jacket was burned by tobacco in the central station. The next week, the woman **started gathering a sign**. She proceed with “No smoking while walking”.’*

Participant No. 3 Spoken Response:

*‘Woman’s jacket burned...was burned by tobacco. **A man** was writing sign the [enquete]. Smoking area make six months later.’*

In the written response by Participant No. 3, a conventional discourse marker for storytelling, ‘*One day*’, was employed. However, the spoken response starts off with the people under focus in the first picture as direct agents: the man and the woman. As in the response by Participant No. 2, Participant No. 3 also reverted to a Japanese translation for a French word, *enquete* (アンケート), which means questionnaire instead of the written ‘*started gathering a sign*’. This participant relied on context immediately perceptible and reverted to lexical and syntactical choices acquired earlier in life (structured interlanguage), before the written response had been conceptualized.

The two tendencies above are confirmed by this research. Students reverted to structured interlanguage during speaking and relied on context immediately perceptible. In writing, they tried out new forms, incorporating E-Language items from dictionaries, the pictures themselves, and other sources at their disposal, but since these language items had no time to be cemented, during speaking they reverted to morphosyntactic structures acquired before the writing task. The immediacy of the interaction and the pictures influenced the spoken responses and made them more focused on the people, places and things seen momentarily.

However, this research seems to negate Ochs (1979) concerning her next observation. She states that learners tend to use more deictic markers in speaking than in writing. They tend to use more deictic modifiers, such as ‘this man’, ‘here’, and ‘now’; however, the participants in this study did not show this tendency. They seemed to keep their modifiers concerning the situational description of time and space constant in writing and in speaking. One reason for this deviation could be that at this level, the learners are not able to use deictic modifiers correctly, and as a result, avoid using them altogether. In fact, when they did attempt to describe people and things situationally, they

often reverted to the simplest modification, as is illustrated in the excerpts of the written and spoken responses of Participant No.6 and Participant No.7 below:

Participant No. 6 Written Response:

- ‘1. **Her** coat was burned by **his** Tabaco.
2. **Everyone** were written for No smoking while walking.’

Participant No. 6 Spoken Response:

‘**She...her** coat was burned by **his** tobacco, **She...write everyone** no smoking while walking.’

Participant No. 6 used the deictic “her”, “his”, and “everyone” throughout. These pronouns are decidedly deictic, because the reader or listener would have to be looking at the pictures to understand who is being referred to. Nevertheless, the written and spoken responses do not differ in the use of deictic expressions. In the response by Participant No. 7, the agents are referred to in a more nondescript way.

Participant No. 7 Written Response:

‘**A woman** was damaged her jacket by **a man** have tabaco. The next week, **woman** ask **many people** write **their** sign.’

Participant No. 7 Spoken Response:

‘**A woman** was damaged her jacket by **a man** have has tobacco. **The woman** ask...woman ask...write sign.’

Whereas Participant No.6 opted for deictic markers to tell the story in an involved, personal way, Participant No.7 told the story in a more conventionally written way. The written and spoken responses did not, however, vary. They kept to the same form. With this group of participants, the preference for deictic markers did not show up in speaking as was found by Ochs (1979). Instead, when a participant chose a certain pronoun to

describe a person in the picture, or a certain modifier to describe time and space in writing, they tended to use the same expressions when speaking. The researcher does not find any reason to believe that this is a conscious choice; rather, at this level of proficiency, and with this particular group of participants, it is feasible that they were still unable to choose explicitly between the two ways of framing the milieu.

Two more tendencies were observed that agree with the observations made by Ochs (1979). They are the avoidance of relative clauses, and the use of repair mechanisms during speaking. The former will be discussed in more detail in the next chapter with university students as examples. In this investigation with senior high students, the responses show almost no compound sentences with subordinate clauses; however, the responses by the university students observed in chapter five show some complex sentence structures with relative clauses.

As for the latter, repair mechanisms, this group of high school students were once again in line with what Ochs (1979) proposes. There were many occasions where the students framed a subject, then paused, then repeated the subject again when they framed the verb, and then repeated the subject and the verb to frame the object or complement. They built the sentence up bit by bit, constantly monitoring and reorganizing, repeating every new chunk of language as they went along. Once the sentence is complete, the next subject is uttered followed by a pause, then a repetition of this subject with its verb, and so on until the next sentence is complete. This is illustrated in the written and spoken response of participant No.10.

Participant No. 10 Written Response:

'A few days later, many smoker go there. But much smoke are bad for many people's health.'

Participant No. 10 Spoken Response:

'A few days later, smoking area...many people...go to...smoking area, but much smoke...much smoke is bad for many people's health.'

Participant No.10 had above average word count and MTLT readouts. She was one of the more proficient students in the class. It is feasible that she tried to remember what she had written while she was forming her spoken response, because the written and spoken responses are almost identical. The spoken response shows how she first chose 'smoking area' for the subject but discarded it for 'many people' and made 'smoking area' the object of the sentence instead. This is one instance of many where students could be observed building sentences as they went along, part by part, and using repetition as a repair mechanism. The next chapter, where this study is recreated with university students, confirmed this use of repair mechanisms with more evidence.

With this group of thirty-five senior high school students, this second investigation was designed to taxonomize the LD in written and spoken responses and to facilitate a discussion as to how these differences are products of language processing under the conditions of narrative descriptive writing and under the conditions of spoken narration. The participants were not told that they would have to tell the story afterwards, and as a result, the fifteen random spoken responses were not in danger of being rehearsed versions of the written narrations.

The study used three frameworks to discuss the differences in the modalities of speaking and writing at this proficiency level. First, using the modality development model (Kroll, 1981) and the modality developmental taxonomy original to this thesis, this investigation has rendered the following evidence in answer to Research Question 1. None of the 35 participants were in the L1-Grouped group. All of them had the ability

to narrate at least some parts of the pictured events effectively in writing. One student used katakana for some words, which means that he was either not able to find the words in a dictionary or did not bother to look them up. He was considered a candidate for the L2-Phono Low group as he seemed unable to approximate orthographical cues for the sounds of the words he was trying to express. Three students were considered good candidates for the L2-Ortho Low group because they misspelled most of the words they tried to write and made mistakes such as ‘angly’ for angry, ‘barned’ for burned, and ‘smork’ for smoke. The remaining thirty-one participants were all considered good candidates for the consolidated phase (Kroll, 1981).

Second, the study used a framework set out by Baba, Takemoto, and Yokoichi (2013) to see if there would be a difference in word count and lexical diversity on average during writing and speaking at this level. In line with the intuition of the researcher, both word count and MTLTD decreased significantly during speaking, even when participants had ample time to relay the events in the pictures orally.

Finally, using a framework by Ochs (1979), certain differences in approach in writing and speaking could be observed. The participants reverted to morphosyntactic structures acquired earlier in life, before the written responses were formulated. They used people and objects immediately observable as agents during speaking and made the interaction more intimate in the presence of a listener with fewer abstract discourse markers. They also used simple sentence structures devoid of subordinate clauses during speaking, and when they constructed their sentences, they used repair mechanisms in the form of repetition as they built their sentences up piece by piece, often repeating the first piece (subject) when the verb is framed and then the first and the second piece (subject + verb) when the object or complement is framed and then starting the whole process again

when the next sentence is built.

In summary, the participants in this second investigation differ in proficiency from the participants in the first investigation, and this shows in their more developed writing ability. They do, however, share some tendencies. Both the first investigation in Chapter 4 and the second investigation in this chapter show a significant decrease in the number of words used during speaking, which for the purposes of this research, is interpreted as a lower level of fluency during speaking, but as will be shown in the next chapter, this tendency did not seem to surface in the spoken responses by participants at the university level.

Chapter 6 Written and Spoken Narrations: Third Investigation

6.1 Introduction

The previous chapter investigated written and spoken responses by a group of senior high school students who narrated a series of Eiken sourced pictures (Figure 11). In this chapter, the study is recreated with a group of 86 undergraduate students from one of the top public universities in the northeast of Japan in order to discuss how the modalities of writing and speaking are developed in relation to one another at a higher proficiency level. It is an opportunity to expand the taxonomy of behavioral data and gauge the relationship between speaking and writing as processes towards building communicative competence (Rubin & Kantor, 1984).

The first investigation in Chapter 4 used written and spoken responses that were guided by model E-Language phrases for directions and were too short to analyze statistically for lexical richness. The second investigation in Chapter 5 looked at longer responses, but these were often not in the fifty-to-one-hundred-word range where MTLTD is meaningful as a measure of LD (McCarthy & Jarvis, 2010; Koizumi, 2012). In this chapter, however, most of the texts were well over the fifty-word benchmark, and thus the results are statistically more significant. With these longer texts, the researcher was able to relate the results to other studies that looked at how L2 writers differ from L1 writers.

Acquiring the ability to express oneself in writing in an L2 is no easy task, and even proficient L2 writers exhibit certain traits that divulge the influence of their L1. After mastering the daunting processes of learning the orthography of the L2, its punctuation,

genre specific discourse, etc., L2 texts still differ in character from L1 writing in that they are inevitably colored by the L1, and their quality is subject to the level of proficiency in the L2 regardless of whether the writer is talented as a storyteller, journalist, blogger, or poet in their L1.

Regarding sentence structure, Silva (1993) states that L2 writing is often characterized by an abundance of shorter T-units (main + dependent clauses). L2 writing generally contains fewer and longer clauses. It also uses more coordination in the form of conjunctions and uses less noun modification and less passivation. Where lexis is concerned, L2 writers exhibit less lexical control i.e., the ability to play with words and use them in intuitive ways, show less variety in the words they choose, and tend to use morphology that they are comfortable with, in other words, they stick to word forms they are familiar with and are less likely to experiment with additions such as prefixes and suffixes.

These tendencies vary across different first languages. Reid (1988) found that Spanish writers of English use longer sentences and more pronouns. They also use more nouns than L1 writers and more lexical overgeneralizations. Swedish speaking students who write in English tend to lack variation and originality in vocabulary and use idioms and collocations that L1 English readers find oddly obscure. Kobayashi (1984a, 1984b) states that L1 English writers work toward a general-to-specific (deductive) rhetorical pattern whereas Japanese writers of English work toward a specific-to-general (inductive) pattern.

However, studies such as these are indicative of L2 writing at a much higher level than is under investigation in this thesis. Nevertheless, some of these tendencies were observed in the writing of the participants in this group of university students. They

will be discussed in later sections.

6.2 Methodology

6.2.1 Participants

The participants (N=86) were gathered from two classes in the first-year science course of one of the top-rated public universities in the northeast of Japan, and English was one of their compulsory subjects. They were all able to have simple conversations in English. Since one of the prerequisites for entering their course was a good score on the national English entrance exam for entering a public university, *senka shiken* (センター試験) or center test, it is safe to say that they were at an intermediate level as far as grammar knowledge and listening ability is concerned. Speaking is not tested upon entrance in this university. It was clear during the investigation that there was a varying degree of proficiency when it came to speaking skills. During the investigation, the participants seemed to enjoy the chance to converse with a native speaker, but some seemed nervous and uncomfortable during the speaking task. The study inquired into their modality preferences, and as was discussed earlier, most of the participants replied that they preferred writing to speaking, in line with the results reported by Baba, Takemoto, and Yokoichi (2013), and contradictory to the results from the high school students under discussion in previous chapters of this thesis.

6.2.2 Design of the Second Investigation

Whereas the first two investigations elicited hand-written responses from senior high school students, this investigation gathered data online. The researcher used Google Forms to design a questionnaire linked to a spreadsheet, and then sent a link to the questionnaire to each participant. The participants opened the form via the link from a computer or smart device and answered a set of questions before typing a narration of the events in the pictures (Figure 11). They were instructed to keep to a five-minute time limit to ensure that the responses would be comparable for word count and MTLT readouts. A total of 86 written responses were elicited online.

One week after the participants had typed their narrations, the researcher visited the two classes, one on Wednesday and one on Friday in the same week in April 2018 to ensure that a similar amount of time had lapsed between the written and spoken response for each participant. Thirty-five ($n=35$) students were selected at random to narrate the same set of pictures orally. Each student was told that they should try to relay the events in around two minutes, but that going over time was not an issue. An iPhone 6 was used to record the oral narrations. The recorded responses were then transcribed by hand and typed out. Complete transcripts of the thirty-five spoken and written responses can be seen in the Appendix C.

It has already been mentioned that writing has been proven to help learners focus on form and serves as a platform of expression where they can try out new forms in a relatively stress-free environment (Williams, 2008). Results from such studies were visible in journals, collaborative writing exercises, and peer writing exercises (Weissberg, 2000a; 2000b). These all require longitudinal data gathering to observe changes in

speaking and writing over time. It would have been optimal to do the same with the group of participants in this study, but due to time constraints, this study looks at only one delayed speaking exercise. It does, however, also ask the same question: whether language produced during writing is similar to language produced during speaking when all variables such as time, discourse type, available E-Language items for reference, and language goal are kept as constant as possible. In other words, is there evidence in the oral narrations of learners focusing on form and using forms of expressions they had tried out in their written narrations, or do they simply revert to structured interlanguage acquired earlier in life?

Although the results of this investigation cannot make any claims toward the efficacy of writing as planning mechanism for speaking, they facilitate a meaningful discussion of the differences in language produced in writing and speaking (research question 2). This study is a recreation of the investigation in Chapter 5, and therefore works with a similar aim. The researcher aimed to see to what extent phrases conceptualized during writing were present in spoken responses. If the spoken responses resemble the written responses in lexical choices as well as in syntactical choices, then the writing task can be said to have influenced the activation of words and phrases that were then chosen for production in the speaking session as well. This is measured in word count and lexical diversity using the MTLN to get an overall impression of general tendencies, and then discussed in more detail by comparing discourse markers, approach, and through a comparison using the framework laid out by Ochs (1979). As in Chapter 5, the following two hypotheses are tested:

1. Word count will decrease during speaking.
2. Lexical Diversity will decrease during speaking.

Following the same procedure, if the null hypothesis for 1 is rejected, then there will be an overall drop in the number of words used during speaking. If the null hypothesis for 2 is rejected, then students at this level can be considered better able to use a variety of words during writing or typing, with a general tendency to use less variety and more repetition in speaking. The research question and hypotheses serve to facilitate a discussion of how the once-off writing exercise affected the delayed speaking session, of how much of the structured interlanguage and E-Language conceptualized during writing was accessed, retrieved, and produced during speaking.

6.2.3 Procedure

In Chapter 5, a group of high school students were tasked with writing a narrative of the events in a series of pictures sourced from the Eiken Grade Pre-1Test (Figure 11). In this investigation, participants were tasked with typing a narration for the same set of pictures online using a computer, a tablet, or smart device. Of the eighty-six responses recorded, thirty-five ($n=35$) were randomly sampled as a sample and these students were asked to record a spoken narration as well.

