コーパスに基づいた、外国語指導の環境と学習者のアップテイクの関係に関する研究

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A Corpus-Based Study on the Relationship Between the Foreign Language Classroom Context and Learners' Uptakes

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要旨

日本における外国語としての英語の授業では、いまだに日本語が多く使用される傾向が見られる。しかし、学習指導要領の改訂が行われ、これまでより多くの英語が授業で使われる傾向にあると期待される。金子（1991)は、外国語授業内で学習者と教員がともに英語を使用することが学習者の理解を高めることを示し、教室内での学習言語(英語)使用を推奨している。Slimani(1987)は、学習者の理解度を、学習者のアップテイク（授業直後の、学習者による、何を学んだかの記述）によって証明している。本研究においては、アップテイクを調査することで、指導環境と学習者の理解の関係を研究することとした。また新たに、言語活動という視点を加え、録音した授業データを基にコーパスを作成し、学習者の理解と使用言語や活動の関係ついて、２段階にわけて調査を行った。本論文では「活動」を授業で扱われる学習内容（タスク、翻訳、ドリル）と規定している。大学生を対象とした調査では、学習者のアップテイクが習得につながっているか、そしてどのような言語と活動が学習者の習得に効果があるかを調べ、中学、高校生を対象とした調査では、教室で主に使用されている言語や活動の違いと、学習者の理解度の関連を分析した。リサーチクエスチョンは以下の通りである。

１）学習者のアップテイクは習得につながっているか。
２）学習者（大学生）のアップテイク、習得を促進するためには、教師は母語（Ｌ１）と学習言語（Ｌ２）のどちらを使用することが効果的か。
３）学習者（大学生）のアップテイク、習得を促進するためには、授業内でどのような活動を行うことが効果的か。
４）授業で主に使用されている言語の違いによって、学習者（中学生、高校生）のアップテイクには差が見られるのか。
５）授業で行われている活動の違いによって、学習者（中学生、高校生）のアップテイクには差が見られるのか。

大学生を対象とした調査では、リサーチクエスチョン１から３に答えるために、大学１年生対象の外国語の授業を録音したもの、授業前、授業直後、授業１週間後に行ったテストの結果、授業直後に学習者が学んだと思った単語、英文、文法等を記入したアンケート形式のアップテイク調査をデータとして使用した。各授業では、タスク、翻訳、ドリルのいずれかの活動を行い、同じ活動で異なる言語（Ｌ１、Ｌ２）を使用し、使用言語と活動の効果を調査した。結果の分析には、分散分析を使用した。また、アップテイクの信頼性を証明するために、学習者が「アップテイク」としてアンケートに書いた内容がテストに出された場合に、正答できている

かを、相関分析を用いて検証した。

中学、高校生を対象とした調査では、リサーチクエスチョン４、５に答えるために、中学校外国語（英語）授業より 11 クラス、高等学校での英語授業（コミュニケーション英語Ⅱ）より 11 クラス、合計 22 クラスの授業を録音したものと、授業直後に学習者が学んだと思った単語、英文、文法等を記入したアンケート形式のアップテイク調査を使用した。まず初めに、授業の録音を書き起こし、必要なタグをつけてコーパス化した。そのデータに基づいて、各クラスで使用されている日本語と英語の割合、学習者と教師の発話量の割合、授業で行われた活動を比較し、分析のために必要な以下の２種類のデータを抽出した。使用言語が異なり活動内容が同じクラスのデータ群１（中学４クラス、高校４クラス）と、活動内容が異なり使用言語が同じクラスのデータ群２（中学４クラス、高校４クラス）である。データ群１，２のクラスでの学習者のアップテイクの調査を元に、使用言語と活動の違いにより、学習者のアップテイクに差が生じるのかを検証する分析を進めた。分析には、ノンパラメトリック検定、クラスカルウォリス、マンウィットニーのU検定を使用した。分析の結果は以下の通りである。

１）学習者のアップテイクは習得につながった。
２）教師が学習言語を使用する方が、母語を使用するよりも学習者の語彙、英文の習得を促進した。
３）タスク活動は、翻訳、ドリル活動よりも習得を促進した。
４）授業内で主に使用する言語によって、学習者のアップテイクの量に差が生じた。Ｌ２中心クラスは、Ｌ１中心クラスや両言語を同量使用しているクラスに比べて、英文と、語彙のアップテイクがより多くなる傾向が見られた。また、Ｌ１中心クラスでは、語彙のアップテイクは低かった。文法のアップテイクに関しては、どちらの言語を使用してもアップテイクの量に差はみられなかった。
５）授業内で行われる活動によって、学習者のアップテイクには違いが生じた。特に、英文のアップテイクに関しては、タスク活動を行っているクラスが、翻訳やドリルを行っているクラスよりも高くなる傾向が見られた。

上記の結果に加えて、アップテイクに書かれた項目と授業の書き起こしとの照合を行い、学習者の理解をもたらす要因について質的な考察も加えた。質的な考察からは、教師に促されるのではなく、学習者が自発的に英語を発することによって、教師とのインタラクションや教師によるフィードバックが発生し、それが、学習者がより英文や文法を理解することにつながることが示唆された。

本論文では、授業後のアップテイク調査の結果を、質的な視点も加えて主に量的な側面から検討し、学習者の理解と、外国語授業内で行われている活動および、教師による使用言語との関係を明らかにした。最後に、今後の研究の可能性を検討し、より多くのデータを収めた授業コーパスとそれに基づいた研究の重要性について言及した。

A Corpus-Based Study on the Relationship Between the Foreign Language Classroom Context and Learners' Uptakes

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Doctor of Philosophy

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by
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ABSTRACT

Currently, in English education in Japan, Japanese (L1) is still used frequently by teachers; however, more English (L2) is expected to be used since the curriculum guidelines were revised by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). Using the L2 in the classroom is said to benefit students' learning and is recommended for use in classrooms (e.g. Kaneko, 1991). The languages mainly used in class as well as the activities primarily conducted in class are known to affect the quantity of students' uptake (Slimani, 1987). Slimani used an 'uptake chart' in which students wrote down what they claim they have learned.

This study explores whether students' uptake can lead to their learning and the relationship among students' uptake and the languages used in class as well as the activities done in class. In order to observe students' uptake, an uptake chart questionnaire that Slimani (1987) used was employed.

The study has two phases: University Research and Junior and Senior High School Research. University Research examined whether students' uptake leads to learning, and the effect of the language used in class as well as the activities conducted in class. The subjects were university students. Junior and Senior High School Research focused on the relationship between students' uptake and languages mainly used in class and between students' uptake and activities mainly used in class, i.e. the classroom context. The subjects were junior and senior high school students. The research questions were as follows:

(1) Will learners' uptake lead to their learning?

(2) Which language of instruction (L1 or L2) is more effective to facilitate learners'

uptake and learning?

(3) Which activity is the most effective to facilitate learners' uptake and learning?

(4) Is there any difference in the quantity of uptake depending on the type of language mainly used in class?

(5) Is there any difference in the quantity of uptake depending on the type of activity carried out in class?

Lightbown and Spada (2006) describe learning conditions such as the language used by teachers or the activities done in the classroom as the foreign language classroom context. Thus, in this dissertation, the language used by teachers or the activities done in classrooms are described as 'context.' 'Activities' selected to examine in this study were 'Language-learning tasks,' 'Translation,' and 'Drill practice.'

University Research was conducted to answer Research questions (1), (2), and (3). Data for University Research was collected from six English classes conducted in a university located in Japan. The subjects were university students who are not majoring in English. In each class, one of the activities, Language-learning tasks, Translation, and Drill practice was carried out and both L1 and L2 were used for an equal amount of time. Based on pretest, posttest, delayed test, and the results of student uptake questionnaires to students, whether students' uptake led to learning was examined. In the questionnaire, students were given three questions in order to examine what they had learned in each class. In the first question, students were asked to write the vocabulary that they had learned in class. The second question was to write English sentences, and for the third question, students were asked to write grammatical points that they had learned in class. The students were not allowed to look at the textbooks or the materials used in class while

answering these questions in the uptake chart. For the analysis of the data, ANOVA was conducted. Also, the relationship between the number of items written in the uptake questionnaire and the number of items which were correctly answered in the posttest or delayed test were examined by correlation analysis.

Junior and Senior High School Research was conducted to answer Research questions (4) and (5). Data for Junior and Senior High School Research was collected from 22 Japanese EFL (English as a Foreign Language) classes. The subjects were junior and senior high school students who were taking a required English course. The main body of data for Junior and Senior High School Research consists of transcribed utterances from 22 classes, which were made into a corpus, and student uptake questionnaires.

All the transcribed data were tagged and types and tokens of each tagged utterance were counted for each class. Based on this data, all the classes were compared and classified into the same type of groups. This tagged data were made into a corpus of classroom interaction. The data showed the differences among the classes such as the language used in class, and the activities done. The ratio of teachers' and students' utterances was also calculated. Based on this corpus data, the author selected two types of classes for the analysis both from junior and senior high schools: (a) classes where the main activity was the same, but where the main language used was different, and (b) classes where the main language used is the same, but where the main activity was different. Using students' answers on the uptake questionnaire, the Kruskal-Wallis nonparametric test and Mann-Whitney U test were conducted as follow-up tests to examine the differences among students' uptakes and classroom context. Answers for research questions were as follows:

1) Students' uptake led to their learning.

2) Teachers' use of the L2 was more effective in facilitating the students' vocabulary and sentence uptake than using the L1.

3) Language-learning tasks were more effective in facilitating the students' uptake than Translation, or Drill practice.

4) The quantity of students' uptake varied depending on the main language used in class. Students with more exposure to the L2 than the L1 had the highest sentence uptake. In classes where both the L1 and the L2 were equally used, vocabulary uptake tended to be higher than in other classes. Students with more exposure to the L1 than the L2 had the lowest vocabulary uptake. No statistical difference was seen in grammar uptake that depended on the main language used in class.

5) Depending on the activities conducted in class, students' sentence uptake varied. Among the three activities, Language-learning tasks, Translation, and Drill practice, the results of the pairwise comparison and descriptive statistics in both the junior and senior high schools demonstrated that the language learning task group had a greater level of sentence uptake than the other Drill practice or Translation groups.

Qualitatively, students' utterances initiated by themselves and the teachers' enhanced input could greatly influence their uptakes.

In this dissertation, using classes conducted with university students and corpus data compiled from the recorded junior and senior high school classes, the results were stated quantitatively and qualitatively. This study will conclude with some implications of the results and the possibilities for further study.

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ABBREVIATIONS AND KEY TERMS

AntConc	A freeware concordance program for English words.
ANOVA	Analysis of variance.
Corpus	A collection of written texts on a particular subject.
Drill	Mechanical and meaningful activities in which students acquire the form taught by teachers through examples or explanation.
EFL	English as a foreign language.
Input	The language to which a learner is exposed.
KhCorder	A free software for text mining.
Language-learning task	Activities in which learners use the learned form of the target language and perform workplans with emphasis on meaning.
L1	The learners' first language or mother tongue.
L2	The learners' second language or target language.
M	Mean, the average.
Mixed	L1 and L2 mixed language.
SD	Standard Deviation.
Translation	Activities in which teachers explain grammatical points through the work of translation.
Type	The number of different items.
Token	The frequency of total words.
Utterance	A stream of speech with at least one of the following characteristics: (a) under the intonation contour, (b) bounded by pauses, and (c) constituting a single semantic unit.
Uptake	The students' claim of what they learned.

CHAPTER 1

INTRODUCTION

Background of the Present Study

Since the curriculum guidelines issued by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2008 brought about considerable changes, foreign language education in Japan has been expected to change. English education in elementary school started in Japan and it has become compulsory in 2013. The goal of English education was established by MEXT at each stage of education. In elementary school, it is to prepare the ground for communicating in English and in junior high school, it is to cultivate a basic knowledge of communicating in English. In senior high school, the goal extends to include cultivating communication ability in English.

Along with English education in elementary school, the amended curriculum guidelines emphasize a series of educational goals with the aim of cultivating communication ability in English. Because communication ability is focused on, whether teachers are allowed to use the students' mother tongue (L1) in foreign language classrooms where teachers and students share the same L1 has been a crucial issue. Kaneko (1991) recorded 23 Japanese EFL (English as a Foreign Language) classes and examined what the role of the L1 is in classroom interaction. She showed that the L1 is used for core goals, which relate to the explicit pedagogic purpose of the lesson and most Japanese teachers depend on the L1; however, it is the target language (L2) that can most influence students' learning. Although using the L2 is said to be beneficial for students' learning, the L2 classroom language environment in Japan seems not to have changed drastically even after 20 years since Kaneko's (1991) study. This study aims to investigate current practices in language classrooms in Japan as to the extent to which teachers

actually use the L2 or the L1 in classrooms and examine how and in what context L2 use in classrooms is beneficial for students' learning.

The following two sections introduce what motivated me to conduct this study and outline my aims in doing so. The organization of the study will be presented in the last section of this chapter.

The Present Language Educational Settings in Japan

The latest curriculum guidelines introduced by MEXT in Japan encourage teachers to use the target language in classrooms. The curriculum guidelines issued in 1998 focused on practical communication skills. Moreover, in 2008, the amendment that English classes should be given in English was included in the junior high school guidelines. However, using the L2 in classrooms is not yet prevalent. Some teachers still predominantly depend on the L1. In addition, not only the languages used in class but also the teaching conditions are different among classes. Historically, several studies concerning the use of the language in class (see Chapter 2), also show that each language used by teachers has a role.

In Japanese educational settings, for example, Kaneko's (1991) study showed that instead of the L2, the target language, teachers use their shared L1, the native language, with students in class as a convenient and useful tool to facilitate communication. In the Japanese educational environment, students tend to study English only because English is included in the major subjects in the entrance examination to universities. Teachers also tend to focus on lessons for entrance examinations. Unlike the statements issued by the curriculum guidelines, English cannot be the main medium of verbal communication in English classes and students are furthermore less exposed to the practical use of the L2 than the L1. In this context, it is worth trying to explore teachers' and students' actual use of the L1 and the L2 in present language classes.

In a study of the use of the L1 and the L2 in Japanese classrooms, Ohashi (2012) recorded three language classes. It was found that for each class, the language used by the teachers and students as well as activities, were different, although the purpose of language learning was almost the same. This finding led me to wonder if the differences in the use of language and class activities might influence students' learning.

Lightbown and Spada (2006) describe learning conditions such as the learners' characteristics, the language used by teachers or activities done in classrooms as "context" for language learning (p.29). Referring to this word, the authors call what is occurring in classrooms such as languages used by teachers or students and activities carried out in classrooms as "classroom context."

Depending on classroom context, what is occurring in classrooms such as languages used by teachers or students and activities carried out, the author believe that students' learning might be different and that is why investigating how classroom context affects students' learning is essential. Thus, by investigating the relationship between students' learning and classroom context, the author would like to examine what can facilitate students' learning with the focus on the classroom context, namely languages used in classroom and activities carried out in class.

To examine how well students are learning, this study adopts an 'uptake chart,' in which students write what they think they learned on the day after each class. Some studies, such as Slimani (1987) and Kaneko (1991), adopted an 'uptake chart,' referring to the definition of 'uptake' by Allwright (1984). Allwright defines 'uptake' as what students claim to have learned at the end of the lesson, and in this study, I use the term 'uptake' as 'what students claim to have learned in class.' There is a variety of statements defined as 'uptake' by different researchers. Studies of uptake will be explained in Chapter 2.

Aims of the Present Study

Knowing the present situation of language education in Japan and what is occurring in classrooms is necessary and beneficial. The ultimate goal of this study is to examine the relationship between classroom context and students' uptake and what can facilitate students' uptake. To examine classroom context, a corpus was constructed from recorded classes by the author to compare the differences of classroom context among classes. Constructing a corpus will be useful for counting each type and token of tagged words uttered in classes.

By describing the relationship between students' uptakes and classroom context, and what can facilitate their uptakes, I believe this study can shed light on what language teachers should do to help students effectively learn languages.

Organization of the Study

Chapter 1 explains the background of this study. In Chapter 2, I will review former studies which have a close relationship with the present study on English as a foreign language in the classroom environment. The procedure of statistical methods for this study will be explained in Chapter 3. The statistical results will be reported in Chapter 4, which will be crucial for answering the research questions. Based on the results stated in Chapter 4, a discussion will follow in Chapter 5. Finally, the conclusions of this study will be stated in Chapter 6.

CHAPTER 2

LITERATURE REVIEW

Chapter Overview

Lightbown and Spada (2006) state that "A general theory of second language acquisition needs to account for language acquisition by learners with a variety of characteristics in a variety of contexts" (p.33). Lightbown and Spada also point out two different types of context: 1) the learners' characteristics and 2) the learning conditions such as the language used by teachers or the activities done in the classroom. They suggest thinking about how such characteristics and learning conditions may differ.

Because the aim of this study is to examine the classroom environments where second language acquisition occurs, namely, what is actually occurring in each classroom such as the language the teachers and students use, the interactions between them, and activities given to students, for the purpose of this study, I will focus on the learning conditions (2) stated by Lightbown and Spada (2006) above. The learning conditions play an important role in the learners' acquisition. Chaudron (1988) and Ellis (1988) argue that it is difficult to establish a correlational relationship between learner participation and their learning because of the difficulties of showing whether the effects are caused only by learners' participation. However, it is possible to show a relationship by seeing what the students think they learned in class using an uptake chart because the results indicated in the chart are believed to reflect learners' participation.

In this section, definitions of 'uptake' will be reviewed. Then, a review of studies on languages as well as activities used in the classroom will follow. In addition, to compile a corpus for this study, studies on classroom observation will be reviewed so that observation categories can be found in common to make a tagset for the corpus.

Students' Uptake

With regard to the process of language learning, Van Lier (1988) shows a hierarchy of classroom learning processes. According to Van Lier, language learning occurs through the process of exposure, input, and intake. Exposure includes learners' attention, participation, and interaction. Figure 1 shows the process of learning proposed by Van Lier (1988).

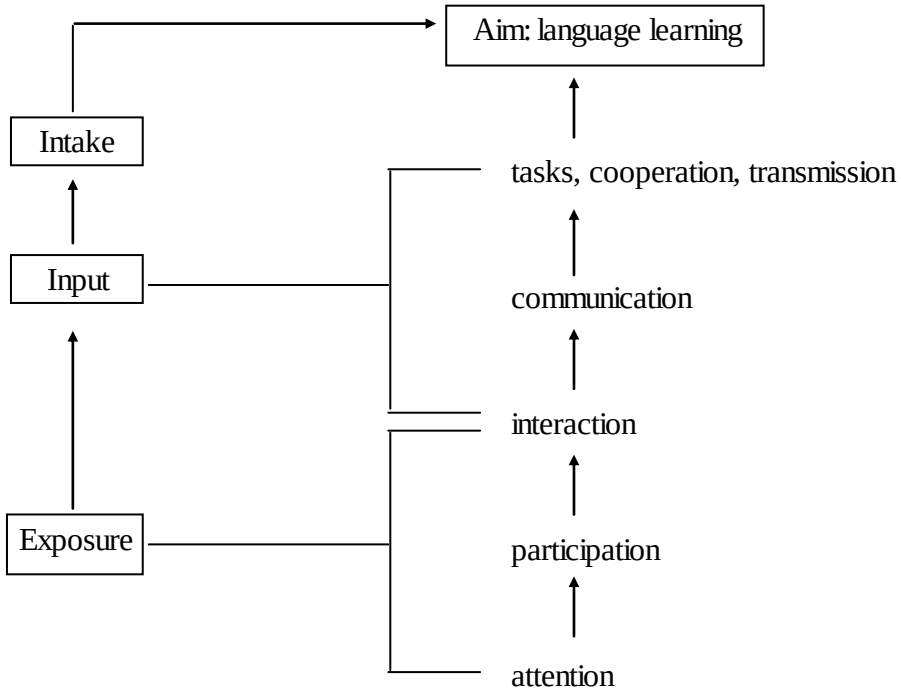

Figure 1. Classroom learning processes hierarchy. Adapted from "The Classroom and the Language Learner " by Van Lier, L.,1988, p.94. Copyright 1988 by Longman.

Loewen (2013) points out that "Uptake refers to several different constructs in SLA research" (p.675). The most common definition in interactionist research that Loewen (2013) referred to is "learners' immediate responses to linguistic feedback" (p.675). There are also some other studies which define uptake as a response to teachers' feedback. Lyster and Ranta (1997) classified uptake as one type of 'repair,' in which a learner successfully

repairs the initial problem or 'needs repair,' where the learner's response fails to successfully repair the initial utterance.

In contrast, Allwright (1984) defines uptake as what learners report they noticed during or at the end of a lesson. This study argues that students' uptakes occur in the process from input to intake shown in Figure 1 and it is students' uptake that is required in learning. It is worth examining what can lead to students' uptakes in classrooms.

Slimani (1987) tried to examine how interaction in the classroom affects language acquisition. The data for the study consisted of transcriptions of 22 recorded classes taught by different teachers. The subjects were 13 male university students ranging in age from 18 to 21. In Slimani's (1987) study, the aim of uptake research was to find out "what learners have managed to learn in the midst of the lesson independently of the teacher's intention" (p.94). Slimani used an uptake chart to measure students' reported uptake. Mackey (2012) points out that by using an uptake chart, it is possible to elicit information regarding learners' perceptions and what they notice in class. Kaneko (1991) used an uptake chart to examine students' uptake in her study. The result showed that the teachers' or students' spontaneous use of the L2 tended to facilitate uptakes although the main language used in class was the L1. These studies use Allwright's (1984) definition of uptake.

Ellis, Basturkmen, and Loewen's study (2001) takes a different perspective of 'uptake.' They investigated private language school classes in New Zealand to see how many successful uptakes occurred. They distinguished successful uptakes from unsuccessful ones. Successful uptakes were defined as "uptake in which a student correctly repaired a linguistic feature or clearly demonstrated understanding of an item," while unsuccessful uptakes were defined as "uptake where there was no attempt to repair or where an attempted repair failed or where it failed to clearly demonstrate understanding of the targeted feature" (p.299). The result of their study was student-initiated focus on form

instruction had more successful uptakes than teacher initiated focus on form instruction. As for the definition of uptake, Ellis, Basturkmen, and Loewen (2001) state that "we wish to take a broader perspective, to acknowledge that uptake can occur even when the previous move does not involve corrective feedback" (p.286). They proposed a definition of uptake as follows:

1) Uptake is a student move.
2) The move is optional.
3) The uptake move occurs in episodes where learners have demonstrated a gap in their knowledge (e.g., by making an error, by asking a question, or by failing to answer a teacher's question).
4) The uptake move occurs as a reaction to some preceding move in which another participant (usually the teacher) either explicitly or implicitly provides information about a linguistic feature. (p.286)

There are two main ways to define 'uptake.' They have a perspective in common in terms of 'student's move,' which is defined in Ellis, Basturkmen, and Loewen (2001).

Being engaged in language teaching in Japanese educational settings, I am interested in examining the relationship between students' uptake and the current language classroom context. As Mackey (2012) points out, the possibility of eliciting information regarding learners' perception through an uptake chart, which Kaneko (1991) and Slimani (1987) adopted, can be used to procure information about what learners notice in class. Also, to examine the relationship between students' uptake and the language classroom context, observing the classroom context is necessary.

In the next section, an historical overview of the language used in class will be

presented first. Then, studies of classroom activities will be reviewed because languages and activities observed in class are the main components of classroom context which could affect students' uptake.

Languages Used in Classrooms

As Chaudron (1988) states, it is important to investigate the role of both first language (L1) and target language (TL) use in foreign language classrooms. The L1 is the students' native language, and the TL or L2 means the language students are learning. The language used in classrooms changes depending on historical background, the teaching methodology and purpose. Hawatt (1984) referred to the Reform Movement, where monolingual L2 teaching methodology was adopted, and said it influenced language teaching method in the late 19th century. Then, the Direct Method took its place, and it prevailed throughout Europe. The use of the L1 was not banned; however, it was rarely used in the Direct Method.

At present, some research, which focuses on teachers' language use in the classroom, shows that the present teaching methodology should not be monolingual. A number of researchers support using the L1 in foreign language classrooms, while some teachers maximize their use of the TL. In this section, research on teachers' language use and theories as well as implications will be presented. Macaro (2001) surveyed the research results concerning the use of the L1 in L2 classrooms up to 2000. A number of conclusions can be drawn from his survey: a) None had found a majority of teachers in favor of excluding the L1 completely, b) None had found a suggestion that more L1 should be used than L2 because generally the majority of the interaction was expected to be in the L2, c) The L1 was used mostly for procedural instructions for complex activities, relationship building, control and management, teaching grammar explicitly, and providing brief L1

equivalents, d) Learner ability was a major factor in how much L1 was used, and e) Time pressure (e.g. exams) was another major factor in how much L1 was used. Based on the findings above, Macaro introduced three theoretical positions for teachers to consider. They were:

1. The Virtual Position

   The classroom is like the target country. Therefore, we should aim at total exclusion of the L1. There is no pedagogical value in L1 use. The L1 can be excluded from the FL classrooms as long as the teacher is skilled enough.

2. The Maximal Position

   There is no pedagogical value in L1 use; however, perfect teaching and learning conditions do not exist and therefore teachers have to resort to the L1.

3. The Optimal Position

   There is some pedagogical value in L1 use. Some aspects of learning may actually be enhanced by the use of the L1. There should therefore be a constant exploration of pedagogical principles regarding whether, and in what ways, L1 use is justified.

Existing literature can be classified into the three positions stated above by Macaro (2001), although there are some exceptions.

Research Supporting L1 Use

A number of studies show a positive effect of L1 use, and the use of the L1 in the classroom is supported. This research can be included in The Optimal Position. The benefits of using the L1 in the sociocultural interactionist approach, consciousness-raising, and task-based approaches are supported, showing how learners use the L1 when engaged in collaborative L2 learning tasks (Brooks & Donato, 1994; Cook, 2001; Scottt, V. and de la Fuente, M, 2008; Carless, D., 2007). There is some research that refers to a framework based on Vygotskian psycholinguistics (Anton & DiCamilla, 1998; Storch & Wiggleworth, 2003; Brooks & Donato, 1994). They agreed on the role of the L1 in students' collaborative interactions.

Anton and DiCamilla (1998) studied the use of the L1 in the collaborative interaction of L2 learners. They stated that, within the sociocultural perspective, the use of the L1 is beneficial for language learning because it acts as a critical psychological tool that enables learners to construct effective collaborative dialogues in the completion of meaning-based language tasks. They found that the L1 serves not only cognitive functions, but social functions as well in students' collaborative interactions. The study suggests that students' use of the L1 in collaborative interactions such as group work is necessary. In this research, although the importance of using the L1 among students is stated, the role of the L1 in classroom interaction between students and teachers is not discussed.

Storch and Wigglesworth (2003) investigated the amount of L1 use in an ESL class. They recorded some classes and checked whether learners were using their L1 as a mediating tool, and then they analyzed which cognitive functions were seen in the students' task completion. Each episode was then coded for their functions. They were: a) task management, b) task clarification, c) vocabulary and meaning, and d) grammar. The above functions were similar to those introduced by Swain and Lapkin (2000). The results

show that these functions are clearly related to the use of the L1 as a mediating tool that facilitates task completion. They concluded that the L1 enabled learners to complete tasks at a higher cognitive level especially when they work collaboratively. Cook (2001) also supports the use of the L1 in task learning and states that through the L1, students may explain the task to each other, negotiate roles based on which role they are going to take, or check their understanding or production of language against that of their peers. Cook supports the use of the L1 and suggested some ways of introducing the L1 into the classroom as follows:

1) To convey and check the meanings of words or sentences via the L1.
2) Teacher's use of the L1 for explaining grammar.

Referring to Mohamed & Acklam (1992) who showed the difficulty of explaining the meaning of words in the L2, Cook stated that the L1 can be used for the checking of comprehension. Also, Cook recommended using the L1 in explicit grammar teaching and said even advanced L2 users are less efficient at absorbing information from the L2 than from the L1. Cook's (2001) statement supports the ideas of Brooks & Donato (1994), in which they explain that L1 use is a normal psycholinguistic process that facilitates L2 production and allows the learners both to initiate and sustain verbal interaction with one another. The above studies support L1 use in task-based learning where 'scaffolding' occurs. Cook notes that the purposes of using the L1 clearly fit well with the overall rationale for using the task-based learning approach. The term 'scaffolding' comes from the work of Wood, Bruner and Ross (1976), in which 'scaffolding' is defined as the type of assistance offered by a teacher or peer to support learning.

Scott and de la Fuente (2008) discussed the role of the L1 when L2 learners are

engaged in consciousness-raising, form-focused tasks. The findings suggest that the exclusive use of the L2 during consciousness-raising, form-focused tasks may impose cognitive demands on learners, which might have a negative impact on the allocation of cognitive resources for the task. On the other hand, using the L1 for these kinds of tasks may reduce cognitive overload, sustain collaborative interaction, and foster the development of metalinguistic terminology.

As mentioned above, research supports Vygotskyan approaches stating that language learning activity must be viewed as cognitive activity. Considering Vygotskyan perspectives, activities with L1 use, which can lead to learning, could be effective for L2 learners to develop their acquisition as well as to build up interlinked L1 and L2 knowledge in the students' minds.

Some studies support the use of the L1 even in immersion classes (Behan & Turnbull, 1997; Swain, M. & Lapkin, S. 2000). Phillipson (1992) argued from sociolinguistic perspectives that imposing the exclusive use of the TL on the classroom is a form of linguistic imperialism. Based on his claims, even in immersion classes, using the L1 seems to be required in task-based activities. In the research by Behan and Turnbull (1997), French immersion students using their L1 completed their task better than those who were using the L2 only. They concluded that using the L1 can both support and enhance L2 development. They considered the L1 as an effective tool for dealing with cognitively demanding content. Swain and Lapkin (2000) also recorded French immersion classes, and the results showed that depending on the task, the quantity of L1 use was different. There were tasks which require less use of the L1 among higher-achieving students whereas the same tasks require more use of the L1 among lower-achieving students compared to other tasks. As shown by this research, the L1 was used even in immersion classrooms to some extent, and it served important cognitive and social functions.

Although the studies above reveal the effect of using the students' L1, they also point out the need to use the L2 as well. Cook notes that code-switching is a natural phenomenon in settings where speakers have a shared language, which implies the L2 should be used. Edstrom (2009) comments that L1 use is inextricably tied to classroom circumstances and can neither be determined nor easily generalized from one context to another.

Research Recommending the Use of the TL Instead of the L1

Some research views using only the L2 in a favorable light, which belongs to the Virtual Position (Chambers, F., 1991; Macdonald, C., 1993; Cummins, 2005). F. Chambers (1991) pointed out the possibilities of using the L2 as the normal means of communication in class if instruction is systematically given in the L2 with a planned approach and materials. Cummins (2005) described two-way bilingual immersion programs in which instruction should be exclusively in the target language and translation should be avoided. Although most research supporting the Vygotskian theory provides favorable results for using the L1, some research in favour of the use of the L2 alone in the classroom is also supported by Vygotskian sociolcultural theory. Their theoretical perspective is that language is understood as a mediating tool for deriving cognitive functions from social activities.

As for motivation, Macdonald (1993) argues that the teacher's maximized use of the TL has an impact on student motivation. He maximized his own use of French in the classroom, resulting in students' comments that they learned more by the end of the year.

Research Neither Opposing nor Supporting the Use of the L1

There are some studies showing an intermediate position regarding the use of the L1 (Ellis, 1984; Krashen, 1988; Chaudron, 1988; Atkinson, 1993; Edstrom 2009). Atkinson

(1993) referred to Krashen's (1988) monitor theory and said that the belief that L2 teachers and learners should use only the L2 is based on the theory that acquisition is different from learning. He adopts an intermediate position arguing that there was no research to support the use of only the L2. Ellis (1984) states that the teacher should use the students' L1 as little as possible in order to maximize students' exposure to L2 input. Chaudron (1988) and Edstrom (2009) believe that it is not teachers, but learners that can decide the language choice. Chaudron argues that what is important is to study the effects of TL and L1 use in the development of L2 proficiency. Edstrom (2009) states that learners themselves constitute an extremely important variable in determining whether or not L1 use is appropriate.

Research of Actual Classes: the Amount of L1 and L2 Use

Some research showed significant amounts of L1 use in classes (Kaneko, 1991; Polio & Duff, 1994), while there are also studies that show the results of relatively low frequencies of L1 use (Macaro, 2001; Kim & Elder, 2005). Kaneko collected data from 23 EFL classes with about 24 students in each class. Sixty-five percent of total teacher talk was in the L1, while the L2 was used only 17 % of the time. Polio and Duff (1994) researched six university EFL classes and revealed that most teachers used the L1 rather than the L2. They described problems that teachers encounter in their use of the L1 and L2 in the language classroom, such as: a) Teachers have little idea about when, how, and how often the L1 should be used, b) Using the L2 requires more time in 'negotiation of meaning,' so teachers tend to resort to the L1, which deprives students of the opportunities to negotiate in the L2 that can develop their strategies.

On the other hand, Kim and Elder researched four EFL classes with an average number of 16 students. Their results showed that all the participating teachers used the L2

as the medium of instruction unless the activity was complicated. As Polio and Duff state, although there appeared to be no systematic relationship between teachers' language choices and particular pedagogic functions, the research revealed that the TL was the dominant language for modeling, correcting, and scaffolding. These are three strategies that can help students learn either a grammatical structure or pronunciation in the TL. Also, they stated that teachers' language choice varies depending on the type of lesson and teachers' beliefs about language learning, and their attitudes to the TL greatly affect language choices. Their study revealed that the quality of the TL used in class as well as the quantity of the TL input should be considered.

Macaro (2001) researched 14 classes taught by six teachers, where French was the L2 and English was the L1 of the learners, and revealed that the amount of L1 use was from 0.0% to 15.2 % as a proportion of the different lessons. In only two lessons was the total L1 use more than 10 percent, which is well below the reported L1 use in the literature by Kaneko (1991) or Polio and Duff (1994). There does not appear to be a link between teacher code-switching and students' L1/L2 use. Macaro also states in the paper that students' use of the L2 was not brought about by higher amounts of the teacher's L2 use.

Students' Views, Anxieties, Beliefs, and Attitudes Regarding the Use of the L1 and the TL

Storch and Wigglesworth (2003) administered a questionnaire about students' attitudes toward the use of their L1 in completing tasks in an L2 setting. Students found using their L1 useful in the following ways: a) Their use of the L1 enabled them to provide definitions of difficult vocabulary and explanations of grammar, particularly when they did not have the required metalanguage, b) The L1 made it easier for them to negotiate and provide justifications for grammatical choices.

Whereas most students noted that the L1 was beneficial in completing their tasks, the students' interview data showed that students were reluctant to use their shared L1 for these two reasons: a) The use of the L1 would slow down the activity, b) They believed that they should use their L2 as much as possible in an ESL setting.

Levine (2003) presents the results of an Internet-based questionnaire study on TL and L1 use in university-level foreign language classes. He concluded that denying a role for the L1 is futile, and that learners should play an active role in managing the use of the L1 and the L2 to create bilingual norms that are typical of multilingual environments outside the classroom. Moreover, he made a case for using the L1 as a useful tool in the classroom to relieve anxiety.

In a study by Macaro (1997), students willingly used the L1 for classroom management. However, Ianziti and Varshney's (2008) study showed different results. Most students favorably used the L2.

While most researchers recognized the role of the L1, Ianziti and Varshney's (2008) research implied that L1 use may alleviate classroom anxiety. However, it can also be a demotivating factor as well, which could be regarded as one of the problems of using the L1. In sum, from the questionnaire studies above, it can be said that students' attitudes vary depending on their background details such as their age, educational history, major, and even whether they share the same L1.

Reasons for L1 Use

There are some studies which focused on how often and in which contexts teachers use the L1 in classrooms. The following is a list of common contexts where the L1 was used in second or foreign language classrooms. Many of the functions of teachers' L1 use correspond to those introduced by Polio and Duff (1994), which are shown below:

a) Grammar explanation (Cook,2001; Polio & Duff, 1994; Kim & Elder, 2005; Edstrom, 2006)

b) L1's efficacy for task-based learning, the use of the L1 can enable learners to complete tasks (Cook,2001)

c) Vocabulary (translation of unknown vocabulary/ administrative vocabulary) (Polio & Duff, 1994; Cook, 2001; Storch and Wigglesworth, 2003)

d) Classroom management, procedural instruction for activities (Polio & Duff,1994; Macaro, 2001; Edstrom, 2006)

e) Clarification when students are confused (Polio & Duff,1994; Kim & Elder, 2005; Edstrom, 2006)

f) In response to the students' use of the L1 (Polio & Duff, 1994)

g) Reprimand (Edstrom, 2009; Macaro, 2001)

Kim and Elder (2005) state that teachers' language choices vary depending on the type of lesson, and that teachers' beliefs about language learning and attitudes to the TL greatly affect language choices. Edstrom's comment (2009) about L1 use in grammar explanation, which seems to be supported by a number of teachers, is shown below:

> What is appropriate or justifiable depends on a number of factors including the grammatical concept to be presented, the learners' level and prior language learning experience, the reason for which learners need to learn or use that particular grammar point, as well as unanticipated student reactions. Generalization's about L1 use become even more problematic when one evaluates the more subjective aspects of language teaching. (p.15)

In Kaneko's (1991) work on the English educational settings in Japan, she researched how often and for which functions Japanese teachers use the L1 in classrooms. Using three categories (core goals, framework goals, and social goals as per Ellis, 1984), L1 and L2 utterances and students' uptake were analyzed. Fifty percent of the teachers' L1 utterances were core goals, 17% were framework goals and 6% were social goals. Kaneko's research revealed first that the L1 was the main language used in class and also that, in fact, teachers' use of the L1 had little effect on students' uptake. It was students' L2 use that contributed to their uptake. Moreover, the more L1 teachers used, the less uptake students had.

In Yoshida and Yanase's study (2003), although they show the importance of Japanese, the L1, which can play an important role in a monolingual culture, they also show the effectiveness of using the TL with young learners as well. They imply the choice of language should be adjusted depending on the class situation.

Students sharing the same L1 might be exposed to more L1 than L2. As Kaneko's (1991) study showed, the percentage of L1 use in the classrooms was quite high; however, using too much L1 might not lead to students' uptake.

Summarizing the above studies, most researchers support L1 use. However, they stress the necessity of using the L2 as well. As Stern (1992) argues, keeping the languages visibly separate in language teaching contradicts the invisible processes in students' minds. This means the L1 and L2 should be connected in the foreign language classroom.

Different positions draw on different perspectives. In the ideas of collaborative interaction in the L2 classroom stated above (Anton, M. & Dicamilla, F., 1998; Brooks, F., & Donato, R., 1994), the L1 is said to enable students to negotiate meaning and communicate successfully in the TL. Chaudron (1991) also said one way to ensure that

learners will have a chance to interact and communicate to learn new and real information is to adopt a more task-based orientation, where the L1 is required, to teaching. If the integration between task-based teaching and collaborative learning is possible, the L1 will be an effective tool that should not be denied in foreign language classrooms. On the other hand, from an interactionist perspective, learners should receive as much exposure to L2 input as possible.

In Macaro (2001), it was also stated that learner ability and time pressures such as exams were a major factor in how much L1 was used. This case can be applied to English education in Japan. Japanese English education seems to be based on university entrance exams rather than a communicative approach (Yoshida & Yanase, 2003). This focus on university entrance exams would be one of the reasons why a large quantity of Japanese is used in class.

Depending on the students' background or the educational setting of each country, appropriate choices of language in classrooms would vary. As Edstrom (2009) states, classroom circumstances affect the amount of L1. These perspectives imply that generalizing the amount of L1 use is difficult.

One limitation in this field of study is that the relationship between pedagogic function and language choice has not yet been clearly established. The above studies point out the importance of investigating language choice in classrooms, which will be a key to understanding which function can lead to students' L2 development.

Ellis (1994) states that studies show little systematic relationship between the teachers' choice of language and pedagogic functions. He also argues that input alone is insufficient for achieving language acquisition, suggesting that mere exposure to TL input does not lead to students' internalization as intake. This means that students need to be exposed to input in the TL, and more importantly, when or how much exposure to the TL

or how the L1 could be used should be considered as well.

In Kaneko's study (1991), the relationship between teacher language choice and students' uptake has been revealed, which is helpful for considering the relationship between language use and pedagogic functions. More of these kinds of recent process-product studies would be helpful in determining the relationship between teachers' use of the L1 and L2, and the effect on students' uptake.

Ohashi (2012) compared three language classes to examine which type of teachers' questions or negotiation strategies can facilitate students' spontaneous L2 utterances. The data consisted of transcribed audiotapes of three EFL classes. The participants were university students with their ages ranging from 18 to 21 years. All utterances by teachers and students were counted by seconds, and the amount of teachers' and students' use of language was compared among three classes.

In relation to question types, most responses to teachers' display types of questions were not spontaneous, while referential types of questions helped learners produce more spontaneous conversational turns. Negotiation strategies, which facilitated students' L2 utterances were 'elicitation' and 'confirmation check,' while 'repetition' did not instigate learner's spontaneous L2 utterances. The findings were that referential questions made more contribution to learners' spontaneous L2 utterances than display type questions, and few L2 utterances were seen in the class with less negotiation strategies.

The above studies show that both target language (L2) and students' native language (L1) have a role in enhancing students' learning. Students need an abundant exposure to the target language, while the L1 is also helpful for both teachers and students. Ellis (2012) comments on the use of language in the classroom and argues that studies attempting to investigate to what extent the teacher's use of the target language or the L1 affect learning. As Ellis states, knowing which language should be used in which situation to facilitate

students' uptake would be a great help for teachers' language choice.

Activities in SLA Classes

As Chaudron (1988) pointed out the variety of teaching methods, practice, techniques and activities used in class inspire increasing attempts to research language teaching and learning. Larsen-Freeman and Anderson (2011) introduce many different language teaching methods including techniques. In their book, they do not suggest or imply which method is best, but instead help readers to find the ways of teaching that are most harmonious with the teachers' thinking. They also point out that "As time passes, new methods are created and others fall into disfavor" (p.4). Tudor (2003) states that teaching contexts differ from one another in a significant number of ways, claiming that it cannot be assumed that all teachers share the same conceptions of language learning and teaching. As Tudor states, in the language classes recorded by the author in 2012, the activities or techniques adopted in each class were multiple, such as: explicit grammar teaching, translation, giving students tasks, reading aloud, and drill practice.

Among those activities observed in the 22 classes recorded by the author for this study, three activities were focused on: a) drill, b) task, and c) translation. These activities were adopted in more than one class and the main languages used by teachers were different in each class. Therefore, these three activities were selected to compare the effectiveness and relationship with students' learning for the study. In the following section, the definition as well as the techniques of those activities will be introduced.

Drill

Dekeyser (1998, 2007a) states that the connections between form and meaning are the essence of language and separating them from language practice is unwise, adding in

areas of language such as phonetics, phonology, repeated practice activity with forms are useful. Dekeyser (2007) calls such repeated practice activity with forms 'drills.'

Paulston (1970, 1972) and Paulston and Bruder (1976) distinguished among three different types of drills: a) Drill, b) meaningful drills, and c) communicative drills. Drill is defined as drills where there is only one correct way of responding with complete control of the response. This type of drill is the same as what Hok (1962) called 'oral drills.' Hok (1962) defined an oral drill as "the pattern that the students are to imitate either by simply mimicking or by more complicated procedures of combining something new with something already learned" (p.47). Hok also insists that drills seem inevitable in enabling the language learner to learn forms by heart so they become fixed in the memory.

The second type, 'meaningful drills' is defined by Paulston and Bruder (1976) as the drills that the student cannot complete without fully understanding structurally and semantically what is said. This is different from drill in that the drills are meaning focused. They also explained that communicative drills are similar to meaningful drills and the difference is that students need to add new information about the real world. The drills that I observed in EFL (English as a Foreign Language) classes in Japan are either mechanical drills or meaningful drills. Lightbown (2000) suggests that if learners' practice provides learners with opportunities for meaningful language use, the role of practice is beneficial and even essential.

Dekeyser (1998) argues that drills only serve a very limited purpose due to little possibility of making learners establish form-meaning connections. However, Dekeyser (2007) admits that mechanical practice is an important element of the language practice and it is gradually gaining respectability again. Actually, there are some studies that support repetition practice, stating that students' repetition practice is effective unless the practice is rote parroting associated with audiolingualism. Sheehan (1988) describes the

role of repetition as a practice to consolidate what is being learnt. Duff (2000) shows in her study that repetition could be an effective tool if learners are ready to learn and not forced to do so by the teacher. Repetition is supported from the sociocultural perspective, as well. Lantolf (2006) describes repetition as 'imitation' which can become a valuable tool. Roebuck and Wagner (2004) used repetition for their university students in a Spanish course and found that the students used unscripted repetition in peer practice and suggest that repetition is beneficial for the weaker students.

The characteristics of drill introduced by Larsen-Freeman and Anderson (2011) are summarized below:

a) The language teacher introduces the dialogue by modeling correct answers and students follow the teachers' direction and respond as accurately as possible. The interactions are teacher-directed.
b) New vocabulary or structural patterns are introduced through practice but the major objective for students is to acquire the structural patterns.
c) When errors occur, they should immediately be corrected by the teacher because errors lead to the formation of bad habits.
d) Grammar points are taught through examples and drills. Explicit grammar rules are not provided.

The techniques of drill are also introduced by Larsen-Freeman and Anderson (2011) and the techniques observed in language classes in Japan are described in Table 1. Teachers need to know that drill is not just repetition or substitution. Drill could be both mechanical and meaningful and what is important is to center the students' attention on the form that teachers need to convey.

Table 1
Drill Techniques

Drill	Explanation
Backward Build-up Drill	If students have trouble in a long dialogue, the teacher breaks it into several parts. Then, the students repeat part by part until they can repeat the entire line. The teacher begins with the part at the end of the sentence and works backwards from there to direct students attention more to the end of the sentece because new information typically occurs in the end part of the sentence.
Repetition Drill	Students are required to repeat the teacher's model quickly and accurately.
Single-slot Substitution Drill	Students need to repeat the line given by the teacher and substitute the cue into the line in the proper place.
Complete the Dialogue Drill	Students are required to fill in the blanks with the missing words.

Because the drills that were observed in the recorded classes for this study were either mechanical drills or meaningful drills, the author used meaningful drills and mechanical drills for this study.

Task-based Approach

Ellis (2003) states that tasks hold a central place in both current SLA research and in language pedagogy. Van den Branden (2006) says:

> Ultimately, all modern language courses aim to develop learners' ability to use the target language in real communication. However, this overarching goal needs to be broken down into more concrete and operational goals that can guide the design of the different components of a curriculum or syllabus, down to the level of separate lesson activities. (p.2)

Van den Branden (2006) also states that a key distinction can be made between a curriculum made in terms of language content and the curriculum that formulates goals in

terms of language use.