6.3 Results

The typed narrations averaged 60.8 ($\sigma=29.7$) words, and the spoken narrations averaged 79.2 ($\sigma=27.5$) words, as can be seen in the plots for word count in Figure 14. Recall that, in Chapter 5, the written responses by high school students averaged 61.06 words per student, with the longest response measuring 98 words, and the shortest, 18 words. During

speaking, the responses averaged 39.06 words, with the longest response measuring 64 words, and the shortest, 10 words.

The university students did the opposite. They used more words in their spoken responses, not fewer. The null hypothesis cannot be rejected. Word count did not decrease during speaking as can be seen in Figure 14.

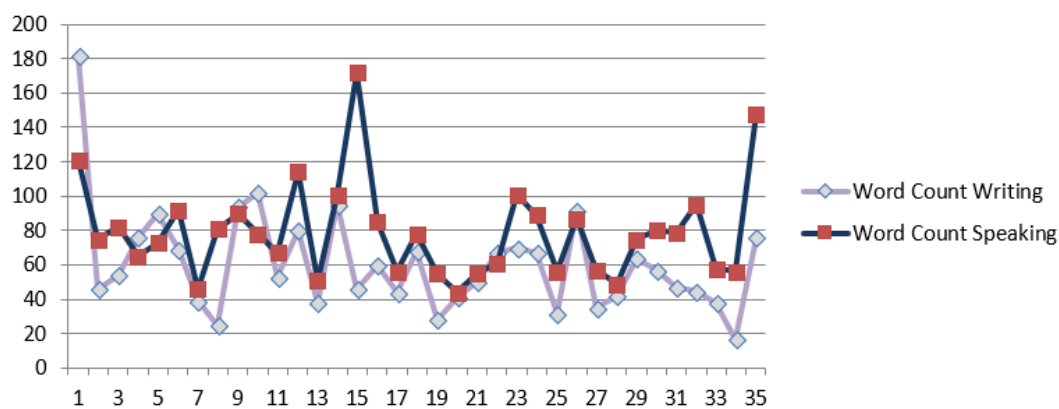


Figure 14. Plots for Word Counts in responses by university undergraduates.

As can be seen in Figure 14, only six participants typed the events with more words than they used when they spoke, and there is a tendency for word count to correlate in writing and speaking i.e., students who used fewer words during typing also used comparatively fewer words during speaking; however, this correlation is only somewhat significant ($r=0.459$).

To assess differences in lexical diversity, the MTLN readouts for all transcribed written and spoken responses were calculated using the same procedure as laid out in Chapter 5. The MTLN readouts averaged 54.2 ($\sigma =18.7$) during writing, and a considerably lower 28.11 ($\sigma =12.24$) during speaking. The plots for the MTLN for each

participant can be seen in Figure 15.

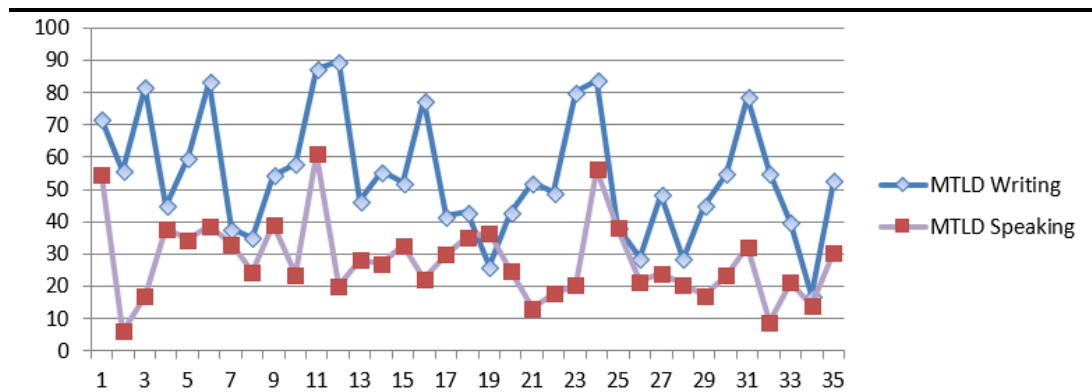


Figure 15. Plots for MTL D readouts after responses by university undergraduates.

Figure 15 shows that only one participant, No. 19, had a higher MTL D readout during speaking, and that participant No. 25 had almost identical readouts for writing and speaking (38.21 for writing and 38.05 for speaking). Although there was a clear tendency for the MTL D readout to be higher for written texts, there was a weak correlation between writing and speaking ($r=0.3$), which means it is not easy to predict lexical diversity in speaking given a readout for writing. In other words, participants seemed to vary individually.

Contrary to the intuition of the researcher, the null hypothesis for 1 cannot be rejected. Word count increased on average during speaking, and this increase was statistically significant, as can be seen in the ANOVA laid out in Table 13.

Table 13

ANOVA of Word Count: Third Investigation

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	Fischer Ratio (F)
SS Between	5906.414	k-1=1	5906.414/1	5906.414
SS Within	57558.57	N-k=68	57558.57/68	846.4496
Total	63464.99			F(1,68)=6.977

Word count increased on average, and the Fischer ratio ($F(1,68)=6.98$) gives a probability of getting the same results under random circumstances of $p=0.01$. The critical value was set at $\alpha=0.05$, and $p > \alpha$; the null hypothesis for 1 cannot be rejected. Word count increased during speaking.

Regarding LD, the null hypothesis for 2 is also not rejected. On average, the MTLT readouts decreased during speaking. However, as can be seen in Table 14, the Fischer ratio of $F(1,68)=3.981$ gave a $p=3.33$ probability of randomly getting the same results ($\alpha=0.05$, and $p > \alpha$). With this much variance in the sum of squares, it is not possible to make any claims towards a statistically significant decline in lexical diversity. This variance shows that the students were not uniform in their replies. In other words, their ability to produce coherent spoken responses varied greatly, and it can be inferred that their proficiency in spoken English varied a lot from student to student as well.

Table 14

ANOVA of MTLT: Third Investigation

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	Fischer Ratio (F)
SS Between	11907.87	k-1=1	11097.87/1	1109.87
SS Within	17545.51	N-k=68	17545.51/68	258.0222
Total	29453.37			F(1,68)=3.981

As can be seen in Table 14, the MTLT readouts decreased, even with participant No. 19 who had a higher MTLT during speaking and participant No. 25 who had an almost identical readout for writing and for speaking. However, there was a considerable amount of variance within the group, so the probability of getting the same results randomly is too high to reject the null hypothesis. Therefore, this investigation cannot claim that MTLT will decrease during speaking.

This result has implications for the proposed taxonomy. For one, LD in writing and speaking is not constant across levels. In the senior high school group in Chapter 5, MTLT decreased significantly during speaking, but in this investigation with intermediate-level university students, it did not. Another implication is that educators should expect development to vary at an increasing rate as students become more developed writers.

With these longer texts, a more meaningful discussion is possible concerning the modalities of writing and speaking in English as L2 for Japanese learners at this level. The MTLT readouts were more reliable with these longer written and spoken transcripts, and since the participants are better able to write autonomously, the choices they made

during writing and speaking as well as the differences in these choices are better reflected in the statistics.

When the undergraduate participants in this investigation are compared to the senior high school students in Chapter 5, a difference in development can be seen. The undergraduates were able to type the events in the Eiken pictures (Figure 11) in around 5 minutes. Most of the high school students in Chapter 5 may have struggled to do so. The difference in development in writing ability is therefore self-evident. However, when the speaking transcripts of the university undergraduates are compared to their typed transcripts, there seems to be a development in fluency (more words), but not in the ability to speak coherently. Although there was a significant decrease found in the word count for the senior high school students during speaking, an increase was found in this undergraduate group. Many in the latter group spoke with significantly more words. At the same time, their MTLN decreased and was extremely varied. Thus, they used fewer words to type the events, but the oral narrations were structured with varied LD. The only explanation for this could be the repetition of words. Indeed, as will be discussed in the next section, repetition of words accounted for a great deal of the significant fluctuation found in the word counts for the undergraduates. Words and phrases were often repeated in false starts, pauses, and in the middle of sentences when the students rephrased problematic structures.

6.4 LD as Indicator of L2 Processing Tendencies

While the word count was proven to be higher in the spoken responses in this investigation, LD declined but the varied responses from the undergraduate students

rendered that result insignificant. Nevertheless, the various words and phrases accessed, retrieved, processed, and produced during speaking delivered interesting taxonomical results. Some of the tendencies can be meaningfully discussed using the framework set out by Ochs (1979) and the structured interlanguage and E-Language framework discussed in this thesis.

As in Chapter 5, there were many more cases of shorter T-units in the spoken responses in this investigation, in line with observations made by Silva (1993). Students in this investigation also relied more on context in their immediate environment to frame the narration when they were speaking, confirming claims towards such tendencies by Ochs (1979). However, the tendency towards using more deictic modifiers proposed by Ochs (1979) could not be corroborated. Again, as with the high school students, there seemed to be no tendency toward changing the characters in the story to ‘this man’ or ‘this woman’ or overtly using other possible deictic markers.

In line with what Ochs (1979) suggests and with the results in Chapter 5, this group of undergraduates reverted to making lexical and morpho-syntactical choices based on structured interlanguage acquired earlier in their lives, before the typed narrations had been conceptualized. Thus, their spoken responses were less diverse when it came to vocabulary, and more rudimentary when it came to phrase structures and sentence structures. As examples of this reversion, consider extracts from the written and spoken responses by participants No. 6 and No. 9 (see Appendix C for full transcripts).

Participant No. 6 Written Response:

*‘So the next week **she collected a lot of signature to ban smoking while walking.**’*

Participant No. 6 Spoken Response:

*‘So the next week, **woman asks the people to stop smoking while walking in front***

of the station.'

Participant No. 9 Written Response:

*'Smoke is so terrible that **people walking by the area cough**. The woman is embarrassed again.'*

Participant No. 9 Spoken Response:

*'But few days later, many people began to smoke in smoking area, and the people...**people walking around there is feel too bad**. A woman woman was embarrassed again.'*

In the two examples above, it is illustrated that the written responses were more sophisticated in structure than the spoken responses. More of the vocabulary used in writing crossed over into the spoken responses than was the case with the senior high school students, but words that may not have been processed frequently, such as 'cough', and 'collect' still reverted to more familiar expressions such as '...feel too bad' and 'asks'.

Regarding sentence structure, as Ochs (1979) has demonstrated and again corroborating the results found with the high school students in Chapter 5, many of the undergraduates seemed to be able to manipulate relative clauses while writing but had trouble doing so while speaking. The written and spoken extracts of participants No. 3 and No. 4 illustrate this tendency.

Participant No. 3 Written Response:

*'One day, a cigarette **which a man** was smoking hit a woman's clothes at the Central Station. The next week, she started signing activity to stop smoking while walking.'*

Participant No. 3 Spoken Response:

*'One day, a woman was harmed by a cigarette **who...whose...cigarette which a***

man was smoking.'

Participant No. 4 Written Response:

*'In the Central Station, I saw the man **who was walking** in his hand with a tobacco. It was so dangerous because the tobacco might harm me.'*

Participant No. 4 Spoken Response:

*'One day, the woman find a man have tobacco **with his hands**, and he was walking. He thought that it is so dangerous.'*

Forming a sentence with a relative clause in English is not as easy in real-time as it is during writing when the antecedent ('a cigarette' and 'the man' respectively in these two cases) is visible on screen or on paper. During speaking, the antecedent needs to be kept in the working memory when the relative pronoun is chosen, and the rest of the sentence is constructed, hence the pause '*who...whose...cigarette*' during the spoken response by participant No. 3 and the coordination '*with his hands, and he was walking*' during the spoken response by participant No. 4. Both instances divulge moments of processing under the stresses of speaking done in real-time.

6.5 Summary: Third Investigation

To the surprise of this researcher, neither hypotheses 1 nor 2 could be confirmed. Word count did not decrease during speaking, and LD was too varied to be indicative of a statistically significant decrease. This is in stark contrast with the high school students who underwent the same experiment in Chapter 5. With these results, it can be inferred that the undergraduate students were more prolific speakers and varied more from student to student. Their responses did, however, mimic the morpho-syntactical choices that the

high school students made under the stresses of oral production.

Many of the students in this investigation reverted to structural interlanguage conceptualized earlier in their lives, i.e., before they had attempted their written narration. Proof of this could be seen in the way they spoke with simpler terms. These terms overshadowed E-language. While they were writing, they experimented more with new terms, for example ‘*cough*’ instead of the simpler, more familiar ‘*feel too bad*’ (participant No. 9).

Since there were many instances of students reverting to familiar words and phrases during speaking, there is little reason to believe that a once off writing session could help learners pay attention to form, nor that this awareness could help develop speaking skills. The research corroborates the findings by Williams (2008:12) who states that “... it is not possible, strictly speaking, to propose any direct influence of writing on the development of the L2 competence that underlies oral proficiency.”

Many of the written responses showed thematic content words that were not present in the spoken responses. These were probably E-Language items from sources such as dictionaries. Perhaps, under the more relaxed conditions of writing (typing), students were also able to toy with synonyms, to test structures and to see how they look on screen. There is also, of course, the possibility of spell-checking software that may have assisted them in producing a word of which they knew only the approximate spelling and use. There is, unfortunately, no way of gauging which phrases were new to them during writing and were effectively internalized as structured interlanguage for speaking. In Chapter 4, the directions were controlled with E-language from textbooks, but in this investigation, each participant drew upon their own E-language and structured interlanguage. The majority of the participants narrated the events in more words while

speaking. At the same time, their MTLTD decreased but was too varied to be statistically significant.

Lastly, the fact that the majority of the undergraduates in this investigation attested to preferring writing over speaking prompted the researcher to consider the two modalities in light of the amount of motivation (Ushioda, 2012) behind each one (recall that 89.7% reported informally that writing is easier than speaking). This raises the question as to how students can be made more aware of their own autonomous development. In other words, how can students create a taxonomy of development for themselves to make themselves more aware of the areas in which they have to improve their writing and speaking skills? Whereas Chapters 5 and 6 include research that was done in once-off experiments, the next chapter takes a more longitudinal approach towards this goal, albeit only for the period of one month. The researcher attempted to gauge if the transcription of conversation data would help students become aware of their speaking modality development. A class of undergraduates were videoed on a weekly basis while they had conversations, and then tasked with transcribing their own conversation data. How students can create their own individual taxonomy of their writing (typing) and speaking development is discussed in the next chapter.

Chapter 7 Conversation Data as Record of Development

7.1 Introduction

7.1.1 The Objective Subjective (OS) Scoring System

One way in which students can create a record of their writing and speaking development is discussed in this chapter. It incorporates elements from an investigation done by Gardiner (2018) in which he employed a method of video transcription proposed by Wanner (2002). In this chapter, the modalities of writing and speaking are discussed considering videoed autonomous conversations on chosen topics for speaking, and the subsequent transcription of these conversations for writing. For the students, their main goal was to rate themselves by giving themselves scores according to how well they managed to beat their own data from previous conversation sessions. In other words, students were encouraged to speak more and more, to assess their own development, and to focus on their own innate errors.

The researcher aimed to taxonomize undergraduate writing and speaking modality tendencies in a communicative setting this time, not as a narration as was the case in Chapters 5 and 6. Thus, each student had a chance to reflect on conversational strategies as well while they transcribed every word they had said.

Having participants in a group and collecting data on structured conversations allows a taxonomy of how they develop their ability to converse autonomously. There were clear improvements on average when it came to speaking fluency, as will be elaborated later, and participants were given an opportunity to create their own

taxonomical record of this development. The Objective Subjective (OS) Scoring system elaborated in this chapter sets clear immediate learning goals for every individual, which form steppingstones on the path to speaking proficiency, but concentrates on fluency, i.e., amount of language produced (Gardiner, 2018). It also involves students rating themselves with data compiled after transcribing their videoed conversation sessions.

As an easy to use, effective scoring system that can be implemented in any English course in a tertiary learning environment in Japan, the OS scoring system is designed in such a way that the students become the creators of their own corpus. They are ultimately measured against their former selves. The OS scoring system aims to lower the affective filter of students by giving them a sense of control over their assessment—a valuable attribute according to Bodnar, Strik, and van Hout (2016)—and by allowing students to analyze their own data to see where they need to make progress in their ability to converse.

The OS Scoring system represents the culmination of fourteen years of trial and error using video to assess speaking skills. Wanner (2002) describes in detail the first attempts at Kyoto Institute of Technology that assessed group discussions using video and the subjects themselves as raters. Since then, technology has improved, and the process has been streamlined to deliver more accurate qualitative as well as quantitative data.

OS Scoring differs from conventional rating in the high entropy tasks it requires in each conversation session. High entropy tasks include more unpredictable activities such as expanding on the opinions of others, not only question responses with predictable answers (Bhat & Su-Yoon, 2015), or narrative activities such as those in Chapters 5 and 6 of this thesis. Unlike the human to computer interaction, which is the norm in

conventional rating (Bachman, 1996; Fulcher, 2003; Iwashita, Brown, McNamara, & O'Hagan, 2008), OS scoring involves human to human interaction which necessitates real time responses to natural, unpredictable conversation. Table 15 outlines the five main differences in the processes of conventional speech rating and OS Scoring. The conventions of automated rating here have been compiled using an Educational Testing Services (ETS) research report (Zechner, Chen, Davis, Evanini, Lee, Leong, Wang, & Yoon, 2015).

Table 15

The differences between conventional speech rating and OS Scoring

Conventional Speech Rating	Objective Subjective Scoring
1. Subjects are generally assessed one at a time by a computer.	Subjects assess themselves in a group with the aid of a computer.
2. Subjects are compared to tagged data.	Subjects are compared to their last session.
3. Scores are predicted by a computer and verified by human raters afterwards.	Scores are exact analyses of utterances, done by the subjects themselves.
4. The test result is a once off analysis of a comparison with tagged data.	The subjects assess themselves a number of times per semester and are able to document development.
5. Tasks are planned and corpus specific.	Tasks are topic specific with natural unplanned interaction.

As can be inferred from Table 15, OS Scoring in a tertiary educational setting makes the subjects responsible for their own scores. This eliminates obstacles common in speech

rating such as rater bias (Caban 2003) and accent comprehension (Major, Fitzmaurice, and Balasubramanian, 2002). The natural unplanned interaction allows subjects to interact by asking for clarification, as well as perform confirmation checks and comprehension checks as nonnative speakers are reported to do more often than native speakers (Zhang 2009:92). OS Scoring therefore enables a more personalized evaluation of nonnative speakers than a once off computer-based test.

The system sets itself apart from conventional speech rating by keeping the subjects involved in the rating process, introducing them to the theory behind classic readability measures (Flesch, 1948) and the basic measuring methodology for phrases such as mean length of utterance (MLU) and mean length of turn (MLT). These will be elaborated later. OS Scoring adds one more variable: Total TIME spent speaking English, which is considered by the researcher here to be indicative of a willingness to converse autonomously in English, especially in Japan where students can be reluctant to speak in front of their peers. Applying readability measures to data enables a deeper understanding of what students need in terms of formative instruction to improve on fluency as well as on problem areas in their expressions (Gamper & Knapp, 2002).

Utilizing the OS Scoring system, the researcher attempted to answer Research Question 3 of this thesis: If beginner-intermediate level EFL learners in Japan were made to focus on their speaking data with an integrated speaking and writing activity, would there be measurable development, and what would its nature be? Development was measured here in ability and willingness to form longer expressions and to try to increase fluency during each subsequent conversation session. The next sections elaborate the methodology employed towards this goal.

7.2 Methodology

7.2.1 OS Scoring Principles

This section moves on to introduce OS Scoring as a Computer Assisted Language Learning (CALL) tool that can be utilized in university English courses. Setting up the system is straightforward. First, similarly proficient subjects are divided into conversation groups of six to eight members. Each member of the group is assigned a chair, labeled for the camera as A to H. These labels are used in the transcription stage to identify which subjects spoke at which turns. Conversation topics can be chosen from the English curriculum for every session. In this case, topics included a *Self-introduction* as warm-up, followed the next week by *Conflict*, then *Population*, and this investigation concluded with *The Environment* as the last topic although there were six more topics following the investigation.

At the beginning of each session, the camera is switched on and students have twenty minutes to converse. After twenty minutes, the session is concluded, and a copy of the video file is sent to each student in the group. Students then use the CLAN program (MacWhinney, 1995) to transcribe their utterances with the assistance of the researchers as they watch themselves speak, adhering to the Codes for Human Analysis of Transcripts (CHAT) protocol. Students also transcribe the preceding utterance and the following utterance paying attention to how dialog flows from one student to the next. At the time of this research, instructions for this protocol were available online in both English and Japanese, free for students to download from the CHILDES website (MacWhinney, 1995), which also supports the transcribing process and helps students familiarize themselves

with language transcription in general. The program allows readouts of frequency, mean length of utterance, mean length of turn, and other data which the students compile in a spreadsheet. This data is submitted, and the researcher then records it into a master spreadsheet as a collection of analytic scales (Sawaki, 2007) that will finally make out a percentage of the composite score for each student.

Students are given their data readouts each week. In this way, they are constantly aware of the time they speak individually during every session, their ability to form and pronounce utterances that are lexically and syntactically coherent, and the pauses they take between utterances. This self-awareness serves to motivate them to challenge the data, to speak more, to form better coherent utterances conceptualized during the act of writing (Harklau, 2002), and to pause less during each following conversation session.

7.2.2 Participants

The subjects in this study were second-year science course undergraduates in one of the top-rated public universities in Japan. They were on average twenty years of age, fifty students in total, and English was a compulsory subject. Five students out of fifty unfortunately submitted incomplete or corrupted data and were disregarded, thus $n=45$. The students exchanged opinions in conversations on the following topics: *Conflict* (TOPIC1) during session two; *Population* (TOPIC2) during session three; and *The Environment* (TOPIC3) during session four. The first session, *Self-introduction*, was not included in the analysis because students were still learning how to use the CLAN program at this stage and needed some time to settle into the assessment environment.

The first session is therefore excluded to minimize confounding variables and is treated as an introduction to OS Scoring in general.

7.2.3 Procedure

After each 20 minute conversation session, every student (N=50) was given a video file of their group talk and tasked with analyzing their individual recorded spoken data. They created three files for each session in the CHAT program and submitted these to the researcher. This procedure is similar to the one discussed in detail in Wanner (2002). Each of the three CHAT files contain readouts of various language related data, but only two variables are of interest in this discussion: an analysis of Mean Length of Turn (MLT) measured in average utterances per turn, and an analysis of total time spent speaking English (TIME).

Analyzing data is a specific and difficult task, and many students were reluctant at first; however, it soon became clear that, as Locke and Latham (2002:706) have also found, “specific, difficult goals consistently led to higher performance.” Many students found the transcription tasks tedious and daunting at first, but all the students seemed to like crunching the data in the end; they enjoyed seeing their speech reflected in the data and seemed to appreciate the opportunity for corrective feedback.

7.3 Results

After the third round of conversations, the researcher gathered all the data submitted by the students up until that point and analyzed it. The analysis of MLT, measured in average

utterances per turn, showed a positive tendency. Students seemed to try to increase the length of their speaking turns. A significant increase in MLT is illustrated in the plots for MLT 1, 2, and 3 in Figure 16.

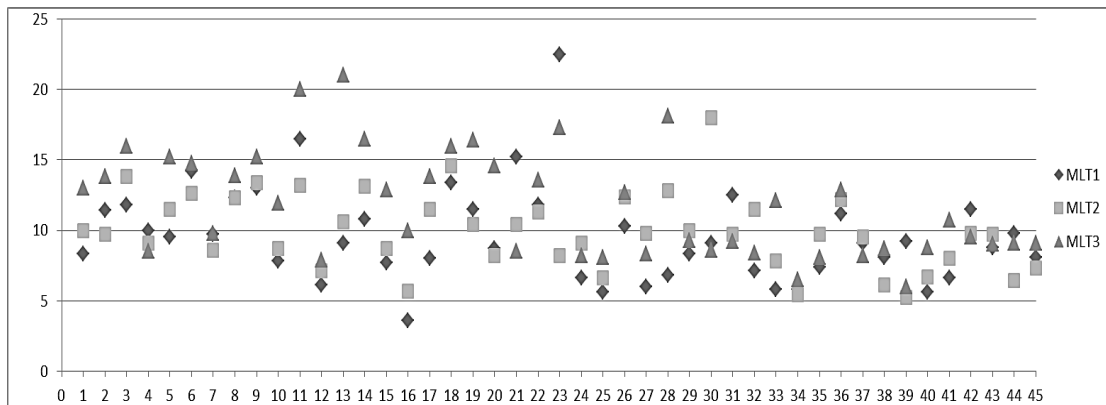


Figure 16. MLT1, MLT2, and MLT3 plot for every subject.

In Figure 16, it can be seen that 29 out of 45 (64.4%) subjects increased their MLT from TOPIC1 to TOPIC3, illustrated by the MLT3 higher than MLT1 in each of the 29 subject plots. In this investigation, no claims can be made towards the causes of these increased lengths of turns because the same subjects were compared in three different intervals. As a result, the investigation cannot explain why there was an increase in MLT—only that the increase was significant. Various factors could have influenced and motivated the students to speak in longer turns.

Nevertheless, a one-way ANOVA was conducted to look for variation in the sum of squares (SS). The SSW (within) was subtracted in both cases from the SST (total) to arrive at the SSB (between). The results were used with the factor degrees of freedom ($k-1=2$), and error degrees of freedom ($135-k=132$) to arrive at a Fisher ratio $F(2,132)=\frac{SSB/(k-1=2)}{SSW/(135-k=132)}$. As can be seen in Table 16, MLT increased significantly.

Table 16

Significant Increase in MLT

Mean MLT	Increase	Total increase (1 st to 3 rd)
MLT1	9.60	
MLT2	9.92	0.32
MLT3	11.78	1.86

Mean Length of Turn (MLT) increased from 9.6 to 11.78 utterances per turn, a significant increase of 2.18 utterances per turn on average ($p=0.004$; $\eta^2=0.079$).

It must be mentioned that the researchers constantly told subjects beforehand to use their 20 minutes as effectively as possible in order to increase their chances of getting a higher score by beating the data. Therefore, a type 1 error is present in this one-way ANOVA (Table 17); the same participants were measured over time without a control group. This renders the statistics of little use when it comes to isolating the cause of the increases.

The investigation was not designed to be an exact measurement of the source of the increases; rather, it was designed to help students keep track of progress. The system requires only that they beat their previous data with a statistical significance and no claims towards causality can be made. Nevertheless, MLT increased significantly, as can be inferred from Table 17.

Table 17

ANOVA of MLT

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square	Fischer Ratio (F)
Factor (Between)	124.6514	$k-1=2$	62.32569	$F(2,132)=5.679$
Error (Within)	1448.638	$135-k=132$	10.97453	$p=0.004$
Total	1573.289			$\eta^2=0.07923$

Table 17 shows the ANOVA of MLT, albeit with a type 1 error. The researcher is hopeful that this significant result will compel others in the field to recreate this study with a control group in order to rectify the error.

The second variable, TIME, measured in minutes, showed a surprising tendency: most subjects moved closer to the mean as they progressed through the sessions, illustrated in Figure 17.

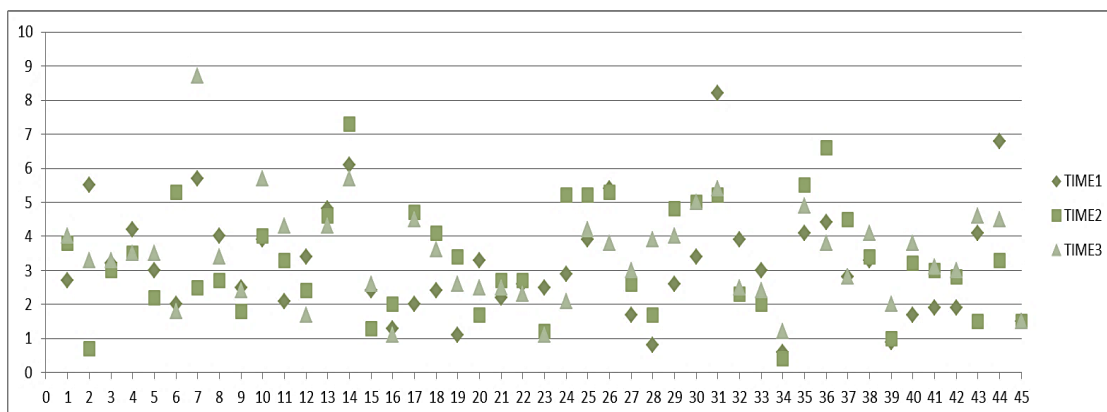


Figure 17. TIME1, TIME2, and TIME3 plot for every subject.

The plots for TIME1, 2, and 3 show that only 16 out of 45 (35.5%) subjects spoke longer during TIME3; however, note how TIME3 moves closer to the mean for most subjects, and how there are many instances of TIME3 lying between TIME1 and TIME2 (19 out of 45 cases). This can be interpreted as subjects ‘tuning in’ to one another or maturing in the test environment as those who initially spoke a lot started giving others time to speak, and those who did not speak much during the first session and the second session spoke longer in order to increase their score during the third session. As an example, subject 34, noticeably the most reluctant throughout the investigation, increased speaking time by 30 sec. during the third session in order to beat the data and get a passing score.