Ellis (2003) points out the possibility of broad definitions of task, and focusing on tasks whose successful completion involves using the learned form of the target language, he provides definitions of task drawn from both research and pedagogic literature. Table 2 shows a summary of definitions made by the author based on the definitions presented by Ellis (2003). The definitions introduced in Table 2 support the combination of focus on both form and meaning. In sum, 'tasks' that Ellis (2003) defines are:

> Activities that call for primarily meaning-focused language use. In contrast, 'exercises' are activities that call for primarily form-focused language use. However, we need to recognize that the overall purpose of tasks is the same as exercises – learning a language – the difference lying in the means by which this purpose is to be achieved. (p.3)

The Tasks given in Japanese educational settings are within the definitions introduced in Table 2. Ur's (2012) definition of 'task' also includes both focus on using the forms of the language and focus on meaning in completing the task. Ur (2012) states that a 'task' has two objectives: (a) learning of some aspect of the language, and (b) an outcome to be evaluated, calling those tasks as 'language-learning task.' Ur (2012) says "A good task produces good learning" (p.43) and points out the importance of validity, quality, and success-orientation as underlying practical principles required for tasks. As for validity, tasks should activate students primarily to use the language items or skills taught in class. About quality, teachers need to make sure that students can engage with the particular grammatical form that they should practice.

Table 2
Definitions of 'task' Based on the Figure Presented by Ellis (2003)

Author	Definition	Main focus
Breen (1989)	A task is a structured plan for the provision of opportunities for the refinement of knowledge and capabilities entailed in a new language and its use during communication.	Tasks require spontaneous communication of meaning.
Long (1985)	A task is a piece of work undertaken for oneself or for others, freely or for some reward. In other words, tasks are the hundred and one things people do in everyday life, at work, at play, and in between.	Meaning is primary.
Richards, Platt, and Weber (1985)	A task is an activity or action which is carried out as the result of processing or understanding language. The use of a variety of different kinds of tasks in a language teaching is said to make teaching more communicative since it provides a purpose for classroom activity which goes beyond practice of language for its own sake.	Meaning is primary, but eliciting language is necessary.
Crookes (1986)	A task is a piece of work or an activity, usually with a specified objective, undertaken as a part of an educational course.	The goal of task is learning language.
Prabhu (1987)	A task is an activity which requires learners to arrive at an outcome from given information through some process of thought.	Tasks require cognitive process.
Nunan (1989)	A communicative task is a piece of classroom work which involves learners in comprehending, manipulating, producing, or interacting in the target language while their attention is principally focused on meaning.	Tasks necessariry involve language.
Skehan (1996)	A task is an activity in which meaning is primary. Task should have a relationship to the real world.	Meaning is primary.
Lee (2000)	A task is (1) a classroom activity or exercise that has an objective obtained by interaction among participants, mechanism for structuring and sequencing interaction, and focus on meaning exchange; (2) a language learning endeavor that requires learners to comprehend, manipulate, and produce the target language as they perform workplans.	The focus is meaning as well as acquiring form.
Bygate, Shehan, and Swain (2001)	A task is an activity which requires learners to use language, with emphasis on meaning, to attain an objective.	Meaning is primary but langauage use is necessary.

Task activities are divided into two kinds: Unfocused tasks and focused tasks (Ellis, 2003; Ur, 2012). An unfocused task is a task designed for learners to communicate generally – it is not designed for learners to practice a specific form. In contrast, focused tasks are designed to induce learners to use a specific linguistic form, or grammar structure. Tasks observed in Japan are most commonly focused tasks. Providing learners with the

opportunities to work on focused tasks, learners are able to practice forms in a real communication. Ellis (2003) also states “Teachers may want to provide learners with the opportunity to practice a specific feature under real operating conditions” (p.17). Besides, language teachers in Japan are required to have students pass the university entrance exams which could be the reason why teachers tend to select focused tasks.

As a problem that is possible to happen during task activity, Breen (1989) states that the gap between the ‘task workplan’ and ‘task in process’ can be wide. Even though tasks are carefully constructed, they might not work without appropriate manipulation by teachers. Therefore, teachers need to make sure that they organize the process of task and observe how students interact with each other or whether students are rightly using the form. While it is the students who work on the task, teachers can help the tasks work successfully.

Grammar Translation

Larsen-Freeman and Anderson (2011) state that Grammar-Translation Method has been used by language teachers for many years. Japanese students learning English in Japan also experience this method because this method is still common in Japan. Teachers teach grammar points through translation. Characteristics of grammar translation introduced by Larsen-Freeman and Anderson (2011) are as follows:

a) The purpose is to read literature written in the target language and the meaning of each sentence is made clear by translating it into the students’ native language.
b) The teacher is the authority in the classroom. Most of the interaction in the classroom is from the teacher to students. Teachers have students translate each sentence and add explanation after students’ translation.

c) Teachers explicitly teach grammar rules. There is less attention given to speaking and listening.

If grammar translation is adopted in class, there is little interaction initiated by students. Also, teachers tend to depend on the L1. The translation activities observed in the recorded classes can be termed 'Grammar translation,' in which teachers explain grammatical points through the work of translation.

Dekeyser (2007) points out that "the need for and usefulness of different kinds of practice varies considerably depending on the institutional context and the characteristics of the individual learner" (p.12). This explains why a variety of activities need to be used in language classes. He also adds that "students of different ages, with quantitative and qualitative differences in aptitude, can benefit differentially from different forms of practice." (p.12). This implies that language teachers need to know what kind of activities or what techniques should be adopted depending on the age or maturity.

It will be helpful to examine the relationship between students' uptake and activities. Therefore, the author will conduct this empirical study using the three activities explained above in this study. The details are explained in Chapter 3.

To investigate the relationship between students' uptake and classroom context, observing classes is also essential. The next section reviews existing classroom observation schemes.

Classroom Observation Schemes

This chapter looks at an historical overview of classroom observation schemes, which broadly examines the processes of teaching which arise when language instruction takes place. Each observation scheme described below has different features, and the

categories used in each scheme are different from each other as well. However, there are some features in common among all these schemes. Comparing the categories used in historical observation schemes, the author will discuss which categories are necessary to observe the classes in the present study.

Observation Categories

To explore the classroom processes, this section introduces the categories for describing classroom processes or for the appropriate observation and evaluation. Ellis (2012) states that data analysis of classroom processes can be quantitative or qualitative and explains that "Observation can be conducted either by means of interaction analysis systems, by keeping field notes, or by recording lessons and preparing and analyzing transcripts" (p.75). This chapter focuses on some of these descriptive studies, starting with early interactional analysis, which can be used for the present study.

The FIAC (Flanders' Interaction Analysis Categories) developed by Flanders (1970) was popular for the analysis of classroom content. It was intended for use with trainee teachers rather than as a research instrument. It consists of ten categories of teacher and student behaviors. Teacher behaviors were divided into 'direct influence' and 'indirect influence,' while students' behaviors were classified into 'response' and 'initiation.' The categories in the FIAC are listed in Table 3.

The Flint (Foreign Language Interaction) system, originally developed in 1971 by Moskowitz to analyze pupil-teacher interaction in foreign language classes, has been revised several times and has adapted the Flanders's FIAC system. In the Flint system, the teacher behaviors are divided into two types of influence; indirect categories, which encourage the actions of students trying to expand their participation, and direct categories, which tend to limit the actions of students.

Table 3
Ten-Category System of FIAC by Flanders (1970)

Teacher talk	Indirect influence	1. Accepts feeling
		2. Praises or encourages
		3. Accepts or uses ideas of pupils
		4. Asking questions
	Direct influence	5. Lecturing
		6. Giving directions
		7. Criticizing or justifying authority
Pupil talk		8. Response
		9. Initiation
		10. Silence

Kaneda (1984) shows the changes of categories used in the early and later versions of the Flint system, including Flint 1, Flint 2, and Flint 3. Kaneda (1984) says the number of categories used to record the actions which take place in a classroom has increased. Using Flint 3, Moskowitz (1976) compares the classroom interaction of outstanding foreign language teachers and that of typical foreign language teachers. The behaviors in the classroom are entered into a chart, which provides an organized visual picture of the lesson, and is then analyzed. The finding was that outstanding foreign language teachers and students used the foreign language more than typical foreign language teachers and their students in every category of behavior. The Flint 2 introduced by Moskowitz (1971) is shown in the Table 4.

Fanselow's (1977) Foci for Observing Communications Used in Settings (FOCUS) distinguished five characteristics of classroom communications (1) the source, (2) the pedagogical focus, (3) the medium, (4) the usage, and (5) the content. Each of these characteristics breaks down into seventy-three sub categories. Fanselow suggests that it is not necessary to use the entire system for analysis. Partington and Lucker (1984) also developed a system called the 'Observation Schedule,' using the FIAC categories. All categories introduced in the system are divided into four parts: Teacher manages, presents

or instructs; Teacher controls practice; Pupil uses the foreign language reproductively; and, Pupil uses the foreign language productively (Table 5).

The VICS, the Verbal Interaction Category System developed by Amidon and Hunter (1967), is similar to the FIAC. The VICS includes seventeen categories in which classroom activities are analyzed (Table 6). The VICS is different from the FIAC in that both teacher and student activities are observed from the perspective of teacher-initiation or student initiation.

The Communicative Orientation of Language Teaching (COLT) Observation Scheme was developed in the early 1980s as a way to describe particular aspects of the instructional practices and procedures in L2 classrooms. The COLT, developed by Spada, Frohlich, and Allen (1985), was created based on Spada and Frohlich's (1995) concept of a communicative feature which, they explain, derived from theories of communicative competence from the literature on communicative teaching and research on first and second language acquisition. By using the COLT, it is possible to investigate relationships between teaching and learning. The scheme consists of two parts. Part A involves the real-time coding of classroom behaviors while the observers are present in the classroom and make audio or video recordings for later Part B coding. In Part A, placing check marks into the appropriate boxes under each of the five major features is required and these are: participant organization, content, content control, student modality and materials. In the course of a single activity or episode, one or several categories are checked. Part B characterizes the verbal interactions that take place between students and teachers in the activities and episodes. The scheme in Part B is divided into seven main features: use of target language, information gap, sustained speech, reaction to form/message, incorporation of student/teacher utterances, discourse initiation, and form restriction. Analysis using Part B focuses on the verbal output and interactions of teachers and

students which is more detailed than the analysis in Part A.

Table 4
Flint 2 Developed by Moskowitz (1971)

Teacher talk (indirect influence)	1. Deals with feelings
	2. Praises or encourages
	3. Jokes
	4. Uses ideas of students
	5. Repeats student response verbatim
	6. Asks questions
	7. Asks cultural questions
	8. Personalizes
Teacher talk (direct influence)	9. Gives information
	10. Corrects without rejection
	11. Discusses culture and civilization
	12. Models
	13. Orients
	14. Personalizes about self
	15. Carries out routine tasks
	16. Gives directions
	17. Criticizes student behavior
	18. Criticizes student response
Student talk	19. Specific
	20. Choral
	21. Reads Orally
	22. Open-ended or student initiated
	23. Off task
	24. Silence
	25. Silence-AV
	26. Confusion, work-oriented
	27. Confusion, nonwork oriented
	28. Laughter
Special conventions	29. Uses English
	30. Nonverbal
	31. Silence-students doing tasks
	32. Teacher writes on board
	33. Teacher smiles

Table 5
Ovservation Schedule Developed by Partington and Lucker (1984)

Teacher manages, presents or instructs
1. Explains how language works, e.g. gives explanation of grammar
2. Gives management and controls instructions
3. Gives background information about country whose language is being taught
Teacher controls practice
4. Corrects errors by pupils
5. Provides model structure or answer
6. Accepts incorrect response-remodels- cues further response
7. Asks questions
8. Emphasises correct answer
9. Gives pattern practice
Pupil uses the foreign language reproductively
10. Answers closed questions
11. For reading
12. For practice with other pupils
13. For structure repetition
Pupil uses the foreign language productively
14. Answers open-ended questions
15. Asks original questions: initiate discussion

Table 6
Categories in the VICS by Amidon and Hunter (1967)

Teacher-initiated talk	1. Presents information or opinion
	2. Gives directions
	3. Asks narrow questions
	4. Asks broad questions
Teacher response	5. Accepts a) ideas, b) behavior, c) feeling
	6. Rejects a) ideas, b) behavior, c) feeling
Pupil response	7. Responds to teacher
	8. Responds to pupil
Pupil-initiated talk	9. Initiates talk to teacher
	10. Initiates talk to another pupil
	11. Silence
Other	Confusion

The schemes above show that categories are mainly divided into teacher and student talk and there are more categories in teachers' utterances than students' utterances. Therefore, the categories that I used for compiling the corpus should also be largely divided into teachers' utterances and students' utterances.

There are also some categories made for Japanese educational settings, which will be discussed in the following section.

Classroom Observation in Japan

Sohguchi and Harada (1981) designed the English Language Classroom Interaction system (ELCI) by subcategorizing Flanders' ten categories to meet the requirements of their analysis. Flanders' categories 1, 2, 3, 7 and 9 were subcategorized and expanded (Table 7). Category 10, Silence, is divided into 'constructive use of time' and 'non-constructive use of time.' Category 4, Asks questions, is divided into 'asks narrow questions' and 'asks broad questions.' Using the ELCI, they overcame some of the limitations of the FIAC system to observe classroom interactions. Yamamori (2007) made a framework to observe classroom English, through a system called FORCE (Framework for Observing and Reflecting Classroom English). This is divided into four parts with twenty-nine categories. Categories in each part are classified into two: output and input. Categories in 'A' help students notice linguistic structure, 'B' includes categories of classroom organization, in 'C,' students realize the meaning of form, and 'D' expands categories included in 'C'. Table 8 shows the categories introduced in FORCE.

Table 7
Categories in the ELCI System by Sohguchi and Harada (1981)

Teacher talk	Response	Accepts feeling (in Japanese or English)
		Praises or encourages (in Japanese or English)
		Accepts or uses ideas of pupils (in Japanese or English)
	Initiation	Asks narrow questions (in Japanese or English)
		Asks broad questions (in Japanese or English)
		Gives information (in Japanese or English)
		Gives information by taperecorder
		Directs pattern drilling (in Japanese or English)
		Gives directions (in Japanese or English)
		Criticizes or justifies authority (in Japanese or English)
Pupil talk	Response	Individual response (in Japanese or English)
		Choral response (in Japanese or English)
	Initiation	Initiation (in Japanese or English)
Silence or Confusion		Silence or confusion (constructive use of time)
		Silence or confusion (non-constructive use of time)

Table 8
FORCE Develped by Yamamori (2007)

A		D	
Output	Others	Output	Others
	Chorus reading		Closed questions
	Prodding /Pattern practice		Open-ended questions
Input	Others		Elicitation questions
	Modeling		Clarifying questions
	Describing	Input	Others
	Input enhancement		Expansion
			Correct feedback
B		C	
Output	Others	Output	Others
	Greeting		Questions of literal comprehension
Input	Others		Questions of inference
	Directing		Questions of personal response
	Rewarding	Input	Others
			Mining
			Repetition
			Example
			Redundancy

Seedhouse (2004) reviews several approaches which have been employed over the last thirty years to analyze L2 classroom interaction. In contrast to the coding systems such as COLT and Flint, Seedhouse (2004) argues "the assumption is still that on each of these separate coding dimensions, the teacher makes one pedagogical move at a time, and the coder has to make a choice as to which slot the pedagogical move should be coded into" (p.57). The study implies that each system of classroom observation has both suitable and unsuitable categories for the analysis of L2 classroom interaction.

Seedhouse introduces two extracts of interaction and shows the complexity of interaction. Seedhouse says "Although it could at first sight be mistaken for a rigid, plodding, lockstep IRF / IRE (initiation - response - feedback / evaluation) cycle sequence in which everything is planned and predictable, the interaction is in fact dynamic, fluid, and locally managed on a turn-by-turn basis to a considerable extent" (p.62). He adds that the interaction is not completely closed with the IRF / IRE pattern, which means a variable approach is necessary for the description of L2 classroom interaction. The findings of Seedhouse implies that categorising utterances and describing interaction between teachers and students both require adequate attention. Therefore, as the above studies show, using an appropriate framework depending on classroom types is important. To conduct a detailed analysis, adding or modifying the categories in the existing studies would be required. As Seedhouse says, if classroom observation is conducted in Japanese educational settings, new, suitable categories might be required because what is occurring in class would be changing year by year. Comparing all categories reviewed above, what can be seen in common is as follows:

a) They are divided into two main parts; teacher talk, and student talk.

b) Both teacher talk and student talk include three main types of utterances. They are

response, initiation, and utterances concerning activities.

c) There are more categories in teacher talk than student talk.

One of the purposes of this dissertation is to compare language learning contexts in Japanese educational settings, so I hope to consider the three points above to observe classes and add detailed categories which are suitable for this study.

Classroom Observation Based on Corpus

As another tool for classroom observation, O'Keeffe, McCarthy, and Carter (2007) point out some advantages of making use of a corpus. They say a teacher can reflect closely on classroom practice by building up classroom extracts. They explain that corpora can be a tool for reflective practice and professional development, and say "transcripts from classroom interactions can facilitate close inspection and build up sensitivity to the language that we use so as to hone our judgments about what we say in the classroom" (p.221). Historically, some studies of classroom observation using classroom extracts include the IRF study of Sinclair and Coulthard (1997), and the teacher question study of Farr (2002). The sequence of IRF consists of three elements: the question (initiation), the answer (response), and the teacher's feedback (feedback or follow up). Sinclair and Coulthard (1997) noted that this three part exchange structure was the norm of classroom discourse. The researchers noticed that in some classrooms, IRF moves are still often seen. Farr (2002) looked at the questions in a corpus of classroom interactions of five teachers who were taking a language teacher education course and showed that declarative questions produced the longest answers. Farr also examined the functional questioning strategies and showed the breakdown of the number of question types used. It showed that referential type questions were used thirteen times, narrow display question types were

used thirty-eight times, and broad display question types were used seventy-four times. Using her corpus based study, Farr found some additional information such as correlations between question types and length of students' answers, and the number of questions which provided wait time. A recent study by Walsh (2006, 2011) introduces a framework which he calls SETT (self evaluating teacher talk) for teachers to evaluate their own statements while teaching. SETT is comprised of four classroom context called 'modes' and fourteen interactional features. O'Keeffe and Farr (2003) suggest a corpus of classroom interactions can be used to focus on specific parts in the classroom, such as feedback or question types. As the above studies show, corpora in classroom research seem to have great potential. O'Keeffe, McCarthy, and Carter (2007) state as follows:

> A video offers the opportunity to look at the classroom interaction in close detail; its transcription allows us to look at even closer. A teacher-made corpus of classroom interactions adds to this kind of resource because it comes from a local context, reflects local teaching conditions and can be viewed with local insights (p.243).

The statement above implies that a corpus made by teachers will be helpful. Comparing classes using categories by building up a corpus seems to be a useful methodology for the present research. A variety of information could be obtained by constructing a classroom corpus such as comparing the quantity of teacher talk, student talk, and what is occurring in the classrooms. With the corpus data, the relationship between students' uptake and classes as well as teachers' and students' utterances in second language classrooms can be analyzed. The types of categories of teacher and student talk have been discussed so far, and there are some categories available to observe what is happening in classes. Some

studies (e.g., Farr, 2002; O'Keeffe and Farr, 2003) have been done using some parts of existing corpora. More studies which show the relationship between classroom context and students' uptake making an original corpus from recorded data will be helpful. It will be interesting to find out whether there might be differences in the quality of students' uptake depending on classroom context, and what activities in class can contribute to uptake, which have not yet been revealed. In classes where the amount of L1 use or L2 use is different, or in classes where different activities are done, students' uptake in class might vary. Additionally, among different types of classes with different activities, what can lead to students' uptakes might also be different. Thus in the present study, the author will construct classroom observation categories which are suitable to Japanese language classroom settings, considering previous studies and making a small scale classroom corpus. In Révész (2011), a coding system was used to examine how the characteristics of tasks can influence learners' L2 production. Participants' use of conjoined clause types was assessed according to a coding scheme developed. In Révész's coding procedure, a randomly selected 20 % of the data were double-coded by Révész and an assistant author and both data sets were compared using Cohen's kappa values. This study suggests that one more person should be involved in the coding and coding reliability should be checked.

By constructing a corpus, the author hopes to examine the relationship between students' uptake and class context as well as what can lead to students' uptake. Based on the literature reviews in the present section, I will state the research questions and explain the methodology employed for the investigation in the next section.

Research Questions

In this study, the author will examine the relationships between pedagogic approaches and students' uptake, such as when the target language should be used or in which case the target language could be mixed with the L1. Also, how the language most used in the classroom can affect students' uptake will be examined. In pursuit of investigating the relationship between the classroom context and uptake, this study will be conducted in two phases: University Research and Junior and Senior High School Research. In University Research, I aim to answer the following questions:

Research Question 1: Will learners' uptake lead to their learning?

Research Question 2: Which language of instruction (L1 or L2) is more effective to facilitate learners' uptake and learning?

Research Question 3: Which activity is the most effective to facilitate learners' uptake and learning?

To answer the research questions above, it is necessary to conduct tests to examine whether learners really understand or not. The focus of the present curriculum guidelines introduced by MEXT in 2012 is having students use English as much as possible as a means of communication. The purpose of curriculum design seems to be made toward the same goal of using English; however, depending on students' proficiency level, there must be a preferable way of teaching. Thus, Junior and Senior High School Research will look at different learner levels from University Research, that is, in junior high school classrooms and senior high school classrooms. The research questions in Junior and Senior High School Research are as follows:

Research Question 4: Is there any difference in the quantity of uptake depending on the type of language mainly used in class?

Research Question 5: Is there any difference in the quantity of uptake depending on the type of activity carried out in class?

On the basis of the answers to these questions, the author should be able to gain a better understanding of suitable language use in language classrooms or when to use the L2 in order to facilitate students' uptake. The results obtained from University Research and Junior and Senior High School Research should be compared to know whether there is a difference in the quantity of uptake depending on the level of students.

CHAPTER 3

METHODS

This chapter will provide a detailed account of the research methods used for the study including the data collection for the investigation of language classes, statistical methods, and the procedures for the analysis.

Two types of research (University Research and Junior and Senior High School Research) were designed to accomplish different purposes. The first phase, University Research, was intended to probe whether students' uptake leads to their learning. Also, this research aims to examine whether the items written on the uptake chart by the students are identical to their learning. University Research was done to answer research questions 1, 2, and 3. In the second phase, Junior and Senior High School Research was administered to investigate the differences in the types and quantity of uptake depending on the languages used in class and the activities carried out in class. Junior and Senior High School Research was conducted to answer research questions 4 and 5. University Research and Junior and Senior High School Research of this study were conducted separately from data collection through analysis, and the results from the two phases were compared and contrasted at the final stage of interpretation. Before starting the University Research and Junior and Senior High School Research, pilot studies were conducted to reveal any existing problems that needed to be solved.

University Research Pilot Study

A pilot study involving 20 university students was conducted. The average TOEIC score of these students was below 400, which means their English proficiency is at the beginning level. The class in this study was a 90 minute academic English class. Ten minute pre-test

and post-test were given before and after the class and a delayed post-test was conducted one week after the class. The focus of the class was ‘Drill’ and the actual recorded time was 40 minutes. The research question of this pilot study was the same as Research question 1 of this study: Will learners’ uptake lead to their learning? The L1 was used in the first 20 minutes and L2 was used in the last 20 minutes because the procedure was made the same as University Research.

To examine whether there was a difference between the pre-test and both the post-test and delayed post-test, a one-way ANOVA was conducted. Spending 10 minutes for each pre-test, post-test, and delayed post-test in addition to class activity was found feasible and possible. However, if there are too many questions on each test, students cannot answer everything due to a lack of time. Some students did not have enough time to answer all the questions because of the above reason. Considering the results of the pilot test, a smaller test than the one used in the pilot study needed to be designed for this study. The number of questions used in the pilot test was 40, which was so many that the participants were not able to finish answering them all in 10 minutes. Thus, for this research, a smaller test was used, which was comprised of about 30 questions in total (explained in Instrument 1).