TIME showed an increase in averages as well, from 3.1 min. after TOPIC1 *Conflict* to 3.4 min. after TOPIC3 *The Environment* (a total increase of 15 sec.) but did not reach the significance threshold ($p=0.74$, $\eta^2=0.004$). However, OS Scoring showed a surprising tendency: Here, the one-way ANOVA proved extremely useful. Subjects tended to ‘tune in’ to one another as time spent speaking English for each session became less varied. In other words, those who may have spoken overbearingly for the 20 min. during TOPIC1, tended to speak less during TOPIC2 and then less or more during TOPIC3, and those who spoke little at first tended to speak more towards the end. This notion was arrived at by looking at the shrinking differences in within-group variances of TIME after each session; after TOPIC1 *Conflict*: VAR=2.59, after TOPIC2 *Population*: VAR=2.53, and after TOPIC3 *The Environment*: VAR=2.03. Table 24 highlights the shrinking variances that show how students matured or became more familiar in the test environment by moving closer to the mean.

Table 18

Raw arithmetic means for variable TIME with shrinking variances

Mean TIME	Increase	Variance	Total increase (1st to 3rd)
TIME1	3.17	2.59	
TIME2	3.26	0.09	2.53
TIME3	3.42	0.15	2.03
			0.25

TIME increased by 0.25 minutes for every subject on average, in other words, an increase of 15 seconds on average during TOPIC 3. Most subjects moved closer to the mean. The small effect size ($\eta^2 = 0.004$) reconfirms this move as there was a smaller variance for every group after the last session, confirmed in the ANOVA in Table 19.

Table 19

ANOVA of TIME

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square	Fischer Ratio (F)
Factor (Between)	1.44987	$k-1=2$	0.724935	$F(2,132)=0.297$
Error (Within)	322.1534	$135-k=132$	2.440556	$p=0.74$
Total	323.6033			$\eta^2=0.00448$

It can be inferred from Table 19 that the second variable in this investigation, TIME, increased, but not significantly ($p=0.74$).

7.4 Conversation Data and Awareness of Development

A closer look at some random samples of the data shows that the subjects increased their MLT and TIME. They show signs of challenging themselves to speak with LD in mind, and to elicit more conversation so that their partners have a better chance at beating previous data. As a speaking assessment tool, the OS scoring system thus adhered to the criteria for a valid oral test (Li, 2011) because the results were indicative of true individual ability.

As an example of students trying hard to elicit conversation so that they could increase speaking time, note the spontaneous question by Student A (*STA*), below as well as the repetition of “*Generally.*” to elicit conversation from Student B (*STB*) (see Appendix D for full excerpts).

Excerpt 1: An excerpt from a group conversing on the first topic, *Conflict*:

**STE: I wrote my essay just like you. I thought, when I'm tired, very tired and so sleepy, I have a report to hand in tomorrow, so there is the inner conflict. I wrote it already essay so I understand it. It is very vrey difficult but I must win my desire. [sic]*

**STA: What is your conflict that you wrote?*

**STB: Generally.*

**STA: Generally.*

**STB: How prevent from conflict so very difficult to think.*

**STA: How do you think to prevent conflicts? It's that you can't prevent my inner conflict?*

STA prompts *STB* with the question “*What is your conflict that you wrote?*” This question is answered with one word, which *STA* repeats to keep the conversation going. Throughout the short course, many strategies like this one emerged as students did their best to increase their MLT and TIME in order to beat the data from previous sessions.

Students also had a chance to focus on structured interlanguage errors. In the last utterance in Excerpt 1 above, the pronoun ‘my’ was wrongly used for the possessive pronoun ‘your’, a common error among Japanese subjects which occurs because of the ambiguity of 自分^の ‘*jibun no*’ which translates as ‘one’s own’ in their L1. This type of interference is well documented. The transcripts doubled as a speaking assessment and an exercise in lexis, orthography and syntax where the subjects were able to receive instruction afterwards on the mistakes made in their transcriptions. Adams (1980) noted that vocabulary and grammar are the two factors that distinguish proficiency most dramatically. OS Scoring proved useful for indicating irregularities, and facilitated subsequent formative instruction in vocabulary and grammar, with the added benefit of being able to focus on innate Japanese-English errors. It therefore became an effective tool with which to create a taxonomy of development.

The subjects looked forward to receiving constructive feedback on their transcripts. In the experience of this researcher, students want to be aware of whether or not they are making progress in their natural, autonomous, conversation ability, and the system became a useful CALL tool for pinpointing where progress is most necessary. The group of students in Excerpt 1, especially *STA*, showed improvement in consecutive sessions. Excerpt 2 below shows progress in the form of longer utterances and better coherence, although there is much room for improvement in spelling.

Excerpt 2: An excerpt from the same group conversing on a later topic, *Poverty*:

**STA: Speaking of poverty, we likely to think that the problem is only in developing countries but, certainly, there is a problem about poverty in developed countries. Then, what is like the problem about poverty in developed countries? We can pick up, for instance, working poor problem. Working poor is the people who can't get enough money to live even though they get regular jobs. The trouble is, they can't get much money to live. but they have a certain job so they can't use*

public welfare system, in Japanese, Seikatsuhogo. So they are suffering from serious poverty. [sic]

Excerpt 1 and Excerpt 2 above are samples from the files of the same student (*STA*). Notice that the differences between Excerpt 1 and 2 are significant when it comes to MLT and TIME (longer, more coherent utterances as well as more language produced in the allocated time). Both variables increased. *STA* seemed adamant to generate conversation in the first excerpt already by asking questions and repeating responses. This initial positivity seems to bloom in Excerpt 2 where there are almost monologue length utterances and a discernable freedom in the flow of expression.

The majority of the CHAT data files, of which Excerpt 1 and 2 above are examples, show improvement in coherence and increases in amount of language produced. These excerpts serve as examples of how beating the data in subsequent sessions can become a positive influence as a goal, and ultimately a valuable strategy.

7.5 Summary: Fourth Investigation

MLT describes the average length of every speaking turn, and this study found that there was a considerable difference between MLT on average measured after TOPIC1 *Conflict*, 9.6 words per turn, and measured after TOPIC3 *The Environment*, 11.78 words per turn (a total increase of 2.17 words per turn), and in this case the increase proved significant ($p=0.004$). MLT showed a definite increase.

Although there was a significant increase in the overall mean length of speaking turn, this research looked at speaking data through an ANOVA over a span of time. Other influences may have contributed to the increase, for example prodding and reminders by researchers to beat the data of each previous session. A follow-up study is in the works

which will include a control group where students will not analyze their data. This group will then be compared to a group subjected to OS Scoring with analyses as discussed in this chapter. Thus, the efficacy of OS Scoring and its motivational impact can be isolated and measured with more accuracy. Nevertheless, since the focus is on measuring an increase in speaking data regardless of the cause, i.e., to make sure that an awareness of the data is at least a factor to some degree, the current results seem to be proof enough that conversation data can be an illuminating indicator of changes in student speaking behavior in an authentic conversational setting. Thus, the system is a viable tool with which to create a taxonomy of development.

The variances in TIME became smaller after each session. The researcher interprets it as students tuning into one another over time. As they matured in the testing environment, less communicative speakers were coerced into speaking more in order to beat their data from previous sessions. At the same time, overbearing speakers started to hold back to give their reluctant conversation partners more time. TIME increased overall by 15 seconds from TOPIC1 to TOPIC3, but the increase was not statistically significant.

Because OS Scoring involved subjects in the speech rating process, it facilitated formative instruction in morpho syntactic errors specific to Japanese as L1 learners, and thereby doubled as a diagnostic learning tool. This is perhaps its most valuable aspect, and it is sincerely hoped that other researchers in the field will recreate and improve this study by trying the system in their courses, collecting data of conversations, and by finding ways in which it can be used to motivate students to have more confidence in conversations in English.

Chapter 8 Conclusion

8.1 Regarding Research Question 1

8.1.1 A L2 Writing Development Model for Beginner-Intermediate Level

Research Question 1 enquired as to the state of writing modality development of a representative group of beginner level EFL students in Japan. In the first investigation, the L1 development model from Kroll (1981) was employed, and 71 participants seemed to be in the preparation phase, with 6 participants more or less in the consolidated phase. However, this classification, aimed at L1 writing development, did not take into account the differences in development of Japanese learners of EFL at the beginner-intermediate level. In an attempt to deliver a taxonomy of L2 writing development using similar development analysis, the researcher designed an original developmental model. According to this more detailed model, 9 participants were in the L1 Grounded phase, 22 participants were in the L2 Phono-Low phase, 40 participants were in the L2 Ortho-Low phase, and 6 participants were Consolidated.

8.1.2 LD in Written and Spoken Responses

In addition to grouping students into 4 different stages of modality development, the structured interlanguage produced in writing and in speaking was analyzed to gain more in-depth insight into the nature of development and the influence of L2 processing effects. It was observed that phonological information was much more accessible in memory than

morphological information. After a period of two weeks, the overall ability to produce written approximations of sounds was inferior to the overall ability to remember and reproduce the sounds orally. This was proven by two results in this first investigation: the fact that many words were written using katakana or misspelled phonetic approximations; and autonomously written words averaged 15.1 words per participant, while orally produced words averaged a higher 17.9 words, both with a significant decrease from an average of 21.4 words written during a preparation lesson. As participants have been observed to spend a lot of time learning and practicing Japanese kanji, and often ‘write’ the kanji on their palms with their fingers to remember the stroke order and correct parts of each one, it was expected that English words would be remembered in the same way, as pictures to be recreated, but with numerous instances of katakana used to approximate English sounds and irregular spelling used to approximate phonetic notation (61 instances in total can be seen in Appendix A), it is more plausible that the core information of words and phrases are in ‘sound’ form in the memory, not in ‘picture’ form. In conclusion, according to the data gathered in the first investigation, the modality of L2 writing is developing secondary to the modality of speaking, which seems to act as a primary link between structured interlanguage and E-Language even though the students are used to doing a lot more grammar exercises in writing than speaking exercises in their everyday EFL classes.

8.2 Regarding Research Question 2

8.2.1 LD in Written and Spoken Narrations at the Beginner-Intermediate Level

Research Question 2 enquired as to the differences in LD in written and spoken responses at the beginner-intermediate level. The written and spoken responses in Chapter 4 were too short to measure using MTLT. In Chapter 5, however, responses were long enough to be used to discuss variance in LD meaningfully. Both hypothesis 1 and 2 were confirmed. Word count and MTLT decreased significantly during speaking. Causality could not be isolated in this investigation; however, the results are indicative of clear differences in processing and production in the modalities of writing and speaking for Japanese learners of English as EFL at this level. Although there were two instances of students speaking with more words than the amount with which they wrote, in general, beginner-intermediate level students can be expected to use fewer words in their spoken narrations at this level of proficiency.

According to the MTLT readouts, students can also be expected to speak with a lower LD than that with which they write when given plenty of time. This taxonomical information on the modalities of speaking and writing allow certain initial claims towards Research Question 2 of this thesis: The LD in written narration and spoken narration varies even when discourse variables are kept constant. At this level, EFL learners in Japan can be expected to speak with a lower LD than that with which they can write when given access to E-Language sources.

The pedagogical implications are that writing and speaking be given explicit attention as different modalities in class—not as an exercise in grammar competence or

recitation ability but as autonomous activities where structured interlanguage elicitation is the goal.

In Chapter 6, university undergraduates showed different results. The hypotheses could not be confirmed in this more advanced group of students. Research Question 2 was therefore more complicated to answer in light of the evidence for this more advanced group. In contrast with the senior high school students in Chapter 5, typed narrations averaged 60.8 ($\sigma=29.7$) words, and the spoken narrations averaged 79.2 ($\sigma=27.5$) words. In Chapter 5, the written responses by high school students averaged 61.06 words per student, and in speaking, the responses averaged 39.06 words, with the longest response measuring 64 words, and the shortest, 10 words. Unlike the senior high school students, the university students used more words in their spoken responses, not fewer. The null hypothesis could not be rejected. Word count did not decrease during speaking.

As for LD, there was a decrease for both senior high school students and university students, but in the case of the university students, the decrease was not significant. A Fischer ratio of $F(1,68)=3.981$ gave a $p=3.33$ probability of randomly getting the same results ($\alpha=0.05$). It was not possible to make any claims towards a statistically significant decline in lexical diversity. This variance indicated that the university students were less uniform in their replies. In other words, their ability to produce coherent spoken responses varied greatly from student to student, and it can be inferred that their proficiency in spoken English varied a lot from student to student as well.

8.2.2 The Effects of L2 Processing Observable in the Taxonomy

The varying LD was elemental in the observation of L2 processing effects for both senior high school students and university students. It allowed the researcher to see how the effects of contingency, cue competition, salience, interference, overshadowing and blocking, and perceptual learning affected written and spoken responses. For the high school students in particular, non-salient differences in two very similar cues, ‘straight’ and ‘street’, caused students to revert to katakana to help them spell the words, and this illustrates how the phonology of the L2 moves through the psychological space of the L1. In addition, discourse analyses confirmed tendencies of L2 learners, such as repetition, bottom-up sentence building, and reverting to simplified forms during speaking, but did not show tendencies for students to vary deictic markers. For the university students, a tendency to use shorter T-units and fewer relative clauses in speaking confirmed prior research on the behavior of English as L2 learners.

One pedagogical implication derived from the fact that LD was more varied in the case of the university students is that educators can expect development to vary at an increasing rate as students become more developed writers.

8.3 Regarding Research Question 3

8.3.1 Students as Creators of their own Taxonomy

The research documented in Chapters 4 to 6, along with informally reported writing and speaking modality preferences (senior high school students preferred speaking over

writing, while university undergraduates preferred writing over speaking), led the researcher to consider the modalities in light of the amount of motivation behind each one (recall that 89.7% of the university undergraduates reported informally that writing is easier than speaking). This culminated in the investigation of the efficacy of a student-made taxonomy of self-development. In answer to Research Question 3, the researcher attempted to gauge if the transcription of conversation data would help students become aware of their speaking modality development. A class of undergraduates were videoed on a weekly basis while they had conversations, and then tasked with transcribing their own conversation data. The investigation followed the methodology proposed by Wanner (2002) but incorporated an original analysis of LD using MLT. It was found that MLT increased from 9.6 to 11.78 utterances per turn, a significant increase of 2.18 utterances per turn on average ($p=0.004$).

A second variable was analyzed, TIME spent speaking during each conversation, and the statistics showed that TIME increased, but not significantly ($p=0.74$). Regardless of this result, the ANOVA indicated a shrinking variance in TIME over three conversation sessions. Therefore, participants were proven to become more aware of their conversation behavior as reluctant speakers began to speak up and overbearing speakers began to give their peers a chance to increase conversation time. This unexpected result added to the conclusion that the OS scoring tool was an effective means of creating an individual taxonomy and of raising awareness of speaking behavior.

8.2.1 The Efficacy of the OS Scoring System as Awareness Raising Tool

Unfortunately, the ANOVA of MLT and TIME include a type 1 error in that participants were measured over three conversation sessions without a control group. Therefore, causality for the results cannot be defined. Nevertheless, the aim was to see if students would benefit from the exercise of making an individual taxonomy of development, and the results were indicative of changes in student behavior and significant increases in fluency measured in utterances per speaking turn.

For this last investigation, students were given an opportunity to rate themselves, to be responsible for their own development with one goal in mind: beating previous data. The OS scoring system delivered results that were indicative of increased motivation. Students spoke with longer utterances, were made to focus on the conversation behavior of others and were given a chance to reflect on errors made in recorded spoken responses and orthographical errors during the typing of these responses. As a result, the pedagogical benefits are apparent. Educators could use the OS scoring system to allow their students a chance to document their own behavior with an individualized corpus of speaking and writing modality development data.

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Appendixes

Appendix A

Investigation 1: Random transcripts from 30 participants

Extra E-Language and structured interlanguage in italics

(Orthographical features kept intact as far as possible, especially where participants included katakana and headings)

No.1 Preference: Speaking Location: Convenience store.

First Lesson 28 words

the Department Store

Go straight along this street and turn left at third corner.

Go straight along this street and turn right.

It will be on your right.

Writing 17 words

Sure. Go streeth along this stree trun ritg and fist signlu.

It will be on your left.

Speaking 20 words

Sure. Go straight...go straight...along this street. Turn...turn right. First signal. It...it will be on your left.

No.2 Preference: Speaking Location: Hospital.

First Lesson 17 words

Go straight along this street and turn left at the second corner.

It will be Department Store. [sic] (Participant underlined these words.)

Writing 6 words

go streter two セカント コーナー (左) レフト
ストレート (右) ライト

Speaking 12 words

Ee...go straight...to second corner...ee...hospital. Go to the second corner...right.

[Prompt: It's on your...] It's on your...hospital.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.3 Preference: Writing Location: Hospital.

First Lesson 23 words

Go straight along this street and turn left at the third signal. *Then go straight one block.*

It will be on your right.

Writing 16 words

ストレート ストリート

Go straight along this street.

And turn right at the second signal.

It's on your left.

Speaking 17 words

Sure. Go straight along this street. And turn right at the second signal. **It's** on your left.

No.4 Preference: Speaking Location: Hospital.

First Lesson 20 words

<Department Store>

Go straight along this street and turn left at the third signal.

and Go straight along this street [sic]

Writing 11 words

Go strate along this streat and second corner.

on your reft [sic]

Speaking 18 words

Go straight...this...along this street...and...second corner...on your right...It will be on your right.

No. 5 ABSENT FROM FIRST INVESTIGATION

No.6 Preference: Writing Location: Flower Shop.

First Lesson 7 words

Go straight along this street and turn r [sic]

Writing 2 words

Go strate [sic]

Speaking 2 words

Go straight...

[Prompt: Turn right? Turn left?] Left.

[Prompt: Okay. First...second...third?] First second left.

[Prompt: It's on your left...right?] It's on your left.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.7 Preference: Speaking Location: Flower Shop.

First Lesson 17 words

Go straight along this street and turn left at third signal. [sic]

It will be on your right.

Writing 16 words

ストレイト

Go strate along this street and turn light
at the third Coner.

It's on your light.

Speaking 17 words

Sure. Go straight along this street and turn right at the third corner. It's on your right.

No.8 Preference: Writing Location: Flower Shop.

First Lesson 20 words

Go straight along this street and tun left at the thard signal. [sic]

It will be on your left.

Department Store (Underlined by participant)

Writing 14 words

Go ストレート along this ストリート

And turn right at the theird signal,

It's on your right. [sic]

Speaking 24 words

Go straight along this...this...street. Go...turn...turn right turn right at the...third signal. It's
on your left...it's on your right.

No.9 Preference: Speaking Location: Convenience Store.

First Lesson 20 words

Go straght along this street and cross the street at –
at the third signal ? It will be on your left. [sic] (Underlined by participant)

Writing 4 words

go strate ~~turn right~~ [sic]

Speaking 5 words

Ee...to...Go straight. Go straight to corns...nandarō...left...wakaranai...nandarō...koko ni
aru.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.10 Preference: Speaking Location: Flower Shop.

First Lesson 17 words

Go straight along this street and turn left
the third, signal. It will be in your left. [sic]

Writing 6 words

Go storet three corns (right
(left

Speaking 10 words

Go straight...four corner...fourth corner. Go straight. Turn right.

No.11 Preference: Writing Location: Hospital.

First Lesson 20 words

(up)

Go straight along this street and turn left at the third corner.

(down)

It will be on your left. (Underlined by participant)

Writing 18 words

Go streat along this street and trun right at the second corner.

It will be on your left. [sic]

Speaking 22 words

Sure. Go straight along this street at the...and...and...second corner turn right...turn right.

It will be on your left.

No.12 Preference: Writing Location: Convenience Store.

First Lesson 0 words

No response

Writing 12 words

Sure. Go strate along this street and at

Convenience store will be

Speaking 11 words

Go straight along this...go straight along this...right at left

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.13 Preference: Writing Location: Hospital.

First Lesson 18 words

Go straight along this street and turn left
at the third signal.

It will be on your right.

Writing 18 words

Go straight along this street and turn right
at the second signal.

It will be on your left.

Speaking 13 words

Sure. Go straight along this street and turn right at the second signal.

No.14 Preference: Speaking Location: Flower Shop.

First Lesson 32 words

the Theater

Go straight along this street and turn left at the first signal.

Go straight along this street and turn light at the first signal.

It will be on your left.

Writing 18 words

Sure.

Go straight straight

Along this street and turn right at third signal.

It will be on your right. (All inside a circle)

Speaking 18 words

Sure. Go straight along this street and turn right at third signal. It will be on your right.

No.15 Preference: Writing Location: Flower Shop.

First Lesson 8 words

Go straight along tis street
and turn left

Writing 6 words

Go stalight 3rd coner turn right.

Speaking 6 words

Go straight. Third corner turn right.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.16 Preference: Speaking Location: Video Shop.

First Lesson 18 words

Go straight along this street and turn left at the third signal. It will be on your right.

Writing 10 words

Sure. Go streito 3rd coneer. trun right. on your right.

Speaking 13 words

Sure. Go straight and third corner and turn right and on your right.

No.17 Preference: Speaking Location: Video Shop.

First Lesson 32 words

the Department Store

Go straight along this street and turn left at the third corner.

*Go straight along this street at the first **cross-street**.*

It will be on your **front right**.

Writing 29 words

Go storat along this streat.

ストレート ストリート

Turn right at the 3rd coner.

コーナー

Go storat along this streat.

Prease stop at the first coner.

Video shop is on your **right side**.

Speaking 32 words

Sure. Go straight along this street and turn right at the third corner. Go straight along this street and please stop at the first corner. Video shop is on your right side.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.18 Preference: Speaking Location: Convenience Store.

First Lesson 23 words

Go straight along this street and turn left at the third signal. *Then go straight one block.* It will be on your right.

Writing 16 words

Go straight along this street and turn right the first corner
on your left well be

Speaking 18 words

Okay. Go straight this street and turn...turn left...ee...first corner. Convenience store will be on your left.

No.19 Preference: Speaking Location: Flower Shop.

First Lesson 25 words

Go straight along this street and turn left at the third signal.

Go straight along this street and cross the street.

It's on your right.

Writing 12 words

Go stroget along this street.

Flower shop will be on your right.

Speaking 14 words

Sure. Go straight along this street..uh..you...flower shop will be...on your right.

No.20 ABSENT FROM FIRST INVESTIGATION

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.21 Preference: Speaking Location: Bank.

First Lesson 14 words

Go straight along this street and turn left at the third It will be

Writing 17 words

Go straight along this street and turn right

third

at サード signal

It will be on your left

Speaking 18 words

Sure. Ee...Go straight along street and turn...turn right. It...third signal...it will be on your left.

No.22 Preference: Speaking Location: Video Shop.

First Lesson 25 words

Go straight along this street and turn left at the third signal

Walk on more blocks

the Department Store will be on your right

Writing 10 words

Go straight along this street

at the light and third signal

Speaking 27 words

Sure. Go straight along this street. Turn right at...third signal. *Go straight along this street. Turn right at first corner. You'll see it on your left.*

No.133 Preference: Speaking Location: Video Shop

First Lesson 23 words

Go straight along this street and turn left at the third signal

go one block the Department store will be on your right

Writing 11 words

Go straight video shop ターン right

second コーナー go one block

Speaking 14 words

Turn right. Turn right. Third signal. One block. One block. なんだろう On your left.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.134 Preference: Writing Location: Video Shop.

First Lesson 24 words

Go straight along this street and one block turn left.

Then go straight two block turn left.

Department store will be on your right.

Writing 17 words

Go straight and turn right

at the two block signal turn right

will be on the right

Speaking 23 words

Sure. Go straight along this street and turn right. Three two corner and one straight one block and straight one block. In your...

No.135 Preference: Writing Location: Bank.

First Lesson 31 words

Go straight along this street and *go three block* at the third signal turn left. Walk two blocks go street. Department store is just in front of you right the street.

Writing 20 words

Go ストレート along this street and third signal turn right. Go two block. The bank will be on your left.

Speaking 21 words

Sure. Go straight along this street and at...Sure, go straight along this street and turn right. Turn right at the...

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.136 Preference: Writing Location: Bank. Excellent Improvement!

First Lesson 23 words

Go straight along this street and turn left at third signal. and go one more block.

Then you will see on your right.

Writing 22 words

Go straight along this street and turn right at the third signal. Go one block.

The bank will be on your left.

Speaking 22 words

OK. Go straight along this street and turn right at the third signal. Go one block. Bank will be on your left.

No.137 Preference: Writing Location: Video Shop.

First Lesson 13 words

Go straight along this street and turn left Go two block Department Store.

Writing 11 words

Go straight along this and turnright at the two block [sic.]

Speaking 9 words

Go along...one blocks...right...right...right to hospital

No.138 Preference: Writing Location: Bank.

First Lesson 8 words

Go street.

Go three bloks and turn left.

Writing 13 words

Go stolent along at the four light
light seon.

The Bank will your

Speaking 15 words

Sure. Go...four blocks and turn right. And will you see...go two...turn left.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.139 Preference: Speaking Location: Bank. Massive decline in autonomous production.

First Lesson 24 words

Go straight along this street and turn left at the third Signal. Walk one more block.

Then you will see *it* on your right.

Writing 8 words

Go straight turn right Second broke the Bank

Speaking 24 words

Go straight along this street and turn right at third signal. Go one block. Will...go one block.

Bank will be on your left.

No.140 Preference: Speaking Location: Video Shop. Massive decline in autonomous production.

First Lesson 24 words

Go straight to the third block and turn left Go one more block.

Then you will see a Department store sure on your right.

Writing 11 words

Go straight along this street and turn

right. second signal corner

Speaking 23 words

Sure. Go straight along this street and turn right at the third corner. Third...two block. Video shop will be on your left.

No.141 Preference: Writing Location: Bank.

First Lesson 23 words

Go straight along this street and turn left at the third signal. Go one block. The department store will be on your right.

Writing 13 words

Go straight along this street talk.

The Bank will be your left.

Speaking 24 words

Sure. Go straight along this along this this and street and third corner third corner. Turn right.

The bank will be on your left.

Appendix A continued

Investigation 1: Random transcripts from 30 participants

No.142 Preference: Speaking Location: Video Shop. Massive decline in autonomous production.

First Lesson 25 words

Go straight along this street and turn left at third corner. Walk one more block. Then you will see a Department Store on the right.

Writing 9 words

Go straight along strit trin this right スリ一 second

Speaking 22 words

Sure. Go straight along this street and turn right at third corner. One more block. Video shop will be on your right.

No.143 Preference: Speaking Location: Bank.

First Lesson 14 words

Go along this street. walk three blocks and turn left at the therd signal.

Writing 15 words

Go straight along the street and turn right therd coner. Go ツー bulock. your left.

Speaking 23 words

Sure. Go straight along this street and turn right the third signal. Go straight for one block. Bank will be on your left.

Appendix B

Second Investigation: High School Eiken, Narrations April 2018

Orthographical mistakes for written transcripts left unchanged.

No.1

Writing Words 79 MTLTD 49.75 Sent. Length 16w/s TTR 0.66 Syll/word 1.39

One day, she taking a train because she is shopping and eating lunch in the central station. She is very happy and exciting, but her light coat is damaged by one smoking man. She is very angry and sad.

The next week, she is gathering many people's signatures and she taking it to the government six months later, thanks to her effort, government making new rule about smoking. New rule is to make a smoking area.

But, a few days later,

Speaking Words 54 MTLTD 37.64 Sent. Length 9.6 TTR 0.64 Syll/word 1.54

なんと言えばいいんだろう。[What can I say?] She...Her coat is broken by smoking. She is very angry and sad...[eetoo]...in the central station. Ah...[tsugi]...next week...[eetoo]...she is ah...many people's signatures...get...and...take... [shiyakusyo] ...hall ...take and ...making a rule. Smoking new rule. Six months later, government making a smoking area and smoking new rule, but a few days later...[komaru]

No. 2

Writing Words 72 MTLTD 47.18 Sent. Length 10.29 TTR 0.61 Syll/word 1.32

Her jacket took a smoke.

A man is smoking while walking.

She volunteered works of "No smoking while walking", and sign for people the next week at the central station.

She built a board but smoking area built by city of hall for six months later.

Board is written fine 1000 yen and "No smoking while walking" of mark.

A few days later, nothing the board of "No smoking while walking".

Still people [komateiru].

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

Speaking Words 23 MTL D 21.50 Sent. Length 5.67 TTR 0.7 Syll/word 2.35

Her jacket take a tobacco. Picture two. Smoke...sign...tobacco...no smoking...volunteer...[konokanji de iindesuka] [Sanbanga] Smoking herself...volunteer works... no smoking, but smoking area built.

No. 3

Writing Words 66 MTL D 69.83 Sent. Length 11.17 TTR 0.73 Syll/word 1.39

One day, a woman's jacket was burned by tobacco in the central station. The next week, the woman started gathering a sign. She proceed with "No smoking while walking". Six months later, she found was being made a smoking Area, so she was happy. but, a few days later, Many people gathered there to smoke. Walking people was choked by smoke and have a coughing fit

Speaking Words 34 MTL D 32.6 Sent. Length 8.25 TTR 0.74 Syll/word 1.67

Woman's jacket burned...was burned by tobacco. A man was writing sign the [enquete]. Smoking area make six months later. A few days later, a smoking area...many people gathered in the smoking area.