University Research

University Research Participants

The participants in University Research were university students with ages ranging from 18 to 21 years, and who were not majoring in English. These 40 native Japanese speaking university students were divided into two groups. Group 1 comprised 20 students and group 2 also comprised another 20 students. The same treatments and the same procedures were applied to these two groups. These students were enrolled in an academic

English class (compulsory class) and the author was the instructor of this class. Eleven students were male students and the other 29 students were female students. They were first-year students and the class was for beginners. The researcher explained the purpose of the study and the way their test scores would be analyzed, and all of the students agreed.

University Research Instrumentation

Instrument 1: pre-test, post-test, and delayed post-test

A written pre-test was administered before each class started and the participants were required to finish it in ten minutes. After a series of treatments was over, the post-test was administered, in which the students were also required to finish in ten minutes. After one week, the delayed post-test was given to the participants. With regard to the vocabulary questions, 18 questions in total were given; nine questions from the part taught in the L1, and nine questions from the part taught in the L2. All vocabulary questions were translating from English words to Japanese words or vice versa. For sentence questions to check sentence uptake, four questions were given; two questions from each part taught in the L1 or L2. The questions to check sentence uptake were filling in the blanks and complete sentences. For grammar questions, ten questions were given; five questions from each part taught in the L1 or L2. Eight of 10 grammar questions were filling in the blanks and two questions were explaining grammar points from a given sentence. Thus, the participants were supposed to answer 32 questions in total. A perfect score was 32 points. The same questions were used for the pre-test, post-test, and delayed post-test (see Appendix A).

Instrument 2: uptake chart

The second body of data derives from an uptake questionnaire completed by the

participants after each class. The participants were asked to write what they learned in the midst of class without looking at any textbook or materials used during the class. What they wrote in the questionnaire, the uptake, served as data for this study to examine whether the written uptake items were truly learned. Slimani (1987) called this questionnaire an 'uptake chart.' For the present study, the same translated version of the questionnaire that Kaneko (1991) used was administered to the students (see Appendix B). In the questionnaire, students were asked three questions: what new points have come up in today's lesson in terms of 1) vocabulary, 2) sentences, and 3) grammar. The participants were supposed to write English vocabulary, sentences, and grammatical points that they thought they learned or remembered. The frequencies of items written in each part of the questionnaire were counted. For inter-rater reliability, the frequencies of the two raters were compared using the kappa coefficient.

University Research Instructional Treatments and Procedures

The procedure of University Research is shown in Table 9 and the procedure of each class for University Research is described in Table 10. The instructional treatments were Language-learning task, Translation, and Drill, which were all intended to improve the participants' English skills and facilitate their learning. These are common activities that are often seen in English language classes in Japan. Actually, the recording of junior and senior high school language classes in Japan for Junior and Senior High School Research started before conducting University Research, and these three activities were included in most classes. For that reason, the author chose these three activities as the main treatment for University Research.

Table 9
University Research Procedure

Deciding the treatment (activities) to adopt for University Research and making plans of classes
↓
Teaching and recording classes
↓
Collecting data from pre-test, post-test, delayed test, and uptake chart
↓
Transcribing all classes
↓
Statistical analysis of one-way repeated-measures ANOVA
↓
Pearson product-moment correlation coefficient analysis
↓
Statistical analysis of two-way repeated-measures ANOVA

Considering the principles and techniques reviewed in Chapter 2, the author made teaching materials for each activity. With regard to language-learning tasks, two kinds of tasks were used. One was an activity where students listened to a story from the teacher and drew a picture of it. Then, they exchanged information about the picture they drew in a group and completed a perfect new picture together. The students were told to use the L2, but the teacher mainly used the L1 for this activity. The other was an activity in which the students read a letter and discussed what kind of advice students can give to the writer in a group, and finally, write a letter back to the writer. In this activity, the main language that the teacher and students used was the L2. The students needed to talk using a form that they studied beforehand. The grammar point that the first activity focused on was prepositions and the second activity focused on was making a suggestion. For the translation activities, the two grammar points that were presented to the students were a) the comparative or superlative, and b) ‘those who’ or ‘who’ of the relative pronoun. In the comparative or superlative lesson, the teacher mainly used the L1, and in the relative

pronoun lesson, the L2 was mainly used by the teacher. Students were supposed to take the pre-test, the post-test before and after each class and the delayed post-test after one week.

For drill, students filled in the blanks following the grammatical rules of a) infinitives, and b) gerunds. A combination of meaningful drills with repetition practice was done. The drill of the infinitive drills were taught and practiced in the L1, while the gerund drills were practiced in the L2.

All classes focused on one of the three activities: *task* (Language-learning task), *translation* (Translation), or *drill* (Drill), during class. Excluding 40 minutes for the pre-test, the post-test, uptake chart, and the delayed post-test, the rest of the class time was 50 minutes (90 minutes class). For the first 25 minutes, the class was conducted in English (L2), and the second 25 minutes, Japanese was used (L1). To review what happened in class and to collect data, all classes were recorded and transcribed. Forty participants were divided into two groups and 20 participants were in each group. The two groups were given the same treatment and the same tests (pre-test, post-test, and delayed post-test). There were six classes in total: two classes focusing on *task*, two classes of *translation*, and two classes of *drill*. The effects of languages and activities used in each class were compared. The details of the activities conducted in the classes are described in Tables 11 and 12.

In this study, the author will use meaningful drills. Additionally, mechanical drills were given after meaningful drills were completed. The tasks used for this study are called ‘Language-learning tasks.’ The aim of the language-learning tasks used in this study is to have students use the form of language that the students learned through the task. Translation activities used for this study include grammar explanation in addition to having students translate English sentences into Japanese. The author will call this activity ‘Translation’ in this study.

Table 10
University Research Classes Procedures

A. Drill (90 minutes class)		
Group 1 (20 students)		Group 2 (20 students)
Informed consent & pre-test (10 minutes)		Informed consent & pre-test (10 minutes)
↓		↓
Lesson focusing on drill		Lesson focusing on drill
using L1 (25 minutes)		using L2 (25 minutes)
↓		↓
Lesson focusing on drill		Lesson focusing on drill
using L2 (25 minutes)		using L1 (25 minutes)
↓		↓
Filling in uptake chart (10 minutes)		Filling in uptake chart (10 minutes)
↓	one week later	↓
Post-test (10 minutes)	↓	Post-test (10 minutes)
B. Language-learning tasks (90 minutes class)		
Group 1 (20 students)		Group 2 (20 students)
Delayed test of A (10 minutes)		Delayed test of A (10 minutes)
↓		↓
Pre-test (10 minutes)		Pre-test (10 minutes)
↓		↓
Lesson focusing on task		Lesson focusing on task
using L2 (25 minutes)		using L1 (25 minutes)
↓		↓
Lesson focusing on task		Lesson focusing on task
using L1 (25 minutes)		using L2 (25 minutes)
↓		↓
Filling in uptake chart (10 minutes)		Filling in uptake chart (10 minutes)
↓	one week later	↓
Post-test (10 minutes)	↓	Post-test (10 minutes)
C. Translation (90 minutes class)		
Group 1 (20 students)		Group 2 (20 students)
Delayed test of B (10 minutes)		Delayed test of B (10 minutes)
↓		↓
Pre-test (10 minutes)		Pre-test (10 minutes)
↓		↓
Lesson focusing on translation		Lesson focusing on translation
using L2 (25 minutes)		using L1 (25 minutes)
↓		↓
Lesson focusing on translation		Lesson focusing on translation
using L1 (25 minutes)		using L2 (25 minutes)
↓		↓
Filling in uptake chart (10 minutes)		Filling in uptake chart (10 minutes)
↓		↓
Post-test (10 minutes)		Post-test (10 minutes)
↓		↓
Delayed test of C (10 minutes)	(one week later)	Delayed test of C (10 minutes)

Table 11
Activity Definitions

Activities	Definition
Drill	Mechanical and meaningful activities in which students acquire the forms taught by the teachers through examples or explanation.
Language-learning tasks	Non-mechanical activities in which learners use the learned forms of the target language with emphasis on meaning.
Translation	Activities in which teachers explain grammatical points through the work of translation.

Table 12
Activity Details in Classes

Activities	Activities done in class	Main language	Grammar points
Drill	1. Students fill in the blanks following the grammatical rules of infinitives with the combination of meaningful drill.	L1	Infinitives
	2. Students fill in the blanks following the grammatical rules of gerunds with the combination of meaningful drill.	L2	Gerunds
Language-learning tasks	1. Students listen to a story from the teacher and draw a picture of the story, then, exchange information in a group and complete a perfect picture together.	L1	Prepositions
	2. Students read a letter and discuss what kind of advice students can give to the writer in a group, and finally, write a letter back to the writer.	L2	Making a suggestion
Translation	1.Students translate sentences with the grammar points of the comparative or superlative.	L1	Comparative and superlative
	2. Students translate sentences with the grammar points of the relative pronoun.	L2	Relative pronoun

To measure the participants' improvement in scores, one-way repeated-measures ANOVA was conducted with the type of activities, Language-learning tasks, Translation, and Drill, as the within-subjects factor with the three scores of the pre-test, post-test, and delayed post-test, which were set as dependent variables. The results include the descriptive statistics for the ANOVA and *t* tests, and pairwise comparison tests, to compare

the differences among groups.

To examine the reliability of the uptake written in the uptake chart by the participants, the relationship among the three variables below was investigated. They are: (a) the frequency of items written in the uptake chart and observed on the test, (b) the frequency of items written in the uptake chart and correctly answered items on the post-test, and (c) the frequency of items written in the uptake chart and correctly answered items in the delayed post-test. Pearson product-moment correlation coefficients were used for the analysis.

Next, to compare the effect of languages (L1 or L2) used in class and the three activities: Language-learning tasks, Translation and, Drill, a two-way repeated-measures ANOVA was conducted.

Junior and Senior High School Research

Junior and Senior High School Research Participants

The subjects in this study were 12 Japanese teachers of English as a Foreign Language (Five from junior high schools, 7 from senior high schools) and 534 Japanese students (246 from junior high schools, 288 from senior high schools) who share the same L1. The data was collected in 22 intact classes. Eleven classes were drawn from six junior high school English courses and the other 11 classes were from seven senior high school courses. Class descriptions are provided in Appendix C.

Junior and Senior High School Research Instrumentation and Procedures

The instruments used in Junior and Senior High School Research were uptake charts and a corpus built by the author using the recorded data of 11 junior high school and 11 senior high school classes. In regard to the uptake chart, the same format was used as with

the University Research. A sample sheet to count uptakes in each class is provided in Appendix D. For the reliability of the uptakes written in the uptake chart, (a) the number of actual uptakes defined by Ellis, Basturkmen, and Loewen (2001) in the transcription, and (b) the number of items written in the chart were compared through correlation analysis. Among the total 22 classes, three classes' (a) and (b) were used. Making a corpus was helpful to find out the details of each class, such as the amount of teachers' or students' utterances, activities carried out in class, or the languages used in class. Based on the information from the built up corpus, the classes to use for the analysis of Junior and Senior High School Research were selected. The procedures of building up a corpus from the recorded data are explained below.

Building up a Corpus

In this section, the procedures for constructing a corpus will be described. The transcription method, the corpus design, and tagset used for the present study will be explained.

Recordings of classes for building up a corpus

All 22 classes recorded for the present study were observed by the author during the year 2012 and each piece of recorded data was transcribed. While observing each class, the author took field notes on the teacher's and students' movements and responses, and on written information on the blackboard that the IC recorder could not capture. *Utterance* is defined by Crookes and Rulon (1985) as "a stream of speech with at least one of the following characteristics: (a) under the intonation contour, (b) bounded by pauses, and (c) constituting a single semantic unit." Each utterance was put into one of the three categories below, which are based on Kaneko (1991):

1) Mainly in L1: the words uttered in Japanese constitute more than 80% of the total words uttered.
2) L1 and L2 mixed: the words uttered in Japanese make up between 21% and 79% of the total words uttered.
3) Mainly in L2: the words uttered in English constitute more than 80% of the total words uttered.

The percentage rate in each category was changed from that of Kaneko (1991), because in this study, types and tokens of utterances were calculated instead of the time length of the utterances. I transcribed and compared three classes as the pilot study for Junior and Senior High School Research (see Ohashi, 2012). In Ohashi's (2012) study, the measurements and procedures revealed some problems. A lot of errors were made in the process of counting the time length of teachers' and students' utterances, and these errors made the data inaccurate. Given these difficulties, the utterances were not counted by seconds for the present study. Instead, the frequency of types and tokens of uttered words was counted.

Word types and tokens were counted in each class. The details of this will be explained in the next section. Eskilden (2013) provides the definitions of types and tokens: whereas "token" refers to "the occurrence of a specific item, a morpheme, a phoneme, a syllable, or a specific word or phrase," type, a word form, refers to "the number of different instantiations representing a given morphological, phonological, or syntactic pattern or construction" (p.660). He also explains how "token frequency is key in processes of entrenchment of specific items, whereas type frequency determines the degree of productivity of a construction" (p.660-661). For example, if a text has 200 words, and all of those 200 words are different from each other, we say that it has 200 types and 200 tokens. If a sentence of 10 different words is repeatedly written five times in one text, this

text has 50 words in total, and it has 10 types and 50 tokens. English utterances were counted using AntConc (version 3.2.4.), a freeware concordance program, while Japanese and mixed language utterances were counted by KhCorder (Version 2.beta.30), a free software for quantitative content analysis or text mining.

The design of the class corpus

Table 13 shows the categories and tagset used for the present study and Figure 2 provides a sample of tagged data. Mackey and Gass (2012) point out that existing frameworks or standard measures are not always adequate for the theoretical models being assessed, which implies that developing a new coding system is sometimes necessary.

In order to investigate class content and the relationship between students' uptake and what is occurring in each class, I created a class tagset of each category by looking at all the transcribed classes. In Walsh (2006, 2011), some tags were made such as T (teachers' utterance) and L (learners' utterance) depending on the transcribed utterances. In this study as well, the original tagset was designed to correspond with English language educational settings in Japan including the activities done in classes.

The classroom corpus has been designed to represent the organization of language classes (Table 13). The corpus design criteria were divided into (A) categories pertaining to the different stages of the lesson, (B) the discourse functions, (C) the mode of speech, (D) the teachers' or students' utterances, and (E) the sentence boundaries. Tags are attached depending on each utterance. For example, teachers' utterances start with <teacher> in the text and end with </teacher>, and students' utterances start with the tag <student> at the beginning of each utterance and end with the tag, </student>. In regard to sentence boundary, each utterance starts with <s> and ends with </s>.

Table 13
Classroom Corpus Tagset Design

Code No.	CATEGORY	Tag (<open></end>)
A	**STAGES OF A LESSON**	
1.	**Warm up**	
1.1.	Greetings	**<greetings></greetings>**
1.2.	Review	**<review></review>**
2.	**Presentation**	
2.1.	New vocabulary	**<presentation id="new words"></presentation>**
2.2.	New structure	**<presentation id="structure"></presentation>**
3	**Practice**	
3.1.	Drill practice	**<practice id="drills"></practice>**
3.2.	Language-learning task	**<practice id="communicative"></practice>**
4	**Reading**	
4.1.	Pre-reading activities	
4.1.1.	Oral introduction	**<pre-reading id="oral introduction"></pre-reading>**
4.1.2.	Reading aloud	**<pre-reading id="reading aloud"></pre-reading>**
4.2.	While-reading activities	
4.2.1.	Translation	**<while-reading id="translation"></while-reading>**
4.2.2.	Explanation	**<while-reading id="explanation"></while-reading>**
4.3.	Post-reading activities	
4.3.1.	Reading aloud	**<post-reading id="reading aloud"></post-reading>**
5.	**Others**	
5.1.	Listening	**<listening></listening>**
6.	**Consolidation**	
6.1.	Consolidation	**<consolidation></consolidation>**
B	**DISCOURSE FUNCTIONS**	
6.1.	Question	**<question></question>**
6.2.	Response	**<response></response>**
6.3.	Feedback	**<feedback></feedback>**
6.4.	Direction	**<direction></direction>**
6.5.	Repetition	**<repetition></repetition>**
C	**MODE OF SPEECH**	
7.1.	English	**<eng></eng>**
7.2.	Japanese	**<jap></jap>**
7.3.	Mixed language	**<mix></mix>**
D	**TEACHER vs. STUDENT**	
8.1.	Teacher	**<teacher></teacher>**
8.2.	Student	**<student></student>**
E	**SENTENCE BOUNDARY**	**<s></s>**

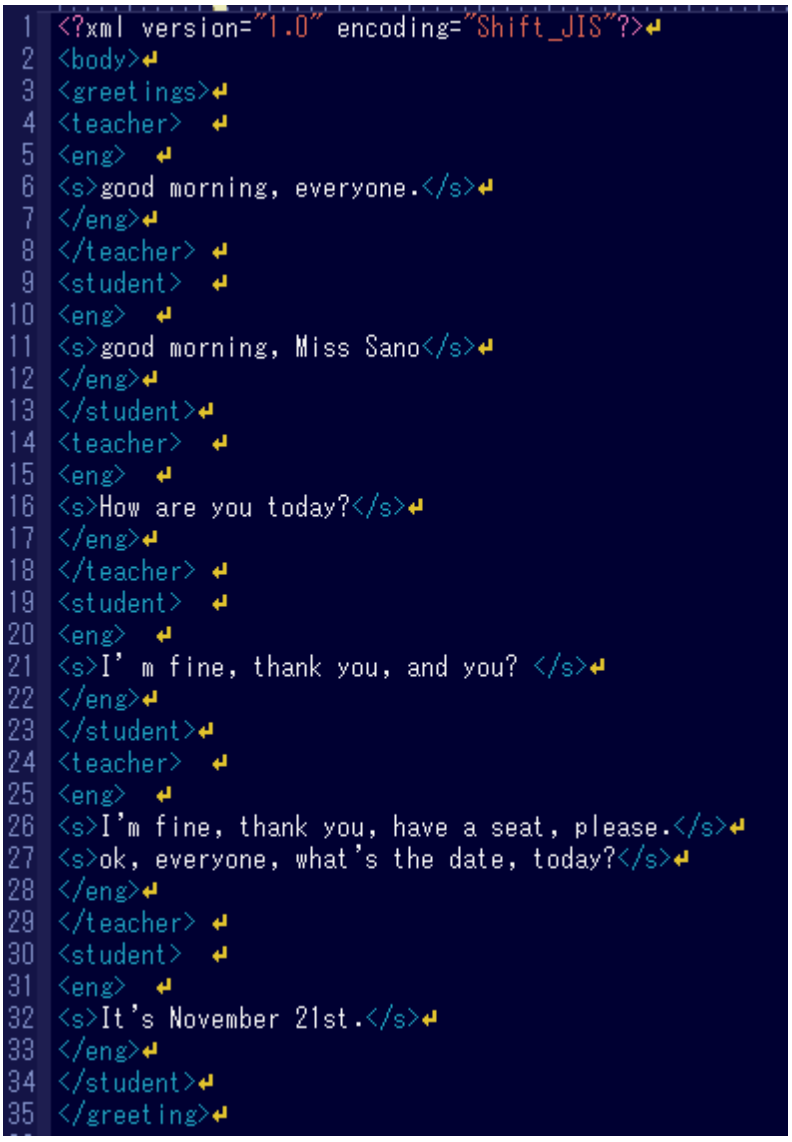

Figure 2. Tagged classroom transcriptions sample.
Elements are marked using XML tags, which are indicated by a pair of angled brackets with annotation, starting <…> and it ends with </…>.
Teacher's utterances start with <teacher> and end with </teacher>.
Students' utterances start with <student> and end with </student>.

Tag (A) stages of a lesson are comprised of six large categories, 'Warm up', 'Presentation,' 'Practice,' 'Reading,' 'Others' and 'Consolidation' plus 16 subcategories. Utterances included in warming up are in the category of 'Warm up.' Utterances in 'Greeting' start with the tag <greetings> and end with the tag </greetings> and utterances in 'Review' start with <review> and end with </review> (see Figure 3 and 4 in Appendix E). 'Presentation' has two subcategories: new vocabulary and new structure. These tags are

given to utterances in which teachers first present new vocabulary or new grammatical structures. Utterances in which teachers present new vocabulary start with the tag <presentation id="new words"> and end with </presentation>. Also, utterances in which teachers present new grammar start with <presentation id="structure"> and end with </presentation> (see Figure 5 and 6 in Appendix E). There are also two subcategories in 'Practice': Drill and language-learning task practices. Drill is controlled practice in saying useful and correct sentence patterns in combination with appropriate vocabulary after presentation or explanation of the new structure. Utterances in 'Drill' start with <practice id="drills"> and end with </practice>. These patterns are regarded as Drill. Unlike Drill, Language-learning tasks are flexible because students are allowed to communicate without any special rules or controlled patterns, however, students are supposed to use the forms they learned in class. Utterances in 'Language-learning tasks' start with <practice id="communicative"> and end with </practice> (see Figure 7 and 8 in Appendix E).

Activities concerning reading are tagged as 'Reading.' Before having students read, some teachers give students an oral introduction, which is categorized 'Oral introduction.' Students' reading aloud practice before knowing the contents of textbooks is 'Reading aloud' in Pre-reading activities. Examples are in Figure 9, Appendix E. Translation activities is 'Translation' (Figure 10, Appendix E) and teachers' explanation in class is categorized 'Explanation' (Figure 11, Appendix E). After reading a textbook, some teachers have students read the textbook again, and that is 'Reading aloud' in Post-reading activities. Listening activities are tagged 'Listening,' starting with the tag <listening> and ends with </listening> (Figure 12, Appendix E). Lastly, when classes are about to finish, teachers sometimes give students information which is irrelevant to the language lesson objectives, such as homework, text planned for the next lesson. They are categorized 'Consolidation' (Figure 13, Appendix E).

Tag (B), Discourse functions, is comprised of five tags: Questions, Responses, Feedbacks, Directions, and Repetitions. Examples are in Figure 14, Appendix E. Tag (C), Mode of speech, has three categories. Tags are given depending on the language used in each utterance. English utterances start with the tag <eng> and end with </eng>, while Japanese utterances are tagged <jap> and </jap>. In some utterances, English and Japanese are mixed, especially in the teacher's explanation. Those utterances start with <mix> and end with </mix> (Appendix E).

Tag (D) has two categories. Teachers' utterances are tagged <teacher> and </teacher> and students' utterances are tagged <student> and </student>. Tag (E), Sentence boundary, is given to all utterances. All sentences start with <s> and end with </s> (Appendix E).

By constructing a class corpus, it is possible to search the information to discover what occurred in each class. Moreover, it is necessary for examining the differences in language use among the classes. For the validity of sorting, selecting 20% randomly from the whole data, the work of tagging was done by two language teachers including the author and types and tokens in each category were compared. To examine inter-rater reliability, a kappa coefficient was conducted. As shown in Figure 2, there are two basic units in the text: tags and elements. Texts are made up of elements. An element can be any unit of text such as a word, sentence, paragraph, chapter, and so on. Elements are marked using XML (Extensible Markup Language) tags. XML is a standard markup language for the Web-based technology. The first element in the text should start with the tag, <body>, and no element should come after the end tag of the text, </body>. The XML editor, MIFES 9, that was used in the present study can support the encoding of text information by detecting encoding errors automatically. By using MIFES 9, it is possible to make the accuracy rate of tagging quite high.

Data Analysis

To answer research questions 4 and 5, the process described below was conducted twice for junior high school and senior high school classes. Eleven junior high school and 11 senior high school classroom contexts, along with the results of the uptake questionnaires completed by students in these classes, provide the data for this research.