No. 4

Writing Words 22 MTL D 27.08 Sent. Length 7.33 TTR 0.86 Syll/word 1.55

The man dangerous use fire, she was very surprised. She became a sign about No smoking while walking. Set a smoking Area,

Speaking Words 47 MTL D 16.29 Sent. Length 4.89 TTR 0.59 Syll/word 1.52

One. The man...dangerous smoking. She's very surprised. Two. She ... [shomei] ... sign...She...she...[shomei]... She want to... She don't... She want to...smoke... She want to sign. Three. Smoking ...set... set up. Central station set smoking area. But few days later, smoking area is...bad use smoking area.

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

No. 5

Writing Words 78 MTL D 54.44 Sent. Length 11.43 TTR 0.68 Syll/word 1.43

A day the woman was damaged by a man who taking a tobacco. She was very sad and angry. The next week, she started “No smoking while walking!” activity. it collect a lot of name for stop smoking while walking. As a result six months letter, It made a space of smoking Area and smoking while walking people must pay 1000 yen. But a few days later Smoking area is not baria so many people are damaged by smoking. She

Speaking Words 64 MTL D 55.08 Sent. Length 21.00 TTR 0.7 Syll/word 1.44

The woman was damaged by the man. The next week, um, she started collect a lot of name for... no smoking while walking. As a result, six months later, it's made a space of smoking area and smoking while walking people must pay one hundred yen. A few days later, smoking area is not barrier...barrier, so many people is damaged by smoking.

No. 6

Writing Words 27 MTL D 36.68 Sent. Length 6.20 TTR 0.87 Syll/word 1.52

1. Her coart was barned by his tabaco.
2. Everyone were written for No smoking while walking.
3. She built a Smoking Area.
4. But, Smoking Area boter for every one.

Speaking Words 28 MTL D 22.8 Sent. Length 8.33 TTR 0.69 Syll/word 1.96

She...her coat was burned by his tobacco, She...write everyone no smoking while walking. She built smoking area. Smoking area is...[meiwaku]...Smoking area is bother for everyone.

No. 7

Writing Words 50 MTL D 51. 1 Sent. Length 8.17 TTR 0.73 Syll/word 1.37

A woman was damaged her jacket by a man have tabaco. The next week, woman ask many people write their sign. Six months later, a sign is built. A few days later, some people stopped smoking. Some people thought “No smoking while walking, only stop smoking.” A woman tunbled.

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

Speaking Words 32 MTL 30.07 Sent. Length 10.00 TTR 0.78 Syll/word 1.50

A woman was damaged her jacket by a man who has tobacco. The woman asked the woman to write a sign. Six months later, a sign is built, but many people are smoking.

No.8

Writing Words 62 MTL 50.02 Sent. Length 7.75 TTR 0.71 Syll/word 1.55

"Oh my God! My clothes are dirty." So I'm angry with the tobacco user. Because I gathered to the tobacco user, I don't use a sign at the next week. That action succeeded. So the smoking area and people at the discretion of smoking is lost 1000 yen the law.

But the smoking area gathered to many people. Because the results troubled many people.

Speaking Words 38 MTL 32.39 Sent. Length 9.00 TTR 0.51 Syll/word 2.03

She closed her clothes which were dirty. Because of her [nandaro] nothing smoking area. So I, so, she gathered a sign to the people who don't smoke. Result, built smoking area and smoking area outside smoking is lost [sen yen], but smoking area gathered many people smoking, so ...

No.9

Writing Words 98 MTL 50.62 Sent. Length 16.67 TTR 0.58 Syll/word 1.46

The woman's jacket was burned by the man. The woman felt bad mood then. So, she caused the action which "No smoking while walking!" She got the power of around the people and collected the signature for agreeing with her opinion. Six months later, Smoking Area was building in the Central Station by her series of action and smoking while walking pay a 1000 yen fine. A few days later, No people do smoking while walking but don't smoking people and children was suffering from a smoking area. The woman wasn't certain about building a smoking area.

Speaking Words 52 MTL 30.04 Sent. Length 25.00 TTR 0.68 Syll/word 1.62

The woman's jacket was burned by the tobacco, and the next week, she acted no smoking while walking, and six months later, she built a smoking area by her series and her action. A few days later, smoking area was built, but other people was suffering from tobacco [kemuri] smoking area.

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

No. 10

Writing Words 65 MTL D 76.16 Sent. Length 8.50 TTR 0.75 Syll/word 1.43

A woman's jacket was stuck to a man's tobacco in central station.

She was very angry then.

So she collected signatures for no smoking while walking the next week.

Many people signatures.

Six months later, smoking area was built. People who smoke while walking must pay 1,000 yen.

A few days later, many smoker go there. But much smoke are bad for many people's health.

Speaking Words 55 MTL D 43.3 Sent. Length 10.60 TTR 0.69 Syll/word 1.62

A woman's jacket was stuck? stuck...to a man's tobacco in central station, so she was angry.

She collected signature for no smoking while walking. Six months later, smoking area was make...built. A few days later, smoking area...many people...go to...smoking area, but much smoke...much smoke is bad for many people's health.

No. 11

Writing Words 61 MTL D 82.79 Sent. Length 15.50 TTR 0.79 Syll/word 1.31

One day, she was put on the cigarette by a man. That fault her Jacket was burned that time, she and that man were walked.

The next week, she started no smoking movement.

Six months later, here was set Smoking Area and smoker will walk fine 1,000 yen thanks to her movement.

But other people is suffering from cigarette of smokes.

Speaking Words 17 MTL D 19.62 Sent. Length 6.50 TTR 0.71 Syll/word 1.77

She was put...put smoke ...smoker. Tobacco...[tsukerareta] [korede]... Next week, she...[shomei]...write[sitemoratte]...six...smoking area was set, but...

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

No. 12

Writing Words 46 MTL D 66.21 Sent. Length 6.38 TTR 0.78 Syll/word 1.35

1. He was smoking when she was barked a close.
2. After the next week, she wrote paper about "No smoking while walking!"
3. Six months later, It's put Smoking area. She saw surprised it.
4. A few days later, many people smoking. Children suffering from smoke. She sad it.

Speaking Words 34 MTL D 15.81 Sent. Length 4.41 TTR 0.62 Syll/word 1.66

She...he...he was smoking. Then she...broken...broken...clothes. She wrote paper about no smoking while walking. She saw smoking area. She surprised this. In this turn, many people smoking. She sad this.

No. 13

Writing Words 18 MTL D 23.61 Sent. Length 5.25 TTR 0.81 Syll/word 1.33

that day. She is walking. The man smoking while he was walking that is very [denjarasu]. The [ko-to] has burned.

Speaking Words 10 MTL D 11.5 Sent. Length 3.50 TTR 0.80 Syll/word 3.00

Tobacco. Smoking area...make...don't smoke...don't every...everyone...smoke.

No. 14

Writing Words 87 MTL D 64.69 Sent. Length 11.00 TTR 0.69 Syll/word 1.38

When the woman was walking in the station, the man was smoking. The his tobacco touched her clothes. She felt that it gives people who don't smoke trouble . So she started to collect signature next week. A lot of signatures were collected, so smoking area is built in the station six months later. And made a sign about a fine. People who smoke while walking are fined. Smoking area is a good idea. But many people smoke there, people used the station are choked with their smoke.

Appendix B continued

Second Investigation: High School Eiken Narrations, April 2018

Speaking Words 71 MTL D 23.75 Sent. Length 13.00 TTR 0.53 Syll/word 1.68

The woman is walking...was walking in the station. The man is smoking and his tobacco touched her clothes. She...she felt a trouble to...smoking in the station, and she started...connect...collect signature. And a lot of signature is collected, so...and smoking area is built in the station. Smoking area is good idea, but many people smoke in the smoking area, so people working...walking in the station are...

No. 15

Writing Words 85 MTL D 40.93 Sent. Length 8.70 TTR 0.61 Syll/word 1.37

One day, a woman was walking in the morning. A man was walking in front of the woman and he was smoking. It was very dangerous. The next week, she talked no smoking while walking. Some people helped her. Six months later, They made the Smoking Area. She wanted to decrease people who are smoking while walking. A few days later, There were not people who is smoking while walking. But, many people were smoking in the Smoking Area. She didn't know that is better way.

Speaking Words 27 MTL D 25.78 Sent. Length 4.60 TTR 0.61 Syll/word 1.96

To...a man is smoking. She...[komatteiru]...in trouble...the problem. She...talked no smoking while walking. They made smoking area. Many people is smoking the smoking area.

Appendix C

Third Investigation: University Eiken Narrations, June, 2018

No. 16

Writing Words 84 MTLTD 51.77 Sent. Length 12.12 TTR 0.64 Syll/word 1.46

One day, when the woman named Arisa was walking the Central Station, she came across who he is walking and smoking. She doesn't like cigarette and not smoking so she hate someone smoking around her. Because she started activities that to make the smoking Area. And she thought smokers can smoke so as not to bother others while walking in the station.

She sent out a questionnaire to walking the station. According to the it, it written "we should smoking area". So, six months later, the smoking area was built by government.

A few days later,

No. 17

Writing Words 57 MTLTD 51.32 Sent. Length 8.71 TTR 0.7 Syll/word 1.61

1. She wears Jacket in front of he walking smoking lighting.
 2. She is activity writing no smoking while walking cooperation some people.
 3. She is activity at installation in smoking Area. This is no smorking while walking by harm decrease some people.
 4. Smoking area is not meaning adlt from kid until inhale smoke hard.
- Next is different find problem.

No. 18

Writing Words 113 MTLTD 50.90 Sent. Length 9.23 TTR 0.59 Syll/word 1.36

1. The women's jacket was burnt by the man's tobacco. So, she got angry then.
2. The next week, she tried to gather many signatures to make a smoking Area. She was able to collect a lot of signatures by many people's help.
3. Six months later, the great smoking Area was built. She was very happy. Because, she thought that she can help many people who troubled by smoking people.
4. A few days later, she looked at sight which a lot of people was smoking. And some people walked in front of smoking area with bad face. So, it made her bad. And she was sad. So, she will consider good idea to improve it.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 19

Writing Words 81 MTLTD 87. 48 Sent. Length 10.12 TTR 0.74 Syll/word 1.54

1. A man cigarette fire is hit a woman's jacket.
2. A woman started signature-collecting campaign about smoking while walking.
3. Six months later, smoking Area was installation by the roadside. If smoker smoke while walking, receive as a sign of fine.
4. A few days later, many smoker smoke at smoking Area so had bad effects on passers.

まとめ[matome]

The consequence are smoking Area was made new problem.

I think make a smoking Area such as one room.

No. 20

Writing Words 4 MTLTD N/A Sent. Length 4 TTR 1 Syll/word 1.75

1. Tabaco is walking

No. 4

Speaking Words 121 MTLTD 54.36 Sent. Length 17.29 w/s TTR 0.61 Syll/word 1.51

One day, a woman saw a man throwing his cigarette ash on the street. And she thought it was bad, because it can cause a...burning on something...and...may...maybe children see it's conduct. And...maybe they think it's alright. Then, the next week, she saw some people...doing...do the...asking people to sign the sheet for banning smoking while walking. Six months later, the city government...did the work for making the city better place. They built smoking...a non-smoking...sorry...They built area for smoking and people outside the area who smoke will be fined of ten thousand yen. A few days later, people who...smokes a cigarette use the area, but the smokes from the area cause...the problem for people who do not smoke and children.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 4

Writing Words 182 MTL D 71.83 Sent. Length 18.20 w/s TTR 0.6 Syll/word 1.40

In figure 1, a woman saw a man throwing away his cigarette on the street at the Central Station. The butt was lighting, so she thought it might cause the fire.

In figure 2, next week, a group was conducting a signature for stopping people from smoking while walking. She thought this movement should be evaluated because of the event last week. So she helped the group and decided to sign.

In figure 3, six months later, area for smoking was being set on a street and a 1,000 yen fine was imposed on those who smoke while walking. She looked a little relieved.

In figure 4, a few days later, some people were using the area, but smoke from the area was damaging pedestrians near the area. She thought that the area did not solve the problem of the effect that those who smoke affect to those who don't because some children went to school via the street. Therefore, she thought the city government ought to think of other solves so that all people could enjoy daily life without some fear.

No. 42

Speaking Words 75 MTL D 5.98 Sent. Length w/s 25.00 TTR 0.5 Syll/word 1.51

One day one day, a woman damage damage the cigarette which man...a man a man has. Next week next week, the woman the woman get get get...people who...who...who support the...the woman. The woman...Six months later, the woman the woman...relieve relieve her cause cause, which which makes makes smoking area, but but smoke smoking a few days later, smoking area is built in place, but people around there trouble smoking the smoke from the smoking area.

No.42

Writing Words 46 MTL D 55.85 Sent. Length 15.33w/s TTR 0.87 Syll/word 1.63

One day a woman thought smoking with walking made us uncomfortable, so the next week she appealed for public support to make smoking areas.

Six months later, her effort finally bore fruit.

But, a few days later she realized the areas eventually troubled people around it.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 43

Speaking Words 82 MTL D 16.80 Sent. Length 20.50 w/s TTR 0.52 Syll/word 1.49

One day, a woman was harmed by a cigarette who...whose...cigarette which a man was smoking. And the woman...a woman started a activity...to...stop to stop the smoking. And six months later, the smoking area was set and if a person is smoking, he or she is...he or she are give the fine. A few days later, the smoking area is...There is there is many people in the smoking area, but many people's smoke many people smoke there, so some people is harmed.

No.43

Writing Words 54 MTL D 81.65 Sent. Length 13.50 w/s TTR 0.81 Syll/word 1.46

One day, a cigarette which a man was smoking hit a woman's clothes at the Central Station. The next week, she started signing activity to stop smoking while walking. Six month later, smoking area was installed! A few later, but, many people smoked there, so some pedestrian felt bad while passing through there.

No. 44

Speaking Words 65 MTL D 37.81 Sent. Length w/s 10.83 TTR 0.68 Syll/word 1.43

One day, the woman find a man have tobacco with his hands, and he was walking. He thought that it is so dangerous. The next week, the woman start a...no smoking campaign. Six months later, the smoking and smoking is banned, but smoking area was constructed. A few days later, in smoking area, there were many people and around around there. People confused the smoke.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.44

Writing Words 76 MTL D 45.01 Sent. Length 15.20 w/s TTR 0.67 Syll/word 1,45

In the Central Station, I saw the man who was walking in his hand with a tobacco. It was so dangerous because the tobacco might harm me.

In the next week, I joined a program that appealed to ban smoking while walking. Then, it was realized.