Each utterance was classified and tagged following the tagset (see Table 13). Types and tokens of each tagged item were counted using KhCorder or AntConc, and were then listed and compared. Among 11 classes both from junior and senior high schools, the author selected two types of classes for the analysis: (a) classes where the main activity was the same but where the main language used was different, and (b) classes where the main language used is the same but where the main activity was different.

After grouping the selected classes, the number of vocabulary uptakes, sentence uptakes, and grammar uptakes written in the 'uptake chart' by students in those classes was counted and listed. For example, if one student wrote 'can,' 'insect,' and 'philosophy' as vocabulary uptakes, then, the number of vocabulary uptaken by the student was three. In the same way, sentence uptakes and grammar uptakes from all students in selected classes were counted.

Unlike University Research, there are no tests were carried out in Junior and Senior High School Research, and the validity of items written in the uptake chart cannot be provided by test results. Therefore, referring to the definition of Ellis, Basturkmen, and Loewen (2001), I selected more than 20 % of the whole data, (three classes from junior high school, and three classes from senior high school) then, compared the frequency of students' uptake observed in the transcription and that of items written in the uptake chart. The frequency is compared using correlational analysis. For example, in the transcription, 'medicine' is seen as uptake three times, and 'paper' is also seen as uptake four times, both

‘medicine’ and ‘paper’ are counted as ‘1.’ Next, looking at the uptake chart, 5 students wrote ‘medicine’ but nobody wrote ‘paper’ in the chart, and thus, ‘medicine’ is counted as ‘1’ and ‘paper’ is counted as ‘0.’ If class A has 10 words counted as ‘1’ in the transcription, and 12 words counted as ‘1’ in the uptake chart, it is, a) 10, and b) 12. If class B has 11 words counted as ‘1’ in the transcription, and 15 words counted as ‘1’ in the uptake chart, it is, a) 11, and b) 15. The frequency of (a) and (b) was compared by correlational analysis.

Next, to examine the difference in the features of the uptake depending on different class types, the Kruskal-Wallis non-parametric test (Kruskal-Wallis test) was employed. A Kruskal-Wallis test was chosen because the data for this study did not have normal distributions (see Chapter 4). Whether differences in uptake types occur among different class types could be examined through this test. In addition, pairwise comparisons tests were done to examine where differences existed among groups.

Finally, the results from University Research and Junior and Senior High School Research were compared and contrasted. The commonalities between the findings from the two research phases were identified and the most effective language and activities to facilitate learners’ uptake were explored. Table 14 shows the whole procedure of Junior and Senior High School Research.

Table 14

Junior and Senior High School Research Procedures

Record classes and collect data from junior and senior high school
↓
Transcribe all classes
↓
Examine validity between items written in the uptake chart by students and actual uptake seen in the transcription

Tag all utterances and construct a corpus
↓
Conduct Kappa coefficient to show inter -rater reliability

Select classes for the analysis
↓
Count the frequency of uptake written in the uptake chart by the students in the selected classes
↓
Conduct Kruskal-Wallis test
↓
Pairwise comparisons tests
↓
Comparison with the results of University Research

CHAPTER 4

RESULTS

University Research Results

The pilot study one-way ANOVA result showed that there was a significant effect (F (2, 38) = 186.99, p < .001, η^2= 0.91). The results of pairwise comparison showed that the post-test score was higher than the pre-test and the delayed post-test, t(19) -19.209, p <.001, r =.98; t(19) 3.114, p <.01, r = 58. Also, the delayed post-test was higher than the pre-test, t(19) -13.180, p <.001, r = 95.

The results of University Research with the university students comprise three major sections: (a) the one-way repeated measures ANOVA statistical analsis, (b) the correlation analysis between the 'uptake' written in the students' uptake charts and actual uptake, and (c) the two-way repeated measures ANOVA statistical analysis.

One-Way Repeated Measures ANOVA Results

To measure test-reliability, a split-half coefficient expressed as a Spearman-Brown corrected correlation and Cronbach alpha coefficient were computed. The 32 post-test questions items for each activity (*drill*, *task*, and *translation*) were split into the odd and even numbers and a correlation was calculated for the two sets of scores. There was a strong positive correlation between the two variables in the *drill* test (r =.68, ρ =.81), in the *task* test (r =.67, ρ =.80), and in the *translation* test (r =.68, ρ =.81). The Cronbach alpha coefficient was .81 for *drill*, and .80 for *task*, and .81 for *translation*.

Descriptive statistics of the participants' scores for the pre-test, post-test, and delayed post-test

Table 15 shows the descriptive statistics for the participants' scores on the pre-test, the post-test, and the delayed post-test. The mean for *drill* (drill practice) on the pre-test was 2.15 (*SD* = 1.96), and that on the post-test was 21.43 (*SD* = 3.98).

Table 15
Descriptive Statistics of One-way Repeated measures ANOVA

			Activity 1 Drill	Activity 2 Task	Activity 3 Translation
Pre-test	*M*		2.15	2.03	2.05
	95%CI	Lower Bound	1.52	1.57	1.49
		Upper Bound	2.78	2.48	2.61
	SD		1.96	1.42	1.75
	Skewness		1.43	0.63	1.75
	SES		0.37	0.37	0.37
	Kurtosis		2.23	0.08	3.78
	SEK		0.73	0.73	0.73
Post-test	*M*		21.43	24.05	16.03
	95%CI	Lower Bound	20.15	22.39	14.87
		Upper Bound	22.70	25.71	17.18
	SD		3.98	5.18	3.61
	Skewness		0.16	-0.63	-0.24
	SES		0.37	0.37	0.37
	Kurtosis		-0.82	-0.44	-0.18
	SEK		0.73	0.73	0.73
Delayed test	*M*		14.68	17.28	10.48
	95%CI	Lower Bound	13.58	15.49	9.55
		Upper Bound	15.77	19.06	11.40
	SD		3.43	5.57	2.89
	Skewness		0.97	-0.13	-0.24
	SES		0.37	0.37	0.37
	Kurtosis		0.42	-0.47	-0.72
	SEK		0.73	0.73	0.73

Note. *N* = 40

The *drill* mean score improved by 19.28 points at the post-test. Also, the mean on the delayed post-test was 14.68 (*SD* = 3.43), and there was a 12.52 point improvement after

the pre-test but 6.75 point decline after the post-test.

Regarding the *task* (language-learning tasks), the mean on the pre-test was 2.03 (*SD* = 1.42), and that of the post-test was 24.05 (*SD* = 5.18). The mean score on the post-test improved by 22.03 points after the *task* treatment. Also, the mean on the delayed post-test was 17.28 (*SD* =5.57), and there was a gain of 15.25 point after the pre-test but 6.78 point decline after the post-test.

The mean for *translation* at the pre-test was 2.05 (*SD* = 1.75), and that of the post-test was 16.03 (*SD* = 3.61). The mean score at the post-test improved by 13.98 points after the *translation* treatment. The mean on the delayed post-test was 10.48 (*SD* = 2.89), and there was an 8.43 point gain after the pre-test but 5.55 point decline after the post-test. Overall, the participants' scores improved noticeably for all three tasks.

The results of the one-way repeated measures ANOVA for the pre-test, post-test, and delayed post-test scores

A one-way repeated measures ANOVA was conducted to evaluate the effect of activities on the pre-test, post-test, and delayed post-test scores. The independent variables were the instructional treatment: *drill*, *task*, and *translation*. The dependent variables were the participants' scores on the post-test, and delayed post-test.

Regarding the *drill*, the *test* main effect was significant, Wilks's Λ=.027, F (2, 38) = 682.30, p <.001, η^2=.97; 97% of the variance was accounted for by this factor. The *test* main effect was significant for *task* as well, Wilks's Λ=.022, F (2, 38) = 844.03, p <.001, η^2=.98. The *test* main effect was also significant for *translation*. Wilks's Λ=.043, F (2, 38) = 421.94, p <.001, η^2=.96.

The univariate test results for the differences between the participants' scores on the pre-test, post-test, and delayed post-test, shown in Table 17, were in accord with the

multivariate test results.

In the *drill*, the *test* main effect was significant, $F(2, 78) = 1069.2$, $p < .001$, $\eta^2 = .86$. The test main effect in *task* was significant, $F(2, 78) = 667.15$, $p < .001$, $\eta^2 = .81$. Also, the *test* main effect in *translation* was significant, $F(2, 78) = 619.05$, $p < .001$, $\eta^2 = .81$.

Table 16
Multivariate Test Results of the One-Way Repeated Measures ANOVA

		Value	*F*	*p*	*η2*
Drill	Pillai's trace	0.97	682.30	0.00	0.97
	Wilks' lambda	0.03	682.30	0.00	0.97
	Hotelling's trace	35.91	682.30	0.00	0.97
	Roy's largest root	35.91	682.30	0.00	0.97
Task	Pillai's trace	0.98	844.03	0.00	0.98
	Wilks' lambda	0.02	844.03	0.00	0.98
	Hotelling's trace	44.42	844.03	0.00	0.98
	Roy's largest root	44.42	844.03	0.00	0.98
Translation	Pillai's trace	0.96	421.94	0.00	0.96
	Wilks' lambda	0.04	421.94	0.00	0.96
	Hotelling's trace	22.21	421.94	0.00	0.96
	Roy's largest root	22.21	421.94	0.00	0.96

Note. α =.05.

Table 17
Univariate Test Results of the One-Way Repeated Measures ANOVA

		SS	*df*	*MS*	*F*	*p*	*η2*
Drill	Test	7652.85	2	3826.43	1069.18	.000	0.86
	Error (between subjects)	946.50	39	24.27			
	Error (within subjects)	279.15	78	3.58			
Task	Test	10180.85	2	5090.43	667.15	.000	0.81
	Error (between subjects)	1739.70	39	44.61			
	Error (within subjects)	595.15	78	7.63			
Translation	Test	3961.12	2	1980.56	619.05	.000	0.81
	Error (between subjects)	705.30	39	18.08			
	Error (within subjects)	249.55	78	3.20			

Note. α =.05.

Follow-up paired-samples *t* tests were conducted in order to determine which means differed from each other. Table 18 displays the results. For *drill*, the mean of the immediate post-test, 21.43 (*SD* = 3.98), was significantly higher than the mean of the pre-test, 2.15 (*SD* = 1.96), *t*(39) = 37.417 *p* <.001, *r* =.99. The mean of the delayed post-test, 14.68 (*SD* = 3.43), was higher than the pre-test mean, *t*(39) = 12.53, *p* <.001, *r* =.98. These results provide evidence that the *drill* activity improved the students' scores. However, the mean for the post-test was also significantly higher than the mean for the delayed post-test, *t*(39) = 21.52, *p* <.001, *r* =.96, providing evidence that the effect of *drill* activity was not sustained for some students.

Regarding *task*, the post-test mean of 24.05 (*SD* = 5.18) was significantly higher than the pre-test mean of 2.03 (*SD* = 1.42), *t*(39) = 31.66 *p* <.001, *r* =.98. The delayed post-test mean of 17.28 (*SD* = 5.57) was higher than the pre-test mean, *t*(39) = 19.93, *p* <.001, *r* =.96. These results provided evidence that *task* improved the students' scores. However, the post-test mean was also significantly higher than the delayed post-test mean, *t*(39) = 24.74, *p* <.001, *r* =.97, providing evidence that the effect of *task* activity was not sustained for some students.

For *translation*, the post-test mean of 16.03 (*SD* = 3.61) was significantly higher than the pre-test mean of 2.05 (*SD* = 1.75), *t*(39) = 28.90, *p* <.001, *r* =.98. The delayed post-test mean of 10.48 (*SD* = 2.89) was higher than the pre-test mean, *t*(39) = 20.49, *p* <.001, *r* = .96. These results provided evidence that the *translation* activity improved the students' scores. However, the post-test mean was also significantly higher than the delayed post-test mean, *t*(39) = 20.02, *p* <.001, *r* =.96, providing evidence that the effect of *translation* activity was not sustained for some students. Comparing the results, *task* had a stronger positive influence on the participants' longest-term memory more than the other activities.

Table 18
Pair-wise Comparisons Results

		M	*SD*	*t*	*p*
Drill	Pre-test X Post-test	-19.28	3.26	-37.42	.000
	Pre-test X Delayed test	-12.53	2.63	-30.11	.000
	Post-test X Delayed test	6.75	1.98	21.52	.000
Task	Pre-test X Post-test	-22.03	4.40	-31.66	.000
	Pre-test X Delayed test	-15.25	4.84	-19.93	.000
	Post-test X Delayed test	6.78	1.73	24.74	.000
Translation	Pre-test X Post-test	-13.98	3.06	-28.89	.000
	Pre-test X Delayed test	-8.43	2.60	-20.49	.000
	Post-test X Delayed test	5.55	1.75	20.02	.000

Note. $\alpha = .05$.

The relationship between 'uptake' indicated on the uptake chart and uptake observed in class

To examine the correlation between 'uptake' written in the uptake chart by the participants and their actual uptake observed in class, Pearson product-moment correlation coefficient tests were conducted. The relationships among the three variables shown below were investigated:

1. The frequency of items written in the uptake chart and also seen on the post-test.
2. The frequency of items written in the uptake chart and also correctly answered on the post-test.
3. The frequency of items written in the uptake chart and also correctly answered on the delayed post-test.

First of all, the reliability of the results shown in the uptake chart counted by two raters was evaluated. The result of the kappa coefficient between two raters was k =.824, which means the results counted by two raters showed a strong correlation.

Next, the results of the correlational analyses are shown in Table 19. There was a strong positive correlation between all pairs of variables (1, 2, and 3 shown above); between 1 and 2, r =. 94, n =40, p <.001, between 1 and 3, r =. 80, n =40, p <.001, and between 2 and 3, r =. 91, n =40, p <.001.

The results of a one-way repeated measures ANOVA indicated that there was a significant main test effect for tests, and the results of correlation analysis showed there was a strong positive relationship between 'uptake' written by the participants in the uptake charts and actual uptake.

Table 19
Correlations Between the Frequency of Items Written in the Uptake Chart and the Frequency of Items Correctly Answered

	Drill	Task	Translation
Scale	1	1	1
2. Frequency of items written in the uptake chart and correctly answered in the post-test.	.938**	.948**	.958**
3. Frequency of items written in the uptake chart and correctly answered in the delayed test.	.804**	.882**	.904**

Note. ** p <.001 (2-tailed).
1 is the variable 1, 'Frequency of items written in the uptake chart and seen in the test.'

Two-Way Repeated Measures ANOVA on Activity and Test Effect

A two-way within subjects repeated measures ANOVA was conducted to evaluate the effects of instructional treatments: *drill*, *task*, and *translation*, and the language types used in class. Independent variables were the instrumental treatment with three levels (drill, language-learning task, and translation) that the participants received in the classroom and the languages with two levels (*L1* and *L2*) used in class. The dependent variables were the

participants' gain scores (pre-test scores subtracted from post-test scores) in the areas vocabulary, sentence, grammar, and the total scores.

Vocabulary, sentence, and grammar total scores

Table 20 displays the descriptive statistics for the total gain scores for L1 and L2. Regarding the L1 scores, the mean of *task* was 9.58 (*SD* = 2.73).

Table 20
Descriptive Statistics for Total Gain Scores

Activity		L1		Activity		L2	
Drill	*M*		6.98	Drill	*M*		11.08
	95%CI	Lower Boun	6.26		95%CI	Lower Bound	10.45
		Upper Boun	7.69			Upper Bound	11.70
	SD		2.25		*SD*		1.94
	Skewness		-0.31		Skewness		-0.02
	SES		0.37		*SES*		0.37
	Kurtosis		-0.95		Kurtosis		-0.61
	SEK		0.73		*SEK*		0.73
Task	*M*		9.58	Task	*M*		12.53
	95%CI	Lower Boun	8.70		95%CI	Lower Bound	11.88
		Upper Boun	10.45			Upper Bound	13.17
	SD		2.73		*SD*		2.01
	Skewness		-0.78		Skewness		-0.54
	SES		0.37		*SES*		0.37
	Kurtosis		-0.33		Kurtosis		0.22
	SEK		0.73		*SEK*		0.73
Translation	*M*		5.65	Translation	*M*		8.28
	95%CI	Lower Boun	5.02		95%CI	Lower Bound	7.67
		Upper Boun	6.28			Upper Bound	8.88
	SD		1.97		*SD*		1.89
	Skewness		-0.59		Skewness		-0.25
	SES		0.37		*SES*		0.37
	Kurtosis		0.16		Kurtosis		-0.36
	SEK		0.73		*SEK*		0.73

Note. *N* = 40

The mean of *drill* was 6.98 (*SD* = 2.25), and that of *translation* is 5.65 (*SD* = 1.97). The *task* mean was the highest of all. Regarding the L2 score, the *task* mean was 12.53 (*SD* = 2.01). The *drill* mean was 11.08 (*SD* = 1.94), and the *translation* mean is 8.28 (*SD* =

1.89). The mean of *task* was higher than the other two activities in the L2 score as well. Tables 21 and 22 show the results of the multivariate and univariate tests respectively.

Table 21
Multivariate Test Results for the Two-Way Repeated Measures ANOVA on the Total Gain Scores

Effect		Value	*F*	*p*	η^2
Activity	Pillai's Trace	.75	58.35	.00	.75
	Wilks' Lambda	.25	58.35	.00	.75
	Hotelling's Trace	3.07	58.35	.00	.75
	Roy's Largest Root	3.07	58.35	.00	.75
Language * Activity	Pillai's Trace	.21	4.90	.01	.21
	Wilks' Lambda	.79	4.90	.01	.21
	Hotelling's Trace	.26	4.90	.01	.21
	Roy's Largest Root	.26	4.90	.01	.21

Note. $df = 1$, $\alpha = .05$.

Table 22
Univariate Test Results for the Two-Way Repeated Measures ANOVA on the Total Gain Scores

Effect	*SS*	*df*	*MS*	*F*	*p*	η^2
Language	624.04	1	624.04	226.47	.00	.85
Error (language)	107.46	39	2.76			
Activity	668.33	2	334.16	64.73	.00	.62
Error (activity)	402.68	78	5.16			
Language * Activity	24.02	2	12.01	4.62	.01	.11
Error (Language *Activity)	202.98	78	2.60			

Regarding the multivariate test, the *F*-values, *p*-values, and partial eta squared values were identical for all criteria. The *activity* main effect was significant, Wilks's $\Lambda = .25$, F (2, 38) = 58.35, $p < .001$, $\eta^2 = .75$. The *language and activity* interaction was also significant, Wilks's $\Lambda = 0.79$, F (1, 38) = 4.9, $p < .05$, $\eta^2 = .21$. The univariate test associated with the *language* main effect was significant, $\Lambda = .147$, F (1, 39) = 226.47, $p < .001$, $\eta^2 = 0.85$.

In order to follow up the significant main and interaction effects, the means of the languages and three activities were computed and pairwise comparisons were conducted. Holm's sequential Bonferroni adjustment was used to control for Type One errors.

Table 23 shows the results of pair-wise comparisons in each test. The mean for *task* (M = 11.1, SD = 2.17) was significantly higher than the mean for *drill* (M = 9.03, SD = 2.17), $t(39) = 5.33$, p =.000 (<.017), r =.65. The mean for *drill* was significantly higher than the mean for *translation*, $t(39) = 6.65$, p =.000 (<.025), r =.73, and the mean for *task* was significantly higher than the mean for *translation* (M = 6.96, SD = 1.50), $t(39) = 10.67$, p =.000 (<.05), r =.86. Considering the results including the results of the descriptive statistics, it was *task* that was the most effective among the three activities, and *drill* follows next. To follow up the significant language main effect, the means of the L1 and L2 scores were computed, and a paired-samples t test was conducted. The mean of the L2 scores (M = 10.63, SD = 1.19) was significantly higher than the mean of the L1 scores on the three tests (M = 7.40, SD = 1.63), $t(39) = 15.05$, p =.000 (<.05), r =.92. These results provided the evidence that using the L2 is more effective than using the L1.

Table 23
The Results of Activity Pair-wise Comparisons on the Total Gain Scores

	M	*SD*	*t*	*p*	η^2
Drill mean X Task mean	-2.03	2.40	-5.33	0.00	0.65
Drill mean X Translation mean	2.06	1.96	6.65	0.00	0.73
Task mean X Translation mean	4.09	2.42	10.67	0.00	0.86

Note. α = .05

Table 24
The Results of Activity and Language Pair-wise Comparisons on the Total Gain Scores

	M	*SD*	*t*	*p*	η^2
L1 Drill - L1 Task	-2.60	3.09	-5.33	.000	0.65
L1 Drill - L1 Translation	1.33	2.31	3.62	.001	0.5
L1 Task - L1 Translation	3.93	3.21	7.72	.000	0.78
L2 Drill - L2 Task	-1.45	2.65	-3.46	.001	0.49
L2 Drill - L2 Translation	2.80	2.70	6.56	.000	0.73
L2 Task - L2 Translation	4.25	2.66	10.11	.000	0.85
L1 Drill - L2 Drill	-4.10	2.44	-10.64	.000	0.86
L1 Task - L2 Task	-2.95	2.01	-9.27	.000	0.83
L1 Translation - L2 Translation	-2.63	2.44	-6.82	.000	0.74

Note. α = .05

Next, to follow up the significant interaction effect, nine paired-samples *t* tests were conducted. Table 24 shows the results. Again, Holm's sequential Bonferroni adjustment was used. The mean for the L2 was higher than that for the L1 on each pair of the three activities, in *drill*, $t(39) = 10.64$, $p = .000$ (<.006), $r = .86$; in *task*, $t(39) = 9.27$, $p = .000$, <.007, $r = .83$; and in *translation* $t(39) = 6.82$, $p = .000$, (<.01), $r = .74$. For the scores of the activities using the L1, *task* was significantly higher than *drill* and *translation*, $t(39) = -5.33$, $p = .000$ (<.017), $r = .65$; $t(39) = 7.72$, $p = .000$ (<.008), $r = .78$, and *drill* was significantly higher than *translation*, $t(39) = 3.62$, $p = .001$ (<.025), $r = .50$. Also, for the scores of the activities using the L2, *task* was significantly higher than *drill* and *translation* $t(39) = -3.46$, $p = .001$ (<.05), $r = .49$; $t(39) = 10.11$, $p = .000$ (<.006), $r = .85$, and *drill* was significantly higher than *translation*, $t(39) = 6.56$, $p = .000$, (<.013), $r = .73$. These results imply that whichever language is used, the *task* activity was more effective than other activities.

Vocabulary scores

The above analysis shows the results for total scores. Next, the gain scores for

vocabulary, sentence, and grammar were examined. Table 25 shows the descriptive statistics for the total gain scores on the language factor L1 and L2. Regarding L1, the *task* mean was 4.70 (*SD* = 1.87). The *drill* mean was 4.60 (*SD* = 1.35), and that of *translation* was 2.43 (*SD* = 1.26). The *task* mean was the highest of all.

Table 25
Vocabulary Gain Scores Descriptive Statistics

Activity		L1		Activity		L2	
Drill	*M*		4.60	Drill	*M*		6.68
	95%CI	Lower Bound	4.17		95%CI	Lower Bound	6.21
		Upper Bound	5.03			Upper Bound	7.14
	SD		1.35		*SD*		1.44
	Skewness		-0.26		Skewness		0.06
	SES		0.37		*SES*		0.37
	Kurtosis		-0.74		Kurtosis		-1.11
	SEK		0.73		*SEK*		0.73
Task	*M*		4.70	Task	*M*		7.53
	95%CI	Lower Bound	4.10		95%CI	Lower Bound	7.21
		Upper Bound	5.30			Upper Bound	7.84
	SD		1.87		*SD*		0.99
	Skewness		-0.45		Skewness		-0.41
	SES		0.37		*SES*		0.37
	Kurtosis		-0.97		Kurtosis		0.60
	SEK		0.73		*SEK*		0.73
Translation	*M*		2.43	Translation	*M*		4.15
	95%CI	Lower Bound	2.02		95%CI	Lower Bound	3.77
		Upper Bound	2.83			Upper Bound	4.53
	SD		1.26		*SD*		1.19
	Skewness		0.50		Skewness		0.08
	SES		0.37		*SES*		0.37
	Kurtosis		0.16		Kurtosis		-0.41
	SEK		0.73		*SEK*		0.73

Note. *N* = 40

Regarding the L2 scores, the mean of the *drill* was 6.68 (*SD* = 1.44). The mean of the *task* was 7.53 (*SD* = 0.99), and that of *translation* was 4.15 (*SD* = 1.19). The *task* mean was higher than the means for the other two activities for the L2 score as well.