However, six month later, the Smoking Area was constructed.

A few days later, many people started smoking in the Smoking Area and the smoke have bothered a lot of people.

No. 45

Speaking Words 73 MTL D 34.26 Sent. Length w/s 14.60 TTR 0.59 Syll/word 1.47

A woman is annoyed by smoke in Central Station. After that day, the woman try to stop smoking while walking. Six months later, smoking area was putted in the station. People who smoke···smoke while walking will be fined one thousand yen. But a few days later, in smoking area, people who smoke···there are so many people who smoke, so as a result, people who are walking around that smoking area is so annoyed.

No.45

Writing Words 90 MTL D 59.82 Sent. Length 15.00 w/s TTR 0.68 Syll/word 1.37

A man was walking in the Central Station with a cigarette in his hand.

As a result,the nearby woman was annoyed by it.

The next week, She started "Signature rally" to prohibit smokers from smoking while walking. Six month later,her effort bore fruit.

A smoking area was set up.

If a person smoked while walking,he or she would be fined.But,maybe due to the fine,people smoked in the area at the same time.thus,nearby people was also annoyed by the smoke in the turn.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 46

Speaking Words 92 MTLT 38.7 Sent. Length w/s 18.40 TTR 0.58 Syll/word 1.36

One day, a woman find that a man has a tobacco while walking and it is so...so dangerous to...that. So the next week, woman asks the people to stop smoking while walking in front of the station. And thanks to her effort, six months later, they...they smoking area is founded in the that area. So, and, so people will get fine if they smoke this smoke in the...They get fine if they didn't smoke at smoking area. Then, a few days later, the woman find out the area is very smoky.

No.46

Writing Words 69 MTLT 83.32 Sent. Length 17.25 w/s TTR 0.77 Syll/word 1.36

One day, while a women was passing the front of central station, a cigarette that a walking man smoked striked her clothes and barely burned it. So the next week she collected a lot of signature to ban smoking while walking. Six months later, a Smoking Area had been placed there thanks to her efforts. However, a few days later, she found that there became more smellier than before.

No. 47

Speaking Words 46 MTLT 32.98 Sent. Length w/s 15.33 TTR 0.72 Syll/word 1.61

Woman is trouble in the station about smoking, so gather the other people's sign to divide space to smoking area and non-smoking area. Six months later, smoking area was built at smoking for smoking area from the pedestrian route. So, many people get sick.

No.47

Writing Words 39 MTLT 37.75 Sent. Length 39.00 w/s TTR 0.72 Syll/word 1.62

She gathers signitures to separate smoking area and the other area in the station because she was in trouble beacse of the man who smoked ,but finally smoking that comes from smoking area makes other people be in trouble

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 48

Speaking Words 81 MTLT 24.47 Sent. Length w/s 20.25 TTR 0.61 Syll/word 1.54

One year, a woman was a woman a woman had her clothes burned by a fire of cigarettes burning, then she decided to she decided to...to ask a society to make a law...efforting not smoking. The next...yeah...it became it...there, her dream came true. But, so, her dream came true and smoking area was set...established...but, however, that, it is not enough for prevent the harm of smoking. Yeah, still many people is...still many people are being suffer from smoking of cigarettes.

No.48

Writing Words 25 MTLT 35.00 Sent. Length 12.50 w/s TTR 1.00 Syll/word 1.44

One day,a woman had her clothes damaged by cigareto.

After that,she gathered signs of the people in order to ban smoking while walking.

No. 49

Speaking Words 90 MTLT 39.22 Sent. Length w/s 15.00 TTR 0.62 Syll/word 1.49

One day, one day woman was walking in the central station and a...a man walk in front of her had a cigarette and it burned her her clothes. The next week, she she thought smoking while walking is very dangerous and began began a signature campaign. Six months later, smoking while walking is banned and smoking area was established. She looks satisfied. But few days later, many people began to smoke in smoking area, and the people...people walking around there is feel too bad. A woman woman was embarrassed again.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.49

Writing Words 94 MTL D 54.37 Sent. Length 11.75 w/s TTR 0.66 Syll/word 1.43

One day, a woman is walking in the Central Station. A man walking in front of her has a cigarette and it burns a part of her clothes. She thinks it's very dangerous, so the next week, she begins signature campaign to ban smoking while walking. Six months later smoking while walking is banned with fine 1000yen and smoking area is set up. She looks satisfied. However, a few days later, many people begin to smoke there.

Smoke is so terrible that people walking by the area cough. The woman is embarrassed again.

No. 50

Speaking Words 78 MTL D 23.54 Sent. Length w/s 13.00 TTR 0.51 Syll/word 1.53

A woman was walking in front of Central Station, and a man was walking in front of Central Station too having a cigarette. Her cigarette touched the coat of her. The next week, the woman...do the campaign for smoking while walking. Six months later, near the station, smoking area was established. If a man have cigarette...he...he...is...A few days later, smoking many people have have cigarettes in at smoking area near the station. But smoke was...the smoke was too...

No.50

Writing Words 102 MTL D 57.89 Sent. Length 20.40 w/s TTR 0.62 Syll/word 1.44

A woman was walking in front of Central Station. In that time, a cigarette which a man was having touched the sweater on her. The next weak, the woman began the campaign with some people to prohibit smoking while walking. Six months later, smoking area was established near the station and the rule was determined that people who smoked while walking must pay the fine, 1000yen. A few days later, smoking people came to gather at the smoking area, but new issue came out that a lot of smoke occurred at the area and people walking by there breathed in it unintentionally.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 51

Speaking Words 67 MTL D 60.92 Sent. Length 13.40 w/s TTR 0.74 Syll/word 1.42

The woman in this picture was...was...scratched the cigarette by the man in the Central Station. So, the next week, she campaigned against smoking while walking. Then, six months later, thanks to the action, smoking area was built near the station. And if some people someone smoke other area, then he or she get...must pay fine one thousand yen. But, a few days later, many people smoke there.

No.51

Writing Words 53 MTL D 87.39 Sent. Length 10.60 w/s TTR 0.83 Syll/word 1.38

The woman in this picture hit the man's cigarette. So, the next week she challenged to stop smoking while walking in the station. Six months later, smoking area was built because her work succeeded. But, a few days later many smokers came there. In the end, non-smokers still suffered from them.

No. 52

Speaking Words 114 MTL D 20.16 Sent. Length w/s 28.50 TTR 0.50 Syll/word 1.31

One day, one woman was...was was shocked by shocked by a smoke was burned on her clothes by a man. And the next week, when she asked for people on the road on the road to sign for sign for prohibiting the smoking while walking. And six months later, the woman found the smoke area smoking area was founded on the road and...people who...who people who broke the rule will be will have to pay one thousand yen. But a few days later, a lot of people...The woman found a lot of people being in smoking area and people on the road was suffered by the smoke. And she she...noticed that a new challenge.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.52

Writing Words 80 MTL D 89.60 Sent. Length 20.00 w/s TTR 0.75 Syll/word 1.34

One day, a young woman was shocked when a man in front of her had rubbed his cigarette on her clothes. So she began to call people and ask them to sign a petition against smoking on roads. Six months later, her effort bore a fruit and a smoking area was installed. But a few days after, she noticed that non-smoking people were still suffered by smoke because there were no barriers between the road and the smoking area.

No. 53

Speaking Words 51 MTL D 28.10 Sent. Length w/s 12.75 TTR 0.75 Syll/word 1.33

A woman a woman had her clothes damaged by smoker. So so next week, she take part in no smoking while walking campaign. Six six months later, thanks to the campaign, smoking area is made. But, after all, smokers smoke the area, so the air be be the air become worse.

No.53

Writing Words 38 MTL D 46.55 Sent. Length 12.67 w/s TTR 0.87 Syll/word 1.34

A day, a woman has her cloth defiled by smoker. So she take part in "no smoking while walking" campaign on the next week. But six months later, because a smoking area is made, the air is polluted.

No. 54

Speaking Words 101 MTL D 27.07 Sent. Length w/s 14.43 TTR 0.56 Syll/word 1.34

A woman walks Central Station. And a man who smoking have while while walking...his cigarette touch her her clothes and her clothes was burning. So, she she decided to enter campaign to ban smoking ban smoking while walking. She next the next week, she start to the the action to ban while walking. Six months later, her dreams was come true, and if you smoking while walking, they are you are banned and fine, so she are happy. But, a few days later, smoking area is not smoking...smoking area's not...broke and the smokes go out the outside. So, she confused.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.54

Writing Words 95 MTL D 55.56 Sent. Length 8.64 w/s TTR 0.65 Syll/word 1.41

A woman who used the Central Station got angry.

Her clothes burned because she touch a cigarette which a man smoked while walking.

Until that day, she hate the smoking while walking.

After the accident, she took part in signature-collecting campaign to ban smoking while walking.

Six months later, her goal comes true.

The government decided to ban the smoking while walking.

Instead of ban, a smoking room was built by the Central Station.

She was happy.

However the smoking room did not work well!

The glass wall has not installed yet.

She confuses.

No. 55

Speaking Words 172 MTL D 32.58 Sent. Length w/s 34.40 TTR 0.48 Syll/word 1.34

A woman is walking got a fire while she was walking by a tobacco with smoking man. So she she didn't feel comfortable with that, so she tried to collect signs from people in the sidewalk who thinks who thinks same as the woman that she that they can't want to get fire or feel uncomfortable. So, eventually, she can make an idea that she she make not she make...she make the prefecture or the station to make a smoking area. And she think she thought it was a one of the resolve for solution of these problem. So, she tried to make a smoking area does work because many people use the area, but there is too be harmful, because the smoke flew out from the smoking area and they...smoke flow out to the sidewalk, so she make a dream come true that she less make people don't smoke in the sidewalk. But, eventually, she didn't make her dream come true that she wipe out the smokers.

No.55

Writing Words 46 MTL D 52.02 Sent. Length 23.00 w/s TTR 0.80 Syll/word 1.37

A woman got a fire because of a man smoking while he was walking, and then she began to collect signs so that she try to ban smoking on a road. With her efforts, smoking area is released, but smoking was still harmful in another form.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No. 56

Speaking Words 85 MTL D 22.33 Sent. Length 14.17 w/s TTR 0.58 Syll/word 1.39

At the at the station, a man who are careless is walking while smoking while talking, so the lady the one lady is damaged from the smoking thing. So so the lady feels dangerous about so smoking while walking so he joined the campaign for no smoking while walking. So, and six months later, she feel praise because the smoking area is held. But a few days later, that smoking area is not...not does not function. Smoking area is used by smoker. That's all.

No.56

Writing Words 60 MTL D 77.54 Sent. Length 15.00 w/s TTR 0.78 Syll/word 1.33

I felt dangerous to smoking while walking when I walked at central, so I joined the movement which seeks to stop smoking while walking next week. I feel pleased because smoking area is set after six months and my wish comes true. However, that is not right way. That's because I realize that smoke from sigar is truely harmful.

No. 57

Speaking Words 56 MTL D 29.73 Sent. Length 11.20 w/s TTR 0.58 Syll/word 1.48

A man was smoking in the station. A woman were touched the man, so her clothes...was...made dirty. So, the woman...held a campaign for no smoking while walking. Six months later, the smoking area was made in her city. But, there were many people in smoking area, so people who walked around smoking area was in trouble.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.57

Writing Words 44 MTL D 41.60 Sent. Length 14.67 w/s TTR 0.80 Syll/word 1.50

A woman was hit a tobacco by a man. The next week, the woman encouraged people not to smoke while walking. As a result, smoking areas were prepared around the city. However, these areas had a bad influence on people who walk near them.

No. 58

Speaking Words 78 MTL D 35.27 Sent. Length 19.50 w/s TTR 0.62 Syll/word 1.41

In picture one, the girl is is scared because of the man's smoking. In picture two, the next week, she began to campaign of not smoking while walking. In picture three, six months later, the smoking area maked and make the fine to smoking while walking by her campaign. But, a few days later, there're many people in smoking area, so the smoke from smoking area irritate other people and many people suffer from this smoke.

No.58

Writing Words 68 MTL D 43.05 Sent. Length 13.60 w/s TTR 0.63 Syll/word 1.41

A women felt dangerous and bad because a man was smoking while walking. The next week, the women began to work to stop smoking while walking. Six month later, smoking area was made and people who smoking while walking had to pay a fine. However, a few days later, the smoke from smoking area begin to make people bad. After all, the problem of smoking is not solved.

No. 59

Speaking Words 55 MTL D 36.42 Sent. Length 13.75 w/s TTR 0.73 Syll/word 1.27

One day, a man a man is careless, so he fire on someone. The next week, she collect names for no smoking while walking. Six months later, her wish is come true and smoking area is built. A few days later, her wish is come true, but the smoking area makes more harm than before.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.59

Writing Words 28 **MTLD 26.16** Sent. Length 14.00 w/s TTR 0.93 Syll/word 1.29

One day an accident was happened, and the woman want to stop smoking while walking. Six months later, the wish come true, but the action make air worce.

No. 60

Speaking Words 44 MTL D 24.78 Sent. Length 11.00w/s TTR 0.69 Syll/word 1.41

The man walked with cigar at Central Station. The man touched a one a the woman. The next week, the woman gathers the signature. Six months later, there are smoking area, but a few days later, smoking area's smoke is...smoke smoke is heavy.

No.60

Writing Words 41 MTL D 42.76 Sent. Length 13.67 w/s TTR 0.78 Syll/word 1.44

A woman was touched by cigarette so one of woman's cloth was burned. The woman gathers signatures for No smoking while walking next week. Six months later , smoking area is made by street but smoking area's smoking gets bad.

No. 61

Speaking Words 55 MTL D 13.15 Sent. Length 11.00w/s TTR 0.54 Syll/word 1.58

Smoking is...smoking cause many problems. A campaign is no smoking while walking. Six months later, smoking area is made in the station. And a few days later, smoking smoking people people, and smoking people is...smoking people smokes in smoking area and non smoking people not be caused smoking problem. So, all all smoking people is...

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.61

Writing Words 50 MTL D 52.02 Sent. Length 16.76 w/s TTR 0.74 Syll/word 1.50
Smoking while walking caused an accident for those who do not smoke in Central Station. In order to stop smoking while walking, some people collected many signature. As result, six months later smoking area is made in the station. Now people who smoke and do not smoke spend it comfortable.

No. 62

Speaking Words 61 MTL D 17.78 Sent. Length 15.25w/s TTR 0.54 Syll/word 1.43
There are people who who are smoking are smoke walking smoking while walking. And in picture two, other people ask to ask people for signature. In picture three, smoking area and fine is set up. And in picture four, after a few days later in smoking area, there are many people who smoke, and other people are confused by their smoke.