Tables 26 and 27 show the results of the multivariate and univariate tests. The *F*-values, *p*-values, and partial eta squared values were identical for all criteria. The results

indicated that the *activity* main effect was significant, Wilks's Λ=.177, F (2, 38) = 88.05, p <.001, η^2=.82, and the l*anguage and activity* interaction was also significant, Wilks's Λ=.80, F (2, 38) = 4.65, p <.05, η^2=.20. The univariate test associated with the *language* main effect was significant, Wilks's Λ=.212, F (1, 39) = 145.25, p <.001, η^2= 0.79. The effect size showed that this factor accounted for 79% of the variance.

Table 26
Multivariate Test Results for the Two-Way Repeated Measures ANOVA on the Vocabulary Gain Scores

Effect		Value	*F*	*p*	η^2
Activity	Pillai's Trace	0.82	88.05	0.00	0.82
	Wilks' Lambda	0.18	88.05	0.00	0.82
	Hotelling's Trace	4.63	88.05	0.00	0.82
	Roy's Largest Root	4.63	88.05	0.00	0.82
Language * Activity	Pillai's Trace	0.20	4.65	0.02	0.20
	Wilks' Lambda	0.80	4.65	0.02	0.20
	Hotelling's Trace	0.24	4.65	0.02	0.20
	Roy's Largest Root	0.24	4.65	0.02	0.20

Note. df = 1, α =.05.

Table 27
Univariate Test Results for the Two-Way Repeated Measures ANOVA on the Vocabulary Gain Scores

Effect	*SS*	*df*	*MS*	*F*	*p*	η^2
Language	292.60	1	292.60	145.25	.00	.79
Error (language)	78.56	39	2.01			
Activity	366.10	2	183.05	80.41	.00	.67
Error (activity)	177.57	78	2.28			
Language * Activity	12.63	2	6.32	5.26	.01	.12
Error (Language *Activity)	93.70	78	1.20			

In order to follow up the significant main and interaction effects, the language and activity means were computed and pairwise comparisons were conducted. Holm's sequential Bonferroni adjustment was used to control for Type One errors. Table 28 shows the results of the activity pair-wise comparisons.

Table 28
The Results of Activity Pair-wise Comparisons on the Vocabulary Gain Scores

	M	*SD*	*t*	*p*	η^2
Drill mean X Task mean	-0.48	1.61	-1.87	.069	0.29
Drill mean X Translation mean	2.35	1.35	11.05	.000	0.87
Task mean X Translation mean	2.83	1.56	11.43	.000	0.88

Note. α =.05.

The mean for *task* (*M* = 6.11, *SD* = 1.20) was significantly higher than the mean for *translation* (*M* = 3.29, *SD* = 0.82), *t*(39) = 11.43, *p* =.000 (<.017), *r* =.88. The mean for *drill* (*M* = 5.63, *SD* = 1.17) was significantly higher than the mean for *translation*, *t*(39) = 11.05, *p* =.001 (<.025), *r* =.87, but the mean for *task* was not significantly higher than the mean for *drill*, *t*(39) = -1.87, *p* =.07, *r* =.29. Considering the descriptive statistics and the ANOVA results, *task* was the most effective among the three activities, and *drill* follows next.

Table 29
The Results of Activity and Language Pair-wise Comparisons on the Vocabulary Gain Scores

	M	*SD*	*t*	*p*	η^2
L1 Drill - L1 Task	-.10	2.17	-.29	.772	0.05
L1 Drill - L1 Translation	2.18	1.58	8.69	.000	0.81
L1 Task - L1 Translation	2.28	2.24	6.42	.000	0.72
L2 Drill - L2 Task	-.85	1.81	-2.98	.005	0.43
L2 Drill - L2 Translation	2.53	1.72	9.26	.000	0.83
L2 Task - L2 Translation	3.38	1.55	13.79	.000	0.91
L1 Drill - L2 Drill	-2.08	1.54	-8.51	.000	0.81
L1 Task - L2 Task	-2.83	1.78	-10.03	.000	0.85
L1 Translation - L2 Translation	-1.73	1.81	-6.02	.000	0.7

Note. α =.05.

Next, in order to follow up the significant language main effect, the means of the L1 and L2 scores were computed, and a paired sampled *t* test was conducted. The mean of the L2 scores (*M* = 6.12, *SD* = 0.73) was significantly higher than the mean of the L1 scores on the three tests (*M* = 3.90, *SD* = 0.97), *t*(39) = 12.05, *p* =.000 (<.05), *r* =.89. This means using the L2 was more effective than using the L1.

Next, to follow up the significant interaction effect, nine paired-samples *t* tests were conducted. Again, Holm's sequential Bonferroni adjustment was used. Table 29 shows the results. The mean of the L2 scores was significantly higher than the mean of the L1 scores on each pair of the three activities, in *drill*, *t*(39) = 8.51, *p* =.000 (<.01); in *task t*(39) =10.03, *p* =.000 (<.006); and *in translation t*(39) = 6.02, *p* =.000 (<.017), *r* =.89. For the scores of the activities using the L1, *task* is significantly higher than *translation*, *t*(39) = 6.42, *p* =.000 (<.013), *r* =.72, but not significantly higher than *drill*, *t*(39) = -.29, *p* =.772, *r* =.05. Also, *drill* was significantly higher than *translation*, *t*(39) = 8.69, *p* =.000 (<.008), *r* =.81. For the scores of the activities using the L2, *task* was significantly higher than *drill*, *t*(39) = 2.98, *p* =.005 (<.025), *r* =.43 and *translation*, *t*(39) = 13.79, *p* =.000 (<.006), *r* =.91. Also, *drill* was significantly higher than *translation*, *t*(39) = 9.26, *p* =.001 (<.007), *r* =.83. These results imply that using the L2 in *task* activity was more effective than other activities.

Sentence scores

Table 30 shows the descriptive statistics for the two total gain scores on two factors of the L1 and L2. For the L1 score, the mean of *task* was 1.45 (*SD* = 0.6). The mean of the *drill* was 0.6 (*SD* = 0.59), and that of *translation* was 0.5 (*SD* = 0.51). The mean of *task* was the highest of all.

For the L2 score, the mean of *task* was 1.95 (*SD* = 0.22). The mean of *drill* was 1.03

(*SD* = 0.7), and that of *translation* was 1.3 (*SD* = 0.56). The mean of *task* was higher than the other two activities in the L2 score.

Table 30
Descriptive Statistics for the two-way repeated ANOVA on the Sentence Gain Scores

Activity		L1		Activity		L2	
Drill	*M*		0.60	Drill	*M*		1.03
	95%CI	Lower Bound	0.41		95%CI	Lower Bound	0.80
		Upper Bound	0.79			Upper Bound	1.25
	SD		0.59		*SD*		0.70
	Skewness		0.38		Skewness		-0.03
	SES		0.37		*SES*		0.37
	Kurtosis		-0.66		Kurtosis		-0.85
	SEK		0.73		*SEK*		0.73
Task	*M*		1.45	Task	*M*		1.95
	95%CI	Lower Bound	1.26		95%CI	Lower Bound	1.88
		Upper Bound	1.64			Upper Bound	2.02
	SD		0.60		*SD*		0.22
	Skewness		-0.56		Skewness		-4.29
	SES		0.37		*SES*		0.37
	Kurtosis		-0.56		Kurtosis		17.29
	SEK		0.73		*SEK*		0.73
Translation	*M*		0.50	Translation	*M*		1.30
	95%CI	Lower Bound	0.34		95%CI	Lower Bound	1.12
		Upper Bound	0.66			Upper Bound	1.48
	SD		0.51		*SD*		0.56
	Skewness		0.00		Skewness		-0.04
	SES		0.37		*SES*		0.37
	Kurtosis		-2.11		Kurtosis		-0.50
	SEK		0.73		*SEK*		0.73

Note. *N* = 40

Tables 31 and 32 show the results of the multivariate and univariate tests. The *F*-values, *p*-values, and partial eta squared values were identical for all effects. The results indicated that the *activity* main effect was significant, Wilks's Λ=.185, F (2, 38) = 83.62, p <.001, η^2=.81. but the *language and activity* interaction was not significant, Wilks's Λ=.269, F (2, 38) = 2.69, p =.081, η^2=.12. The univariate test associated with the *language* main effect was significant, Wilks's Λ=.408, F (1, 39) = 56.63, p <.001, η^2=

0.59. The effect size showed that this factor accounted for 59% of the variance.

Table 31
Multivariate Test Results for the Two-Way Repeated Measures ANOVA on the Sentence Gain Scores

Effect		Value	*F*	*p*	η^2
Activity	Pillai's Trace	0.81	83.62	0.00	0.81
	Wilks' Lambda	0.19	83.62	0.00	0.81
	Hotelling's Trace	4.40	83.62	0.00	0.81
	Roy's Largest Root	4.40	83.62	0.00	0.81
Language * Activity	Pillai's Trace	0.12	2.69	0.08	0.12
	Wilks' Lambda	0.88	2.69	0.08	0.12
	Hotelling's Trace	0.14	2.69	0.08	0.12
	Roy's Largest Root	0.14	2.69	0.08	0.12

Note. $df = 1$, $\alpha = .05$.

Table 32
Univariate Test Results for the Two-Way Repeated Measures ANOVA on the Sentence Gain Scores

Effect	*SS*	*df*	*MS*	*F*	*p*	η^2
Language	19.84	1	19.84	56.63	.00	.59
Error (language)	13.66	39	0.35			
Activity	38.28	2	19.14	64.74	.00	.62
Error (activity)	23.06	78	0.30			
Language * Activity	1.58	2	0.79	3.33	.04	.08
Error (Language *Activity)	18.43	78	0.24			

In order to follow up the significant main activity effects, the means of languages and the three activities were computed and pairwise comparisons were conducted. Holm's sequential Bonferroni adjustment was used to control for Type One errors. Table 33 shows the results.

The mean for *task* (*M* = 1.7, *SD* = 0.33) was significantly higher than the mean for *drill* (*M* = 0.81, *SD* = 0.52), *t*(39) = -9.63, *p* =.000 (<.025), *r* =.84. The mean for *task* was also significantly higher than the mean for *translation* (*M* = 0.9, *SD* = 0.34), *t*(39) = 11.615, *p* =.000 (<.017), *r* =.83, but the mean for *translation* was not significantly higher than the mean for *drill*, *t*(39) = -0.93, *p* =.36, *r* =.88.

To follow up the significant language main effect, the means of the L1 and L2 scores were computed, and a paired-samples *t* test was conducted.

Also, the mean of the L2 scores (*M* = 1.43, *SD* = 0.30) was significantly higher than the mean of the L1 scores on the three tests (*M* = 0.85, *SD* = 0.4), *t*(39) = -7.53, *p* <.001, *r* =.77, providing the evidence that using the L2 was more effective than using the L1.

Table33
The Results for the Activity Pair-wise Comparisons on the Sentence Gain Scores

	M	*SD*	*t*	*p*	η^2
Drill mean X Task mean	-0.89	0.58	-9.63	0.00	0.84
Drill mean X Translation mean	-0.09	0.60	-0.93	0.36	0.83
Task mean X Translation mean	0.80	0.44	11.62	0.00	0.88

Note. α = .05.

Grammar scores

Table 34 shows the descriptive statistics for the two total gain scores on two factors of the L1 and L2. For the L1 score, the mean of *task* was 3.53 (*SD* = 1.15). The mean of the *drill* was 2.38 (*SD* = 1.31), and that of *translation* was 2.6 (*SD* = 1.37). In L2 score, the mean of *task* was 3.5 (*SD* = 1.11). The mean of *drill* was 3.05 (*SD* = 0.85), and that of *translation* is 2.68 (*SD* = 1.05). The mean of *task* was the highest of all, but a difference in scores does not seem to exist in the scores between the L1 and L2.

Table 34
Descriptive Statistics for the two-way repeated ANOVA on the Grammar Gain Scores

Activity		L1		Activity		L2	
Drill	*M*		2.38	Drill	*M*		3.05
	95%CI	Lower Bound	1.95		95%CI	Lower Bound	2.78
		Upper Bound	2.80			Upper Bound	3.32
	SD		1.31		*SD*		0.85
	Skewness		-0.32		Skewness		-0.37
	SES		0.37		*SES*		0.37
	Kurtosis		-0.52		Kurtosis		-0.84
	SEK		0.73		*SEK*		0.73
Task	*M*		3.53	Task	*M*		3.50
	95%CI	Lower Bound	3.16		95%CI	Lower Bound	3.15
		Upper Bound	3.89			Upper Bound	3.85
	SD		1.15		*SD*		1.11
	Skewness		-0.22		Skewness		-0.42
	SES		0.37		*SES*		0.37
	Kurtosis		-1.01		Kurtosis		-0.37
	SEK		0.73		*SEK*		0.73
Translation	*M*		2.60	Translation	*M*		2.68
	95%CI	Lower Bound	2.16		95%CI	Lower Bound	2.34
		Upper Bound	3.04			Upper Bound	3.01
	SD		1.37		*SD*		1.05
	Skewness		-0.16		Skewness		-0.14
	SES		0.37		*SES*		0.37
	Kurtosis		-0.46		Kurtosis		0.03
	SEK		0.73		*SEK*		0.73

Note. $N = 40$

Tables 35 and 36 show the statistical results of the multivariate tests and univariate test. The results indicated that the *activity* main effect was significant, Wilks's $\Lambda = .62$, F (2, 38) = 11.89, $p < .001$, $\eta^2 = 0.38$. The effect size showed that this factor accounted for 38% of the variance, while the *language and activity* interaction was not significant, Wilks's $\Lambda = .874$, F (2, 38) = 2.75, $p = .08$, $\eta^2 = .13$. The univariate test associated with the *language* main effect was not significant, Wilks's $\Lambda = .936$, F (1, 39) = 2.65, $p = .11$, $\eta^2 = .064$.

Table 35
Multivariate Test Results for the Two-Way Repeated Measures ANOVA on the Grammar Gain Scores

Effect		Value	*F*	*p*	η^2
Activity	Pillai's Trace	0.38	11.89	0.00	0.38
	Wilks' Lambda	0.62	11.89	0.00	0.38
	Hotelling's Trace	0.63	11.89	0.00	0.38
	Roy's Largest Root	0.63	11.89	0.00	0.38
Language * Activity	Pillai's Trace	0.13	2.75	0.08	0.13
	Wilks' Lambda	0.87	2.75	0.08	0.13
	Hotelling's Trace	0.14	2.75	0.08	0.13
	Roy's Largest Root	0.14	2.75	0.08	0.13

Note. $df = 1$, $\alpha = .05$.

Table 36
Univariate test Results for the Two-Way Repeated Measures ANOVA on the Grammar Gain Scores

Effect	*SS*	*df*	*MS*	*F*	*p*	η^2
Language	3.50	1	3.50	2.65	.11	.064
Error (language)	51.66	39	1.32			
Activity	37.63	2	18.82	13.71	.00	.260
Error (activity)	107.03	78	1.37			
Language * Activity	5.73	2	2.87	3.12	.05	.074
Error (Language *Activity)	71.60	78	0.92			

In order to follow up the significant main activity effect, the means of the three activities were computed and pairwise comparisons were conducted. Holm's sequential Bonferroni adjustment was used to control for Type One errors. Table 37 shows the results of the pairwise comparisons. The mean for *task* ($M = 3.51$, $SD = 0.96$) was significantly higher than the mean for *drill* ($M = 2.71$, $SD = 0.73$), $t(39) = -4.19$, $p = 000$ (<.025), $r = .56$. The mean for *task* was also significantly higher than the mean for *translation* ($M = 2.64$, $SD = 0.98$), $t(39) = 4.58$, $p = .000$ (<.017), $r = .59$, but the mean for *drill* was not

significantly higher than the mean for *translation*, $t(39) = .43$, $p = .67$, $r = .07$.

Table 37
The Results for the Activity Pair-wise Comparisons on the Grammar Gain Scores

	M	*SD*	*t*	*p*	η^2
Drill mean X Task mean	-0.80	1.21	-4.19	0.00	0.56
Drill mean X Translation mean	0.07	1.10	0.43	0.67	0.07
Task mean X Translation mean	0.88	1.21	4.58	0.00	0.59

Note. $\alpha = .05$.

Considering the results including the descriptive statistics results, it was *task* that was the most effective among the three activities for grammar scores.

Junior and Senior High School Research Results

This section has two parts. The first part contains the results from the junior high school classes and the second part consists of the results from the senior high school classes. The classes selected from both junior and senior high school for the analysis was explained based on the results from the corpus made for this study. The relationship between students' uptake and the language and activities in class was examined by a Kruskal–Wallis test.

For the inter-rater reliability of the corpus, four classes were selected (about 20% of the total) randomly from the total 22 classes and the number of tokens counted by the author and the token counted by another language teacher were compared using the kappa coefficient. Since the two raters, including the author, carefully checked the definitions of each tag before the work of coding, the kappa values showed inter-coder agreement ($k = .614$). The areas that showed the differences between the two raters was the tokens for 'Presentation' and 'Explanation.' Rater 1 counted teachers' 'Presentation' utterances as

'Explanation,' although the teachers newly introduced the grammatical parts and they should be 'Presentation.' Talking over the differences in tokens between the two raters resulted in some parts corrected until all the tokens were identical between the two raters.

Moreover, to show the validity of the uptake chart, the number of actual uptakes observed in the transcript and that of the items written in the uptake chart were compared by correlations. The values in Table 38 show the number of the kind of items observed in the transcripts or written in the uptake chart. The values of (1) and (2) in Table 34 were compared using Spearmans' rho correlation coefficient. Among the junior high school classes, there was a strong positive correlation between those two variables, r =.96. Also, in the senior high school classes, a strong positive correlation was seen between the two variables, r =.84. Therefore, the items written in the uptake chart can be regarded as reliable.

Table 38
The Uptake Seen in the Transcriptions and Uptake Written in the Uptake Chart

Junior high school class	Class A			Class B			Class C		
Uptake type	Vocabulary	Sentence	Grammar	Vocabulary	Sentence	Grammar	Vocabulary	Sentence	Grammar
1. The number of uptakes observed in the transcripts	4	4	1	2	2	2	7	1	1
2. The number of items written in the uptake chart	5	4	1	4	3	2	10	1	1
Senior high school class	Class A			Class B			Class C		
Uptake type	Vocabulary	Sentence	Grammar	Vocabulary	Sentence	Grammar	Vocabulary	Sentence	Grammar
1. The number of uptakes observed in the transcripts	9	5	0	19	1	4	13	2	2
2. The number of items written in the uptake chart	13	5	1	20	2	1	22	3	2

In Junior and Senior High School Research, to answer research question 4, the amount of uptake in classes where the main language used was different was examined. Research Question 4 is: "Is there any difference in the quantity of uptake depending on the

type of language mainly used in class?" Moreover, the amount of uptake in classes where the main activity was different was also examined to answer research question 5. Research Question 5 is: "Is there any difference in the quantity of uptake depending on the type of activity carried out in class?"

Junior High School Uptake Results

This section shows the results of the analysis of the junior high school classes. The results will be stated based on: a) corpus data, and b) the Kruskal–Wallis test.

Corpus compiled from 11 classes

The corpus data for the junior high school classes is shown in Tables 39 and 40. The description of the utterances both by the teacher and the students in the data from all 11 transcribed classes is presented. Based on the results of this corpus data, the classes for the analysis were selected. Tables 39 and 40 show the results of word frequency, which was the actual number of types and tokens of uttered words in each class.

Depending on the utterances classified by each tag (see Table 13), all utterances were counted. 'Read aloud' is reading activities including repetition practice. Table 39 shows that students in class 3 and 8 had no reading aloud practice opportunities, while in other classes, students had time for reading aloud.

'Translation' is translation activities. In English language classes in Japan, the grammar translation method is still popular. Usually, teachers have students translate English sentences into Japanese. After students' translations, the teachers explain the meaning of each sentence. All utterances concerning translation activities are included in this part. The results show that class 3, 5, 6, 7, 8, and 10 had translation activities.

Students' receiving explanations from teachers about words or grammar is included

in ‘Explanation.’ Explanation by teachers is seen in all classes. In classes 4, 6, 9, and 11, teachers used more L2 for explanations. In contrast, teachers tended to depend on the L1 in other classes. ‘Listening’ is listening activity: for example, listening to a model conversation on CDs. The results showed there was no listening practice seen in classes 1 and 6.

Drill utterances or language learning tasks are included in ‘Practice.’ The teachers’ oral introduction of the textbook or materials content are included in ‘Oral introduction’. Oral introduction was seen in classes 1, 2, 4, 5, 6, 7, 9, and 11. Among these classes, teachers used the L2 for oral introduction in most classes, while teachers in classes 2 and 7 used both the L1 and L2.

In Table 40, the teachers’ utterances ordering students to do something in class, such as ‘Open your text book’, are counted in ‘Direction.’ Teachers’ and students’ questions are included in ‘Question.’ Teachers’ corrective feedback is counted in ‘Feedback.’ Teachers’ responses to students’ questions and students’ responses to the teacher are counted as ‘Response.’ Utterances which were not initiated by the teachers but by the students are included in ‘Student initiation.’ ‘Student initiation’ was seen in class 3 and class 7 but not in the other classes.

The results showed that in some classes, the L2 was mainly used in interaction between the teachers and students, and other classes tended to use the L1. Looking at the results of all the classes from this corpus data, the appropriate classes were selected for the analysis.

Table 39

Types and Tokens for Classroom Utterances in Junior High School Classes

			Overall		Read aloud		Translation		Explanation		Listening		Presentation		Practice (Drill)		Practice (Task)		Oral introdution		warm up, consolidation		others	
ID	Speaker	Language	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token
	Teacher	English	530	1269	96	363	0	0	27	42	0	0	126	220	0	0	0	0	71	110	18	28	192	505
	Student	English	203	803	92	454	0	0	9	18	0	0	64	287	0	0	0	0	0	0	38	44	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 1	Teacher	Japanese	136	263	0	0	0	0	23	51	0	0	18	60	0	0	0	0	0	0	0	0	95	152
	Student	Japanese	64	93	0	0	0	0	15	22	0	0	49	71	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	173	314	0	0	0	0	45	67	0	0	128	247	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	224	660	80	356	0	0	15	46	0	0	9	32	21	30	0	0	40	89	38	62	21	45
	Student	English	94	514	45	393	0	0	12	28	0	0	10	36	14	40	0	0	5	9	8	8	0	0
	CD	English	25	31	0	0	0	0	0	0	25	31	0	0	0	0	0	0	0	0	0	0	0	0
Class 2	Teacher	Japanese	171	258	0	0	0	0	48	81	0	0	41	63	29	34	0	0	42	53	0	0	11	27
	Student	Japanese	32	37	0	0	0	0	5	5	0	0	5	6	6	6	0	0	16	20	0	0	0	0
	Teacher	mix	41	49	0	0	0	0	22	31	0	0	17	18	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	74	102	15	22	0	0	10	12	0	0	41	58	0	0	0	0	0	0	8	10	0	0
	Student	English	38	51	0	0	0	0	0	0	0	0	38	51	0	0	0	0	0	0	0	0	0	0
	CD	English	182	632	0	0	0	0	32	75	182	632	0	0	0	0	0	0	68	156	0	0	0	0
Class 3	Teacher	Japanese	396	1403	0	0	73	196	15	287	0	0	156	366	0	0	0	0	27	155	76	111	82	288
	Student	Japanese	43	46	0	0	15	18	0	0	7	7	21	21	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	137	192	0	0	43	51	21	30	0	0	73	111	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	678	1407	2	2	0	0	201	359	0	0	181	243	0	0	232	510	124	232	3	3	48	58
	Student	English	147	460	48	124	0	0	12	40	0	0	34	43	0	0	101	263	0	0	0	0	0	0
	CD	English	164	610	0	0	0	0	0	0	164	610	0	0	0	0	0	0	0	0	0	0	0	0
Class 4	Teacher	Japanese	372	726	0	0	0	0	163	310	0	0	169	355	0	0	0	0	21	31	0	0	19	30
	Student	Japanese	3	4	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	153	248	0	0	0	0	44	71	0	0	107	177	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	246	628	96	284	0	0	31	67	0	0	0	0	48	95	0	0	17	83	33	61	21	38
	Student	English	163	453	92	333	0	0	2	2	0	0	0	0	31	57	0	0	12	22	18	31	8	8
	CD	English	20	25	0	0	0	0	0	0	20	25	0	0	0	0	0	0	0	0	0	0	0	0
Class 5	Teacher	Japanese	370	949	0	0	75	230	115	341	0	0	81	167	0	0	0	0	21	55	0	0	78	156
	Student	Japanese	40	71	0	0	19	25	11	19	0	0	10	27	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	119	192	0	0	67	108	45	70	0	0	7	14	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	586	1342	66	235	0	0	185	420	0	0	58	121	0	0	0	0	103	252	53	94	121	220
	Student	English	158	493	107	318	0	0	22	89	0	0	21	78	0	0	0	0	0	0	8	8	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 6	Teacher	Japanese	199	441	0	0	121	303	78	135	0	0	0	0	0	0	0	0	0	0	2	3	0	0
	Student	Japanese	91	143	0	0	70	116	18	23	0	0	0	0	0	0	0	0	0	0	3	4	0	0
	Teacher	mix	155	274	0	0	0	0	82	163	0	0	73	111	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	187	591	65	360	0	0	0	0	0	0	7	29	31	54	0	0	34	68	10	15	40	65
	Student	English	92	608	46	527	0	0	0	0	0	0	3	3	15	38	0	0	7	20	8	8	0	0
	CD	English	25	31	0	0	0	0	0	0	25	31	0	0	0	0	0	0	0	0	0	0	0	0
Class 7	Teacher	Japanese	154	188	0	0	26	31	28	32	0	0	41	53	18	20	0	0	41	52	0	0	0	0
	Student	Japanese	27	31	0	0	8	8	1	1	0	0	5	5	2	2	0	0	11	11	0	0	0	0
	Teacher	mix	47	65	0	0	23	30	7	17	0	0	11	12	0	0	0	0	6	6	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	32	35	0	0	12	12	12	15	0	0	8	8	0	0	0	0	0	0	0	0	0	0
	Student	English	10	11	0	0	0	0	10	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CD	English	230	557	0	0	0	0	0	0	230	557	0	0	0	0	0	0	0	0	0	0	0	0
Class 8	Teacher	Japanese	435	609	0	0	78	112	195	275	0	0	121	181	0	0	0	0	33	33	0	0	8	8
	Student	Japanese	29	32	0	0	16	16	5	5	0	0	8	11	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	145	193	0	0	73	88	10	11	0	0	47	78	0	0	0	0	15	16	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	591	1372	9	13	0	0	205	622	0	0	89	161	63	96	0	0	59	126	94	188	72	166
	Student	English	273	498	59	160	0	0	45	77	0	0	47	61	88	156	0	0	0	0	34	44	0	0
	CD	English	120	421	0	0	0	0	0	0	120	421	0	0	0	0	0	0	0	0	0	0	0	0
Class 9	Teacher	Japanese	320	703	0	0	0	0	79	109	0	0	234	587	0	0	0	0	0	0	0	0	7	7
	Student	Japanese	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	135	222	0	0	0	0	54	86	0	0	81	136	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	211	402	22	42	7	12	17	97	0	0	32	76	24	37	0	0	0	0	20	27	89	111
	Student	English	78	242	31	171	12	14	8	11	0	0	13	22	14	24	0	0	0	0	0	0	0	0
	CD	English	42	174	0	0	0	0	0	0	42	174	0	0	0	0	0	0	0	0	0	0	0	0
Class 10	Teacher	Japanese	455	922	0	0	74	223	108	261	0	0	59	91	0	0	0	0	53	90	25	35	136	221
	Student	Japanese	29	32	0	0	10	10	10	11	0	0	6	6	4	4	0	0	0	0	0	0	0	0
	Teacher	mix	81	152	0	0	0	0	32	68	0	0	33	60	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	685	1591	59	167	0	0	180	531	0	0	97	177	0	0	91	276	119	262	10	12	31	166
	Student	English	375	643	47	82	0	0	41	75	0	0	102	153	0	0	153	281	11	11	21	28	0	0
	CD	English	112	421	0	0	0	0	0	0	112	421	0	0	0	0	0	0	0	0	0	0	0	0
Class 11	Teacher	Japanese	391	879	0	0	0	0	148	262	0	0	243	599	0	0	0	0	0	0	0	0	11	18
	Student	Japanese	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	140	232	0	0	0	0	22	29	0	0	118	203	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note. Type = a word form; Token = an occurrence of any given word.

Table 40

Types and Tokens for Directions, Questions, Feedback, Responses, and Initiations in Junior High School Classes

			Direction		Question		Feedback		Response		Student initiation	
ID	Speaker	Language	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token
	Teacher	English	182	398	68	122	29	49	1	1	0	0
	Student	English	0	0	1	2	0	0	39	76	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 1	Teacher	Japanese	25	34	28	38	5	5	2	2	0	0
	Student	Japanese	0	0	6	6	0	0	13	15	0	0
	Teacher	mix	0	0	21	29	11	13	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	70	128	36	76	11	12	0	0	0	0
	Student	English	0	0	0	0	0	0	38	75	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 2	Teacher	Japanese	34	44	49	63	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	15	17	0	0
	Teacher	mix	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	4	4	0	0	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 3	Teacher	Japanese	87	128	45	53	0	0	18	20	0	0
	Student	Japanese	0	0	7	7	0	0	30	33	7	7
	Teacher	mix	8	8	32	35	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	186	532	126	277	50	73	0	0	0	0
	Student	English	0	0	0	0	0	0	167	277	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 4	Teacher	Japanese	29	40	21	28	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	0	0	0	0	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	33	46	13	25	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	5	5	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 5	Teacher	Japanese	91	155	81	129	10	15	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	24	25	0	0
	Teacher	mix	30	38	0	0	17	17	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	192	426	77	159	13	13	0	0	0	0
	Student	English	0	0	2	2	0	0	21	30	5	5
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 6	Teacher	Japanese	64	95	35	51	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	20	25	0	0
	Teacher	mix	36	52	31	38	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	60	96	28	58	0	0	8	8	0	0
	Student	English	0	0	8	8	0	0	15	37	2	2
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 7	Teacher	Japanese	25	28	25	32	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	19	22	0	0
	Teacher	mix	0	0	32	59	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	14	14	0	0	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 8	Teacher	Japanese	84	120	39	49	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	12	12	0	0
	Teacher	mix	0	0	65	79	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	161	479	125	298	33	60	0	0	0	0
	Student	English	0	0	0	0	0	0	81	111	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 9	Teacher	Japanese	34	46	10	10	5	5	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	0	0	7	7	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	11	11	67	166	10	17	0	0	0	0
	Student	English	0	0	0	0	0	0	22	70	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 10	Teacher	Japanese	152	337	83	153	7	13	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	20	21	0	0
	Teacher	mix	0	0	14	17	0	0	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	165	457	151	332	39	60	0	0	0	0
	Student	English	0	0	0	0	0	0	93	146	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 11	Teacher	Japanese	20	25	8	10	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	mix	11	17	0	0	8	8	0	0	0	0
	Student	mix	0	0	0	0	0	0	0	0	0	0

Note. Type = a word form; Token = an occurrence of any given word.

The relationship between students' uptake and the language mainly used in class

Research Question 4 is: Is there any difference in the quantity of uptake depending on the type of language mainly used in class? To answer research question 4, the amount of uptake in classes where the main language used is different was examined. To exclude variables other than the language used in class, classes where different languages were used but the activity done in each class was the same were selected. Other classes were not used for the analysis. Looking at the corpus data constructed by the author (Table 39), the main activity in Class 2, 7, 9, and 10 was the same, *drill*, but there seems to be a variety in the use of the main language. In class 5, drill was given. However, it was not the main activity because translation was mixed with drill. Thus, class 5 was not included in the analysis. Therefore, these four classes, Class 2, 7, 9, and 10, were selected for the analysis.

Looking at Table 39, 'teacher English' token is the most frequent, 1372 in class 9, while in class 10, the token of 'teacher Japanese' is the most frequent, 922. Additionally, 'teacher Read aloud' token in Class 9 is 13, and this means the amount of the teacher's spontaneous English utterances was the largest. Considering these results, the classes were classified into three groups and the characteristics of all groups are briefly described in Table 41.

Table 41
Characteristics of Junior High School Groups with Different Language Use

Group	Classes	Characteristics
Group 1 (L1 group)	Class 10	The main language the teacher used was L1
Group 2 (L2 group)	Class 9	The main language the teacher used was L2
Group 3 (Mix group)	Class 2, Class 7	Teachers used comparatively equal amount of English and Japanese

Note. Group 1, n = 23; Group 2, n = 13; Group 3, n =41.

Tables 42, 43, 44, and 45 show the descriptive statistics for the frequency of vocabulary uptake, sentence uptake, and grammar uptake in each group.

Table 42
Descriptive Statistics for the Vocabulary Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	27	1.17	0.39	1.01	1.34
Group 2	47	3.62	1.98	2.42	4.81
Group 3	265	6.46	1.36	6.03	6.89

Note. Group 1 (L1 group), *n* = 23; Group 2 (L2 group), *n* = 13; Group 3 (Mix group), *n* =41.

Table 43
Descriptive Statistics for the Sentence uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	15	0.65	1.07	0.19	1.12
Group 2	21	1.62	0.65	1.22	2.01
Group 3	19	0.46	0.64	0.26	0.66

Note. Group 1 (L1 group), *n* = 23; Group 2 (L2 group), *n* = 13; Group 3 (Mix group), *n* =41.

With regards to vocabulary uptake shown in Table 42, the mean of group 3 (mix group) is 6.46 (*SD* = 1.36) and it is the highest among the three groups. The mean of group 2 (L2 group) is 3.62 (*SD* = 1.98), and that of group 1 (L1 group) is 1.17 (*SD* =0.39). In sentence uptake shown in Table 43, the mean of group 2 (L2 group) is 1.62 (*SD* =0.65), which is the highest among the three groups. The mean of group 1 is 0.65 (*SD* = 1.07), and that of group 3 is 0.46 (*SD* =0.64).

Grammar uptake is shown in Table 44. The mean of group 1 (L1 group) is 0.91 (*SD* = 0.52), which is the highest of the three groups. The mean of group 2 (L2 group) is 0.54 (*SD* = 0.52) and that of group 3 (mix group) is 0.59 (*SD* = 0.50).

For total uptake, the mean of group 3 (mix group) is 7.51 (*SD* = 1.55), and it is the highest among the three groups. The mean of group 2 (L2 group) is 5.77 (*SD* = 2.32), and

that of group 1 (L1 group) is 2.74 (*SD* =0.91).

Table 44
Descriptive Statistics for the Grammar Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	21	0.91	0.52	0.69	1.14
Group 2	7	0.54	0.52	0.22	0.85
Group 3	24	0.59	0.50	0.43	0.74

Note. Group 1 (L1 group), *n* = 23; Group 2 (L2 group), *n* = 13; Group 3 (Mix group), *n* =41.

Table 45
Descriptive Statistics for the Total Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	63	2.74	0.91	2.34	3.14
Group 2	75	5.77	2.32	4.37	7.17
Group 3	308	7.51	1.55	7.02	8.00

Note. Group 1 (L1 group), *n* = 23; Group 2 (L2 group), *n* = 13; Group 3 (Mix group), *n* =41.

To compare the differences in the amount of vocabulary uptake, sentence uptake, grammar uptake, and total uptake, a nonparametric test was conducted. The Kruskal–Wallis test was used to examine whether there are differences in students' uptake depending on the language mainly used in class. The independent variables are groups, and the dependent variables are vocabulary uptake, sentence uptake, and grammar uptake. Vocabulary, sentence, and grammar uptake means in each group were counted (table example is in Appendix D) and a Kruskal-Wallis test was conducted to evaluate differences among the three groups (L1 group, L2 group, and mix group) in all uptake. For vocabulary uptake, the test shows a significant difference, χ^2 (2, *N* = 77) = 55.813, *p* =.000; sentence uptake, χ^2 (2 *N* = 77) = 17.158, *p* =.001; grammar uptake, 2 (2 *N* = 77) = 6.178, *p* =.046;

and total uptake 2 (2 N = 77) = 49.95, p =.000. The distributions of uptake scores for the three groups are shown in Figures 15, 16, 17, and 18 in Appendix F.

Using Mann-Whitney U test, follow-up tests were conducted to evaluate pairwise differences among the three groups. Table 46 shows the results.

Table 46
The results for the Mann-Whitney U Test between Different Language Use Groups

	Group 1 and 2	Group 1 and 3	Group 2 and 3
Vocabulary uptake	U = 15.5, p =.000, r = -.81	U = 2.0, p =.000, r = -1.13	U = 70.5, p =.000, r = -.68
Sentence uptake	U = 70.5, p =.005, r = -.47	U = 471.5, p =1.00, r = 0	U = 70.5, p =.000, r = -.72
Grammar uptake	U = 22.5, p =.000, r =-.33	U = 11.5. 0, p =.000, r =-.38	U = 254.0, p = .768, r = -0.5
Total uptake	U = 99.5, p =.046, r = -.72	U = 334. 0, p =.022, r =-.81	U = 102.50, p = .768, r = -.46

For vocabulary uptake, the results of pairwise comparison present a significant difference between group 1 (M = 1.17, SD = 0.39) and group 2 (M = 3.62, SD = 1.98), between group 1 and group 3 (M = 6.46, SD = 1.36), and between group 2 and group 3. Considering the descriptive statistics, the mean of group 3, 6.46 is higher than the other groups. This signifies that group 3, the mix group, had the highest vocabulary uptake. Group 2, the L2 group, follows next. The results of the pairwise comparison in sentence uptake shows that a significant difference was seen between group 2 (M = 1.62, SD = 0.65) and group 1 (M = 0.65, SD =1.07), and between group 2 and group 3 (M =0.46, SD = 0.64). No significant difference was seen between group 1 and 3. The mean of sentence uptake in group 2 is 1.62, and this is higher than that of group 1 (0.64) and group 3 (0.46). These results show that group 2, the L2 group, had the highest sentence uptake.

For grammar uptake, the results of the pairwise comparison show that group 1, the L1 group, had the highest grammar uptake. A significant difference was seen between group 1 (M = 0.91, SD = 0.52) and group 2 (M = 0.54, SD = 0.52), and between group 1 and group 3 (M = 0.59, SD = 0.5). The mean of grammar uptake in group 1 is 0.91, and this

is higher than that of group 2 (0.54) and group 3 (0.59). No difference was seen between group 2 and group 3. These results imply that group 1, the L1 group, showed the highest result in grammar uptake.

For total uptake, the results of the pairwise comparison show a significant difference between group 1 (M = 2.74, SD = 0.91) and group 2 (M = 5.77, SD = 2.32), between group 1 and group 3 (M = 7.51, SD = 1.55). There is no significant difference between group 2 and group 3 (p =.768). This signifies that group 3, the mix group, had the highest total uptake. Group 2, the L2 group follows next. Group 1, the L1 group, had the lowest uptake in total.

The relationship between students' uptake and the activity mainly done in class

Research question 5 is: Is there any difference in the quantity of uptake depending on the type of activity carried out in class? To answer research question 5, the differences in the amount of uptake depending on the activities carried out in class were examined. Among all 11 junior high school classes, four classes were selected, where the main language used in class was the same, but the activity was different in each class. Classes 4, 6, 9, and 11 were selected because the main language used in these classes was L2, but different types of activities were seen in each class. The class description is in Table 47.

Table 47
Characteristics of Junior High School Groups with Different Activities

Group	Classes	Characteristics
Group 1 (Task group)	Class 4 Class 11	The main activity was language learning task
Group 2 (Translation group)	Class 6	The main activity was grammar instruction and translation
Group 3 (Drill group)	Class 9	The main activity was drill

Note. Group 1, n = 32; Group 2, n =30; Group 3, n = 13.

Tables 48, 49, 50, and 51 show the descriptive statistics of uptake depending on each group.

Table 48
Descriptive Statistics for the Vocabulary Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	109	3.41	1.70	2.79	4.02
Group 2	102	3.40	1.57	2.81	3.99
Group 3	47	3.62	1.98	2.42	4.81

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* =30; Group 3 (Drill group), *n* = 13.

Table 49
Descriptive Statistics for the Sentence Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	80	2.50	0.88	2.18	2.82
Group 2	16	0.53	0.51	0.34	0.72
Group 3	18	1.38	0.65	0.99	1.78

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* =30; Group 3 (Drill group), *n* = 13.

Table 50
Descriptive Statistics for the Grammar Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	15	0.47	0.51	0.29	0.65
Group 2	12	0.40	0.50	0.21	0.59
Group 3	7	0.54	0.52	0.22	0.85

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* =30; Group 3 (Drill group), *n* = 13.

For vocabulary uptake shown in Table 48, the mean of group 1 (*task* group) is 3.41

(*SD* = 1.70), and that of group 2 (*translation* group) is 3.40 (*SD* =1.57). The mean of group 3 (*drill* group) is 3.62 (*SD* = 1.98), and this is the highest among the three groups.

Table 51
Descriptive Statistics for the Total Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	204	6.38	1.77	5.74	7.01
Group 2	130	4.33	1.79	3.67	5.00
Group 3	72	5.54	2.11	4.27	6.81

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* =30; Group 3 (Drill group), *n* = 13.

In sentence uptake shown in Table 49, the mean of group 1 is 2.5 (*SD* = 0.88), which is the highest among the three groups. The mean of group 2 is 0.53 (*SD* = 0.51), and that of group 3 is 1.38 (*SD* =0.65).

Grammar uptake is shown in Table 50. The mean of group 3 is 0.54 (*SD* = 0.52), which is the highest of the three groups. The mean of group 1 is 0.47 (*SD* = 0.51) and that of group 2 is 0.40 (*SD* = 0.50).

In total uptake, the mean of group 1 is 6.38 (*SD* =1.77), which is the highest among the three groups. The mean of group 2 is 4.33 (*SD* = 1.79), and that of group 3 is 5.54 (*SD* = 2.11). A Kruskal-Wallis Test was conducted to examine whether the differences in uptake exist among three groups with different activities. Depending variables are vocabulary, sentence, grammar uptake, and independent variable is 3 groups.

A Kruskal-Wallis Test revealed no statistically significant difference in both vocabulary uptake and grammar uptake across the three different groups (χ^2 (2 *N* = 75) = .323, *p* =.851; χ^2 (2 *N* = 75) = .745, *p* =.689). A significant difference was seen in sentence uptake across the three different groups, (χ^2 (2 *N* = 75) = 51.919, *p* =.000), and in total uptake, (χ^2 (2 N = 75) = 14.37, *p* =.001). The distributions of uptake scores for the results of the Kruskal–Wallis test are shown in Figures 19, 20, 21, and 22 in Appendix F.

To examine which of the groups were statistically significant in sentence uptake and total uptake, Mann-Whitney U tests between pairs of groups were done. Table 52 shows the results.

For sentence uptake, the results of the pairwise comparison show a significant difference between group 1 (M = 2.50, SD = 0.88) and group 2 (M = 0.53, SD = 0.51), between group 1 and group 3 (M = 1.38, SD = 0.65), and between group 2 and group 3. Based on the descriptive statistics, the mean of group 1 is 2.50, and this is higher than the other groups. This signifies that group 1, the *task* group, had the highest sentence uptake. Group 3, the *drill* group follows next.

Table 52
The results for the Mann-Whitney U test between Groups with Different Activity

	Group 1 and 2	Group 1 and 3	Group 2 and 3
Sentence uptake	U = 219.50, p =.000, r = -.48	U = 69.0, p =.000, r = -.56	U = 71.0, p =.001, r = -.55
Total uptake	U = 16.0, p =.000, r = -.87	U = 143.0, p =.095, r = -.25	U = 143.50, p =.175, r = -.21

For total uptake, a significant difference was seen between group 1 (M = 6.38, SD = 1.77) and group 2 (M = 4.33, SD = 1.79), while no difference was seen between group 1 and group 3 (M = 5.54, SD = 2.11), and between group 2 and group 3 (p =.175). Based on the descriptive statistics, the mean of group 1 is 6.38 (SD = 1.77) and this is higher than that of group 2, 4.33 (SD = 1.79) and group 3, 5.54 (SD =2.106). Group 1, the *task* group, had higher uptake than the other activity groups.

Senior High School Uptake Results

This section shows the results of the analysis for the senior high school classes. The results will be stated based on: a) corpus data, and b) the Kruskal–Wallis tests, which is the

same as for the junior high school classes.

Corpus compiled from 11 classes

The corpus data of the senior high school classes is shown in Tables 53 and 54. The description of utterances both by the teacher and the students in the data from all 11 transcribed classes is presented. Based on the results of this corpus data, the classes for the analysis were selected.

The relationship between students' uptake and the language mainly used in class

The amount of uptake in classes where the main language used was different was examined. To exclude variables other than the language used in class, classes where different languages were used but the activity done in each class was the same were selected from 11 classes. Looking at the corpus data constructed by the author (Tables 53, 54), the activity in Class 2, 4, 6, and 9 was the same, *task*, but there was a variety in the use of the main language. Therefore, these four classes, Class 2, 4, 6 and 9, were selected for the analysis. Looking at Table 53, in classes 4 and 6, the tokens of 'teacher English' were 1993 (class 4) and 2191 (class 6), which is larger than for the other selected classes. In class 2, the token of 'teacher English' was 51, and that of 'teacher Japanese' was 410. In class 2, Japanese was the main language used by the teacher. Therefore, the classes are classified into three groups and the characteristics of all groups are provided in Table 55.