No.62

Writing Words 67 MTL D 49.16 Sent. Length 13.40 w/s TTR 0.67 Syll/word 1.45
There are people who smoke while walking in Central Station. It is very danger for the others. In the next week, signature-collecting campaign is held for "No smoking while walking". Six months later, a smoking area is set up and fine 1,000 yen is imposed on smoking while walking. A few days later, many people smoke in the area harming the others by terrible smoke.

No. 63

Speaking Words 101 MTL D 20.40 Sent. Length 16.83w/s TTR 0.47 Syll/word 1.44

The woman the...the man take out the smoking behind the woman. She worried was worried about him. So, the woman take the name because no smoking while walking. She...after six months later, she she watch the smoking area and she was happy with this. People...smoking while walking who pay people pay fine one thousand yen. So, she think people who is smoking while walking are...she think that there is no smoking while walking, but a few days later, there're many people is smoking area and the area is the smell smoking smell and many people was worried about this smell.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.63

Writing Words 70 MTL D 80.21 Sent. Length 14.86 w/s TTR 0.67 Syll/word 1.40

A man threw away cigarette while walking on the central station. A woman walked behind him. She was angry with it. So, to avoid for people to throw away cigarette, she collected vote to stop smoking while walking the next week. Six months later, smoking area was established and set up fine 'if you smoke while walking, you pay 1000yen'. She looked at it and became happy. A few days later, there are many people in the area, but, the atmosphere surrounding the area was so bad and a boy and his father were so hard to bear the smell. She felt loss.

No. 64

Speaking Words 89 MTL D 56.20 Sent. Length 22.25w/s TTR 0.63 Syll/word 1.57

One day, in the Central station, the woman...woman got hurt by a cigarette a man had. And next day, next week, she began to gather a sign for...banning smoking while walking. And six months later, a special area for smokers was made, but a few days later, too much smoke caused by consideration of smokers caused as a problem it's...passive smoking...there're other problem passive smoking caused by the consideration by smokers, so so she began to improve the situation, but it resulted in another bad situation. Finish.

No.64

Writing Words 67 MTL D 83.79 Sent. Length 16.75 w/s TTR 0.78 Syll/word 1.45

One day, in the Central Station a woman got hurt by fire on a tabaco that a man passing across her had. The next day, she started to campaign to restrict smoking while walking. Six months after that, a special space for smokers was made and smoking while walking was banned. However, it resulted in another problem because of too much smoke caused by concentration of smokers.

No. 65

Speaking Words 56 MTL D 38.05 Sent. Length 14.00w/s TTR 0.68 Syll/word 1.52

She got her coat fired by by the man smoking and walking. So, she started to establish a spot where smoking people can smoke. Six months later, smoking area started to be established. A few days later, smoking area are complete are complete, but smoking...smoke of smokers in smoking area do do the people around harm.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.65

Writing Words 32 MTL D 38.21 Sent. Length 16.00 w/s TTR 0.78 Syll/word 1.34
She got her coat burned by a man smoking and walking, so she started movement. As a result, she established a spot for smoking, but their smoke got harmful for other people

No. 66

Speaking Words 87 MTL D 21.35 Sent. Length 14.50w/s TTR 0.55 Syll/word 1.43
A woman and a man at the Central Station, and the man the man has tobacco his in his right hands, and the tobacco is···tobacco is a is on the woman's clothes. And, next week, the woman is collecting the name who whose agree he her opinion—no smoking while walking. And, six months later, smoking area is established, and who those who walking smoking while walking and fine one hundred yen. And, a few days later, smoking area is founded. Walking people is sad. Thank you.

No.66

Writing Words 92 MTL D 28.83 Sent. Length 15.33 w/s TTR 0.63 Syll/word 1.45
In front of center station, a man has a tabacco in his hand. The fire of his tabacco is on a woman's jacket. In the next week of the accident, the woman collect the name of people who disagree to smoke. Six months later, thanks to the activity, the area is baned smoking with walking and if you smoke, you must pay fine, 1000 yen. In addition, a smoking area is established. A few days later, the smoking area is used by many people, and those who walk there are uncomfortable.

No. 67

Speaking Words 57 MTL D 24.05 Sent. Length 11.40w/s TTR 0.69 Syll/word 1.61
A woman saw saw a man throwing away his cigarette. Next week, she asked people cooperate cooperate to make the smoking area. Therefore, six months later, the smoking area began to make made up. But, few days later, many people smoke in this area. Because···so, the smoking area the effect of smoking area is not so big.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.67

Writing Words 35 MTL D 48.49 Sent. Length 8.75 w/s TTR 0.86 Syll/word 1.54
A woman saw a man throwing away his cigarette. So, she thought it was necessary to make smoking area. Six months later, it began to be constructed. However, it did not make any good effects.

No. 68

Speaking Words 49 MTL D 20.60 Sent. Length 12.25w/s TTR 0.64 Syll/word 1.37
The woman is injured by the man who who who walking and smoking. And, next week, the woman woman ask the sign for people. Six months later, six months later smoking area is set...set up?...in the station. But, a few days later, smoking area can't work well.

No.68

Writing Words 42 MTL D 28.46 Sent. Length 10.50 w/s TTR 0.74 Syll/word 1.52
The woman is injured by the man who is smoking. Next week, the woman ask people for help not to increase injured people as her. Six months later, Central Station makes smoking area. But few days later, the smoking area become unuseful.

No. 69

Speaking Words 75 MTL D 16.99 Sent. Length 25.00w/s TTR 0.52 Syll/word 1.43
One day, a man is walking in front of in front of Central Station, and a woman is touch...a man walking a man is walking with smoking and the cigarette touch the woman. Next day next week, the woman do the action of no smoking do the action suggesting for smoking. And, six months later, a smoking area is installed, but a few days later, many people smoking at smoking area, so the harm...is lasting.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.69

Writing Words 64 MTL D 45.01 Sent. Length 10.67 w/s TTR 0.69 Syll/word 1.52

A man was walking at street with smoking. The man's cigarette touched to cloth of a woman. The woman felt angry. In the next week woman gathered signs which agree with forbidding smoking while walking. Six month later, government of the city officially banned smoking while walking and made a smoking area. However, few days later people suffered from smoke from smoking area.

No. 70

Speaking Words 80 MTL D 23.38 Sent. Length 20.00w/s TTR 0.51 Syll/word 1.29

One man is smoke was smoke one man was smoking on the street, and one woman dislike it. So, the woman think...no-one smoke on the street, so she she ask signature on the street. As a as a result, six months later, smoking area is placed, so she thought no-one smoke anymore. But, a few days later, three people three person smokes in the smoking area, but smoke spread so everyone who walk on the street dislike it.

No.70

Writing Words 57 MTL D 54.84 Sent. Length 11.40 w/s TTR 0.74 Syll/word 1.51

One woman felt uncomfortable because one man walking near the woman was smoking. So ,the next week, the woman collected signatures in order to stop smoking while walking. As a result, a smoking area was placed on the side road. But, smoke given off by smokers spread and then people were annoyed. So the woman was disappointed.

No. 71

Speaking Words 79 MTL D 32.14 Sent. Length 13.17w/s TTR 0.64 Syll/word 1.49

One day, a a man was smoking and strike striked with a woman. The woman...then woman collected...next week, woman collected signature for to ban smoking while walking near station. Six months later, smoking area was setted by station staff. If people smoke while walking, they are fined one one thousand yen. But a few days later, because of smoking area, many people gathered gather there to smoke. So, they bother many people were hurted with hurted by smoke smoke.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.71

Writing Words 47 MTL D 78.65 Sent. Length 11.75 w/s TTR 0.87 Syll/word 1.57
One day, a woman was collided by a man with a burning cigarette. So next week she collected signatures to ban smoking while walking. Then six months later, smoking area was provided. However many smokers rather begun to gather there to smoke and people were more troubled.

No. 72

Speaking Words 95 MTL D 8.76 Sent. Length 47.50w/s TTR 0.48 Syll/word 1.27
He is smoking, but she she she's walking, but he he man's smoke back into back into woman, so and she's angry and she's she want to want to make make...The next week, she want to...sorry...ask ask ask something ask everyone to make a law make a law about smoking smoking while walking. She six months later, her her her...this this this rule this rule is is maked, but a few days later, smoking smoking smoking area's built was was built, but...smoke smoke is more more harmed in the road.

No.72

Writing Words 45 MTL D 55.00 Sent. Length 15.00 w/s TTR 0.87 Syll/word 1.44
One day, a woman was hit with a tobacco by man. She was so ungly. The next week, she dicided to sign her name for banning street smoking. After later, this rule was enacted, but new smoking erea emerged, and this road become more uncomfortable!

No. 73

Speaking Words 58 MTL D 21.25 Sent. Length 14.50w/s TTR 0.59 Syll/word 1.53
The woman feeling angry and...by the man the smoking while walking. So, the woman acted to...woman tried to...tried to stop smoking while walking. So, resultly, the smoking area is made in the station. But, smoking area has no door, and smoke is smoke...they...the man and child boy harmed by the smoke, so this woman's activity is...sorry sorry.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.73

Writing Words 38 MTL D 39.85 Sent. Length 9.50 w/s TTR 0.82 Syll/word 1.45
The woman had had her clothes burned by fire of cigarette. So she acted to ban smoking while walking. As a result, smoking area was made and smoking while walking was fined 1000yen. But cigarette smoke trouble others.

No. 74

Speaking Words 56 MTL D 14.00 Sent. Length 11.20w/s TTR 0.54 Syll/word 1.48
In the morning, the man the man walking walk, but the woman fire...the man's cigarette touch woman a woman's wear. Next week, no smoking while walking campaign start. And the campaign success. Six later six months later, the the campaign success, and this area change to smoking no smoking area. This is smoking area.

No.74

Writing Words 17 MTL D 17 Sent. Length 17.00 w/s TTR 0.76 Syll/word 1.24
The fire of the cigarette which a man had has stuck to the clothes of the woman.

No. 75

Speaking Words 148 MTL D 30.44 Sent. Length 18.50w/s TTR 0.46 Syll/word 1.36

One day, a woman when I a woman was walking...the woman who was walking in front of her...a man was walking in front of her, and his cigarette is his cigarette touch her clothes. He was so annoyed, and then so he she started a campaign campaign to reduce the number of people who are smoking while they are walking. They start...then she start to gather signature and as a result of her efforts, six months later, in the city, new smoking area was made. Win! So she she she was happy. And it is prohibited to smoke when they are walking and it is it's composed taxes or punishment. But, at last, as a result, the number of people who who smokes in in the smoking area is was increase, so her only to increase the number of people who smoke. So, it's not successful.

Appendix C continued

Third Investigation: University Eiken Narrations, June, 2018

No.75

Writing Words 76 MTL D 52.77 Sent. Length 15.20 w/s TTR 0.70 Syll/word 1.49

One day, a woman whose name is Maki was walking. Unfortunately, a man was smoking while smoking in front of Maki, and her clothes were soiled by his cigarette. So she started a campaign to reduce the number of people who walks while smoking. 6 months later, thanks to her efforts, smoking area was emerged. However, as a result of the area, more and more people smoke there without hesitation and only to trouble people more.

Appendix D

Fourth Investigation: Transcript of CHAT data for the topics conflict and poverty

Excerpt 1: An excerpt from a group conversing on the first topic, *Conflict*:

*STE: *I wrote my essay just like you.*

*STE: *I thought, when I'm tired, very tired and so sleepy, I have a report to hand in tomorrow.*

*STE: *so there is the inner conflict.*

*STE: *I wrote it already essay so I understand it.*

@Time Duration: 05:47-06:08

*STA: *It is very vrey difficult but I must win my desire.*

@Time Duration: 08:10-08:13

*STA: *what is your conflict that you wrote?*

@Time Duration: 08:22-08:23

*STB: *generally.*

@Time Duration: 08:23-08:24

*STA: *generally.*

@Time Duration: 08:30-08:40

*STB: *how prevent from conflict so very difficult to think.*

@Time Duration: 09:23-09:27

*STA: *how do you think to prevent conflicts?*

@Time Duration: 10:30-10:35

*STA: *it's that you can't prevent my inner conflict?*

@Time Duration: 10:38-10:39

*STA: *no no no no sorry sorry.*

Appendix D continued

Fourth Investigation: Transcript of CHAT data for the topics conflict and poverty

Excerpt 2: An excerpt from the same group conversing on the third topic, *Poverty*:

**STA: speaking of poverty, we likely to think that the problem is only in developing countries but, certainly, there is a problem about poverty in developed countries.*

@Time Duration: 0:36-0:45

**STA: then, what is like the problem about poverty in developed countries?*

@Time Duration: 0:47-0:55

**STA: we can pick up, for instance, working poor problem.*

@Time Duration: 0:56-1:14

**STA: working poor is the people who can't get enough money to live even though they get regular jobs.*

@Time Duration: 1:16-1:28

**STA: the trouble is, they can't get much money to live.*

@Time Duration: 1:29-1:47

**STA: but they have a certain job so they can't use public welfare system, in Japanese, Seikatsuhogo.*

@Time Duration: 1:48-2:00

**STA: so they are suffering from serious poverty.*

@Time Duration: 2:07-2:14

**STA: why they are suffering from poverty?*

@Time Duration: 2:15-3:25

**STA: most of them engaged in non-regular job or daytime job and they are so hard to make a living the day so they don't afford improve job skill to increase their income and it is too difficult to get regular job.*

Errata

Page	Line	Error	Correction
iv	1	6.2.2 Design of the Second Investigation.	6.2.2 Design of the Third Investigation.
vi	3	(Eiken foundation, 2018)	(Eiken Foundation of Japan, 2018)
7	11	no less than 50 words	no fewer than 50 words
17	7	Rapp et al. (2015:896)	Rapp et al. (2015, pp. 896)
23	21	correct precede	correct sentences precede
24	12	Kellogg, (1996) explained	Kellogg (1996) explained
24	17	Why the beginner-lever students	Why the beginner-level students
42	5	2018.	2018:
53	18	(Kasajima, J. et al. (2016)	(Kasajima et al., 2016)
57	25	No Footnote	*This thesis defines E-language in reference to Target Language.
82	7	under investigation in in Chapter 4	under investigation in Chapter 4
91	17	Tannen (1980, 2015) and McCarthy (1991)	Tannen (1980), Tannen et al. (2015), and McCarthy (1991)
91	17	Discusses the results of the first investigation	Discusses the results of the second investigation.
92	9	more. No. 6 wrote a response of 27 words	No. 6 wrote a response of 27 words
107	1	6.2.2 Design of the Second Investigation	6.2.2 Design of the Third Investigation
112	14	$p=3.33$	$p=0.05$
139	15	$p=3.33$	$p=0.05$
147	1	Saussure, F. de (1966). <i>Course in general linguistics</i> (W. Baskin, Trans.). New York, NY: McGraw-Hill.	Move to Page 155, Line 7