Table 53

Types and Tokens of Classroom Utterances in Senior High School Classes

			Overall		Read aloud		Translation		Explanation		Listening		Presentation		Practice (Drill)		Practice (Task)		Oral introdution		warm up, consolidation		others	
ID	Speaker	Language	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token
	Teacher	English	138	262	92	152	0	0	8	8	0	0	30	56	0	0	0	0	0	0	3	3	13	51
	Student	English	120	197	92	152	10	16	0	0	0	0	15	26	0	0	0	0	0	0	3	3	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 1	Teacher	Japanese	599	1229	0	0	261	631	133	249	0	0	117	206	0	0	0	0	0	0	20	41	68	102
	Student	Japanese	54	65	0	0	29	38	10	11	0	0	6	7	0	0	0	0	0	0	9	9	0	0
	Teacher	Mix	191	370	0	0	71	127	54	85	0	0	66	154	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
	Teacher	English	51	51	22	22	0	0	0	0	0	0	1	1	0	0	29	29	0	0	0	0	0	0
	Student	English	120	252	28	47	0	0	0	0	0	0	0	0	0	0	92	205	0	0	0	0	0	0
	CD	English	109	555	0	0	0	0	0	0	109	555	0	0	0	0	0	0	0	0	0	0	0	0
Class 2	Teacher	Japanese	194	410	0	0	0	0	32	58	0	0	57	89	0	0	0	0	0	0	12	12	93	251
	Student	Japanese	11	11	0	0	0	0	0	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	95	151	0	0	0	0	64	92	0	0	31	59	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	343	696	99	212	0	0	76	176	0	0	41	66	38	92	0	0	33	52	8	13	48	85
	Student	English	81	170	24	54	0	0	1	1	0	0	12	20	37	88	0	0	0	0	7	7	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 3	Teacher	Japanese	614	1817	0	0	0	0	223	789	0	0	138	474	15	15	0	0	47	99	86	152	105	288
	Student	Japanese	60	114	0	0	0	0	28	67	0	0	6	6	13	13	0	0	0	0	13	28	0	0
	Teacher	Mix	91	160	0	0	0	0	57	89	0	0	34	71	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	755	1993	212	615	0	0	92	403	0	0	94	160	0	0	249	620	81	140	6	8	21	47
	Student	English	417	1991	208	1567	0	0	0	0	0	0	31	40	0	0	173	379	1	1	4	4	0	0
	CD	English	205	390	0	0	0	0	0	0	205	390	0	0	0	0	0	0	0	0	0	0	0	0
Class 4	Teacher	Japanese	21	26	0	0	0	0	0	0	0	0	21	26	0	0	0	0	0	0	0	0	0	0
	Student	Japanese	32	44	0	0	0	0	6	15	0	0	2	2	0	0	24	27	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	174	438	15	33	0	0	0	0	0	0	151	319	36	77	0	0	0	0	0	0	0	0
	Student	English	59	108	17	33	0	0	0	0	0	0	17	19	28	37	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 5	Teacher	Japanese	813	1781	0	0	188	418	176	383	0	0	373	752	0	0	0	0	0	14	21	67	62	161
	Student	Japanese	33	48	0	0	33	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	128	228	0	0	0	0	0	0	0	0	128	228	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	821	2191	232	618	0	0	75	282	0	0	154	303	0	0	264	748	22	54	19	28	55	158
	Student	English	368	2760	232	1904	0	0	76	92	0	0	53	57	0	0	227	674	0	0	12	33	0	0
	CD	English	226	445	0	0	0	0	0	0	226	445	0	0	0	0	0	0	0	0	0	0	0	0
Class 6	Teacher	Japanese	8	9	0	0	0	0	0	0	0	0	8	9	0	0	0	0	0	0	0	0	0	0
	Student	Japanese	22	32	0	0	0	0	22	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	36	74	0	0	19	31	0	0	0	0	17	43	0	0	0	0	0	0	0	0	0	0
	Student	English	24	27	0	0	0	0	2	2	0	0	0	0	22	25	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 7	Teacher	Japanese	469	1362	0	0	54	95	106	293	0	0	164	652	91	206	0	0	0	0	17	42	37	74
	Student	Japanese	36	47	0	0	13	16	0	0	0	0	17	25	6	6	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	47	77	0	0	0	0	14	18	0	0	23	44	10	15	0	0	0	0	0	0	0	0
	Student	English	26	26	0	0	0	0	15	15	0	0	4	5	6	6	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 8	Teacher	Japanese	418	1184	0	0	0	0	149	398	0	0	213	686	34	51	0	0	0	0	0	0	22	49
	Student	Japanese	11	11	0	0	0	0	0	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	44	55	0	0	0	0	11	16	0	0	33	39	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	420	1226	112	178	0	0	95	393	0	0	119	463	0	0	61	121	33	71	0	0	0	0
	Student	English	160	349	103	228	0	0	0	0	0	0	13	14	0	0	44	107	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 9	Teacher	Japanese	577	1344	0	0	0	0	101	326	0	0	344	795	0	0	24	41	47	74	17	32	44	76
	Student	Japanese	95	144	0	0	0	0	17	23	0	0	50	91	0	0	24	26	0	0	4	4	0	0
	Teacher	Mix	76	116	0	0	0	0	0	0	0	0	76	116	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	380	654	86	138	85	174	6	9	0	0	75	134	54	84	0	0	0	0	22	42	52	73
	Student	English	169	389	91	273	16	20	17	28	0	0	15	25	18	25	0	0	0	0	12	18	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class 10	Teacher	Japanese	628	1160	0	0	118	219	145	278	0	0	153	294	101	183	0	0	0	0	22	51	89	135
	Student	Japanese	184	255	0	0	47	72	23	35	0	0	73	97	27	29	0	0	0	0	14	22	0	0
	Teacher	Mix	75	96	0	0	22	27	33	40	0	0	0	0	20	29	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Teacher	English	232	534	232	529	0	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0
	Student	English	349	1260	349	1260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CD	English	129	204	0	0	0	0	0	0	129	204	0	0	0	0	0	0	0	0	0	0	0	0
Class 11	Teacher	Japanese	365	658	0	0	0	0	45	65	0	0	129	239	0	0	0	0	54	86	41	67	106	201
	Student	Japanese	193	351	0	0	0	0	72	131	0	0	86	162	0	0	0	0	0	0	25	48	10	10
	Teacher	Mix	0	0	0	0	0	0	103	159	0	0	105	184	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note. Type = a word form; Token = an occurrence of any given word.

Table 54

Types and Tokens for Directions, Questions, Feedback, Responses, and Initiations in Senior High School Classes

			Direction		Question		Feedback		Response		Student initiation	
ID	Speaker	Language	Type	Token	Type	Token	Type	Token	Type	Token	Type	Token
	Teacher	English	11	19	15	15	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	4	4	5	5
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 1	Teacher	Japanese	54	72	139	231	31	36	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	47	55	0	0
	Teacher	Mix	0	0	39	59	6	6	0	0	0	0
	Student	Mix	0	0	0	0	0	0	3	3	0	0
	Teacher	English	0	0	0	0	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 2	Teacher	Japanese	62	115	11	11	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	26	28	30	55	11	13	0	0	0	0
	Student	English	0	0	0	0	0	0	9	9	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 3	Teacher	Japanese	124	215	104	158	11	11	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	12	12	0	0
	Teacher	Mix	15	15	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	71	133	126	216	36	47	0	0	0	0
	Student	English	0	0	0	0	0	0	67	87	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 4	Teacher	Japanese	0	0	0	0	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	17	22	33	57	21	32	0	0	0	0
	Student	English	0	0	0	0	0	0	21	32	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 5	Teacher	Japanese	71	115	90	175	1	1	10	14	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	102	199	129	309	76	106	50	63	0	0
	Student	English	0	0	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 6	Teacher	Japanese	0	0	0	0	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	0	0	0	0	5	5	0	0	0	0
	Student	English	0	0	0	0	0	0	15	18	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 7	Teacher	Japanese	36	65	37	68	1	1	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	9	16	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	0	0	0	0	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	17	21	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 8	Teacher	Japanese	54	106	29	43	8	10	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	8	8	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	60	80	128	279	6	7	45	73	0	0
	Student	English	0	0	1	1	0	0	28	32	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 9	Teacher	Japanese	45	65	60	70	0	0	46	62	0	0
	Student	Japanese	0	0	26	49	0	0	16	16	7	8
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	29	39	94	187	18	22	0	0	0	0
	Student	English	0	0	0	0	0	0	44	65	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 10	Teacher	Japanese	95	154	113	177	10	15	0	0	0	0
	Student	Japanese	0	0	25	28	0	0	37	54	0	0
	Teacher	Mix	8	8	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0
	Teacher	English	0	0	0	0	0	0	0	0	0	0
	Student	English	0	0	0	0	0	0	0	0	0	0
	CD	English	0	0	0	0	0	0	0	0	0	0
Class 11	Teacher	Japanese	158	340	0	0	0	0	0	0	0	0
	Student	Japanese	0	0	0	0	0	0	0	0	0	0
	Teacher	Mix	0	0	0	0	0	0	0	0	0	0
	Student	Mix	0	0	0	0	0	0	0	0	0	0

Note. Type = a word form; Token = an occurrence of any given word.

Table 55
Characteristics of Senior High School Groups with Different Language Use

Group	Classes	Characteristics
Group 1 (L1 group)	Class 2	The main language the teacher used was L1
Group 2 (L2 group)	Class 4, Class 6	The main language the teacher used was L2
Group 3 (Mix group)	Class 9	Teachers used comparatively equal amount of English and Japanese

Note. Group 1, *n* =32; Group 2, *n* = 34; Group 3, *n* = 15.

Tables 56, 57, 58, and 59 show the descriptive statistics for the frequency of vocabulary uptake, sentence uptake, grammar uptake and total uptake in each group.

Table 56
Descriptive Statistics for the Vocabulary Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	58	1.81	0.69	1.56	2.06
Group 2	133	3.91	1.24	3.48	4.34
Group 3	66	4.40	2.10	3.24	5.56

Note. Group 1 (L1 group), *n* =32; Group 2 (L2 group), *n* = 34; Group 3 (Mix group), *n* = 15.

Table 57
Descriptive Statistics for the Sentence Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	40	1.25	0.72	0.99	1.51
Group 2	70	2.06	0.55	1.87	2.25
Group 3	5	0.33	0.62	-0.01	0.68

Note. Group 1 (L1 group), *n* =32; Group 2 (L2 group), *n* = 34; Group 3 (Mix group), *n* = 15.

For vocabulary uptake shown in Table 56, the mean of group 3 (mix group) is 4.40 (*SD* = 2.10), and it was the highest among the three groups. The mean of group 2 (L2 group) is 3.91 (*SD* = 1.24), and that of group 1 (L1 group) is 1.81 (*SD* =0.69).

Table 58
Descriptive Statistics for the Grammar Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	2	0.06	0.25	-0.03	0.15
Group 2	9	0.26	0.45	0.11	0.42
Group 3	11	0.73	0.46	0.48	0.99

Note. Group 1 (L1 group), *n* =32; Group 2 (L2 group), *n* = 34; Group 3 (Mix group), *n* = 15.

Table 59
Descriptive Statistics for the Total Uptake for Kruskal-Wallis Tests in Different Language Use Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	100	3.13	1.07	2.74	3.51
Group 2	212	6.24	1.44	5.74	6.74
Group 3	82	5.47	2.59	4.03	6.90

Note. Group 1 (L1 group), *n* =32; Group 2 (L2 group), *n* = 34; Group 3 (Mix group), *n* = 15.

For sentence uptake shown in Table 57, the mean of group 2 is 2.06 (*SD* =0.55), which was the highest among the three groups. The mean of group 1 is 1.25 (*SD* = 0.72), and that of group 3 is 0.33 (*SD* =0.62).

Grammar uptake is shown in Table 58. The mean of group 3 is 0.73 (*SD* = 0.46), which is the highest of the three groups. The mean of group 2 is 0.26 (*SD* = 0.45) and that of group 1 is 0.06 (*SD* = 0.25).

For total uptake, the mean of group 2 is 6.24 (*SD* =1.44), which is the highest among the three groups. The mean of group 3 is 5.47 (*SD* =2.59) and that of group 1 is 3.13 (*SD* = 1.07).

To compare the differences in the amount of vocabulary uptake, sentence uptake, and grammar uptake, the Kruskal–Wallis test was used and examined whether there were

differences in students' uptake depending on the language mainly used in class. The independent variables are groups, and dependent variables are vocabulary uptake, sentence uptake, and grammar uptake.

The results of the Kruskal-Wallis test conducted to evaluate the differences among the three groups (L1 group, L2 group, and mix group) showed a significant difference in all uptake: in vocabulary uptake, χ^2 (2 N = 81) = 44.036, p =.000, in sentence uptake, χ^2 (2 N = 81) = 41.717, p =.000, and in grammar uptake, χ^2 (2 N = 81) = 22.958, p =.000. Also, a significant difference was seen in total uptake χ^2 (2 N = 81) = 42.35, p =.000. Figures 23, 24, 25, and 26 in Appendix F show the distributions of scores of the Kruskal–Wallis test.

Using a Mann-Whitney U test, follow-up tests were conducted to evaluate the pairwise differences among the three groups. Table 60 shows the results.

Table 60
The results for the Mann-Whitney U test between Groups with Different Language Use

	Group 1 and 2	Group 1 and 3	Group 2 and 3
Vocabulary uptake	U = 74.5, p =.000, r = -.76	U = 38.50, p =.000, r = -.70	U = 240.0, p =.735, r = -.05
Sentence uptake	U = 222.0, p =.000, r = -.57	U = 205.5, p =.000, r = -.55	U = 21.0, p =.000, r = -.81
Grammar uptake	U = 434.0, p = .029, r = -.27	U = 79.0, p =.000, r = -.69	U = 135.5, p =.002, r = -.44
Total uptake	U = 44.0, p = .000, r = -.80	U = 97.0, p =.001, r = -.49	U = 181.0, p =.102, r = -.23

For vocabulary uptake, the results of the pairwise comparison show a significant difference between group 1 (M = 1.81, SD = 0.69) and group 2 (M = 3.91, SD = 1.24), and between group 1 and group 3 (M = 4.40, SD = 2.1), but no significant difference between group 2 and group 3. Looking at the descriptive statistics, the mean of group 3 is 4.40, and that of group 2 is 3.91. These results signify that vocabulary uptake tends to be higher in group 2 (L2 group) and 3 (mix group) than group 1 (L1 group).

In sentence uptake, a significant difference was seen between all pairs: between

group 1 (*M* = 1.25, *SD* = 0.72) and group 2 (*M* = 2.06, *SD* = 0.55), between group 2 and group 3 (*M* = 0.33, *SD* = 0.62), and between group 1 and 3. With the descriptive statistics, the mean in group 2 is 2.06, and that of group 1 is 1.25. These results signify that group 2, the L2 group, had the highest sentence uptake and group 1, the L1 group, follows.

For grammar uptake, the results of the pairwise comparison show that group 3, the mix group, had the highest grammar uptake. A significant difference was seen between group 1 (*M* = 0.06, *SD* = 0.25) and group 2 (*M* = 0.26, *SD* = 0.45), between group 1 and group 3 (*M* = 0.75, *SD* = 0.46), and between group 2 and group 3. The mean of grammar uptake in group 3 is 0.73, and this is higher than that of group 1, (0.06) and group 2, (0.26). These results imply that group 3, the mix group, had the highest result in grammar uptake.

For total uptake, the results of the pairwise comparison show that group 2, the L2 group, had the highest uptake. A significant difference was seen between group 1 (*M* = 3.13, *SD* = 1.07) and group 2 (*M* = 6.24, *SD* = 1.44), and between group 1 and group 3 (*M* = 5.47, *SD* = 2.59). No significant difference was seen between group 2 and group 3.

The relationship between students' uptake and the activity mainly done in class

The differences in the amount of uptake depending on the activities carried out in senior high school classes were examined. Among all 11 senior high school classes, there were four classes where the main language used in class was the same, the L1, but the activity was different in each class. Thus, Classes 1, 2, 3 and 5 were selected to be analysed. The class description is in Table 61.

Tables 62, 63, 64, and 65 are the descriptive statistics for the uptake depending on each group.

Table 61
Characteristics of Senior High School Groups with Different Activities

Group	Classes	Characteristics
Group 1 (Task group)	Class 2	The main activity was language learning task
Group 2 (Translation group)	Class 1 Class 5	The main activity was grammar instruction and translation
Group 3 (Drill group)	Class 3	The main activity was drill

Note. Group 1, *n* = 32; Group 2, *n* = 48; Group 3, *n* = 26.

Table 62
Descriptive Statistics for the Vocabulary Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	94	2.94	1.92	2.25	3.63
Group 2	142	2.90	1.96	2.33	3.46
Group 3	70	2.62	1.16	2.22	3.16

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* = 48; Group 3 (Drill group), *n* = 26.

Table 63
Descriptive Statistics for the Sentence Uptake for Kruskal-Wallis Tests in different activity groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	40	1.25	0.72	0.99	1.51
Group 2	17	0.35	0.52	0.20	0.50
Group 3	19	0.73	0.72	0.44	1.02

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* = 48; Group 3 (Drill group), *n* = 26.

For vocabulary uptake shown in Table 62, the mean of group 1 (*task* group) is 2.94 (*SD* = 1.92), and that of group 2 (*translation*) is 2.90 (*SD* =1.96). The mean of group 3 (*drill*) is 2.62 (*SD* = 1.16), and this is the lowest among the three groups.

Table 64
Descriptive Statistics for the Grammar Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	27	0.84	0.57	0.64	1.05
Group 2	44	0.90	0.71	0.69	1.1
Group 3	14	0.54	0.51	0.33	0.74

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* = 48; Group 3 (Drill group), *n* = 26.

Table 65
Descriptive Statistics for the Total Uptake for Kruskal-Wallis Tests in Different Activity Groups

				95%CI	
Group	Uptake total	*M*	*SD*	Lower Bound	Upper Bound
Group 1	161	5.03	2.46	4.15	5.92
Group 2	203	4.14	2.26	3.49	4.79
Group 3	103	3.96	1.37	3.41	4.52

Note. Group 1 (Task group), *n* = 32; Group 2 (Translation group), *n* = 48; Group 3 (Drill group), *n* = 26.

In sentence uptake shown in Table 63, the mean of group 1 is 1.25 (*SD* =0.72), which is the highest among the three groups. The mean of group 2 is 0.35 (*SD* = 0.52), and that of group 3 is 0.73 (*SD* =0.72).

Grammar uptake is shown in Table 64. The mean of group 2 is 0.90 (*SD* = 0.71), which is the highest of the three groups. The mean of group 1 is 0.84 (SD = 0.57) and that of group 3 is 0.54 (SD = 0.51).

In total uptake shown in Table 65, the mean of group 1 (Language learning task group) is 5.03 (SD = 2.46), which is the highest among the three groups. The mean of group 2 is 4.14 (*SD* = 2.26), and that of group 3 is 3.96 (*SD* = 1.37).

Next, a Kruskal-Wallis Test was conducted to examine whether differences in uptake exist among the three groups with different activities. The dependent variables are

vocabulary, sentence, and grammar uptake, and independent variables are the 3 groups.

A Kruskal-Wallis Test revealed no statistically significant difference in vocabulary uptake, χ^2 (2 N = 107) = .000, p = 1.000, grammar uptake, χ^2 (2 N = 107) = 5.170, p =.075, and total uptake χ^2 (2 N = 107) = 2.746, p = .253. In sentence uptake, a significant difference was seen across the three different groups, χ^2 (2 N = 107) = 29.731, p =.000. Figures 27, 28, 29, and 30 in Appendix F show the distributions of scores in the Kruskal-Wallis Test.

To examine which of the groups were statistically significant in sentence uptake, Mann-Whitney U tests were also administered to compare the results. Table 66 shows the results.

Table 66
The results for the Mann-Whitney U test between Groups with Different Activity in Sentence Uptake

	U	*p*	*r*
Group 1 and 2	279.5	0.00	-0.59
Group 1 and 3	252.5	0.005	-0.37
Group 2 and 3	444.5	0.014	-0.29

As for sentence uptake, the results of the pairwise comparison show a significant difference between group 1 (M = 1.25, SD = 0.72) and group 2 (M = 0.35, SD = 0.5), between group 1 and group 3 (M = 0.73, SD = 0.72), and between group 2 and group 3. Based on the descriptive statistics, the mean of group 1, 1.25 is higher than the other groups. This signifies that group 1, the *task* group, had the highest sentence uptake. Group 3, the *drill* group follows next.

Qualitative Results

The results of vocabulary and sentence uptake in junior high school classes were

almost identical to those of senior high school classes; however, different perspectives can be given to grammar uptake. Therefore, qualitative consideration is required for grammar uptake. Table 67 shows the grammar uptake which the largest number of students wrote in the uptake chart among all types of grammar uptake and the extracted utterances which elicited the uptake.

In the junior high school, Class 10, 18 students out of 23 students wrote that they understood how to make interrogative sentences. Table 67 shows that the teacher used not only the L1 but also the L2 or mix to explain interrogative sentences. The total number of tokens in the teacher's utterances in this class was 1476 (Total English utterances, 402; total Japanese utterances, 922; and total mix utterances, 152) in Table 39. The number of L1 tokens which elicited this 'Grammar uptake' was 152 and this is about 10.3 % of the teacher's total tokens, and 16.5% of the teacher's total L1 tokens.

Table 67 *The Largest Grammar Uptake and the Teacher's Utterances Which Elicited the Uptake*

Class	Class size	Main language used in class	Grammar uptake	Uptake	L1	L2	Mix
Junior high school Class 10	23 students	L1	How to make interrogative sentences (this is→is this)	18	152	95	88
Senior high school Class 9	22 students	L1, L2 mix	Passive sentence and active sentence	9	134	111	52

Note. L1 = The tokens of extracted teacher's L1 utterances concerning the uptake; L2 = The tokens of extracted teacher's L2utterances concerning the uptake; Mix = The tokens of extracted teacher's mix utterances concerning the uptake; Grammar uptake = The grammar uptake written by the largest number of students among all types of grammar uptake; Uptake = The number of students who wrote the Grammar uptake in the uptake chart.

The number of L2 tokens which elicited the uptake was 95 and this is 6.4% of the total teacher's utterances, and 23.6 % of the teacher's total L2 utterances. The number of mix tokens which elicited the uptake was 88, and this is 6 % of the teacher's total tokens and

57.9 % of the teacher's total mix utterances. This implies that even in an L1-dominant class, students' grammar uptake is facilitated not only by the teacher's L1 utterances but by the L2 or mix utterances as well.

Moreover, looking at senior high school Class 9, the L1 tokens which elicited the 'Grammar uptake,' passive and active sentences, was 134 and this is 5 % of the teacher's total tokens, 2686 (Total English utterances, 1226; total Japanese utterances, 1344; and total mix utterances, 116 from the data in Table 53) or 9.9% of the teacher's total L1 tokens. The number of L2 tokens which elicited the uptake was 111 and this is 4.1% of the total teacher's utterances and 9.05 % of the teacher's total L2 utterances. The mix tokens which elicited the uptake was 52, and this is 2% of the teacher's total token and 44.8 % of the teacher's total mix utterances.

There are also a few qualitative findings to be mentioned in the interaction between teachers and students, which seem to contribute to students' uptake.

1) Students' utterances initiated by themselves can greatly influence their uptakes. In the part where students' spontaneous utterances took place without being initiated by the teacher, many more uptakes appeared than in other cases. Excerpt 1 and 2 from the episodes show a part of the interaction between the teacher and some students. These excerpts 1 and 2 were both initiated by students. In excerpt 1, there is the students' uptake without the teacher's feedback, while in excerpt 2, there is the students uptake with the teacher's corrective feedback. The underlined statements by the students show their uptakes. In excerpt 1, the teacher explains what 'doubt' means. In excerpt 2, the teacher tries to explain the use of 'Do'. The underlined utterances are initiated by students themselves.
2) In episodes where teachers emphasized their explanation, more students' uptakes tended to appear. (see excerpt 3)

3) Students tend to uptake the words or phrases which they underline following the teachers' initiation to do so. Some teachers write what they want to emphasize on the blackboard (see excerpt 4).

Excerpt 1

Line 1, T: Next word, 'doubt'. This means not trusting, SHINYOU SHINAI KOTO.

(The meaning of doubt is not trusting.)

Line 2, T: HORA, TORANPU NO 'doubt' MO ONAJI IMI. SHITTERU?

(The card game, 'doubt' has the same kind of meaning, do you know?)

Line 3, S: SHIRANAI. (No, we don't know.)

Line 4, T: For example, 'He said he won the first prize.' 'I doubt it.' TOKA. (Et cetera.)

Did you understand?

Line 5, T: Oh, Hasegawa sensei, (Miss Hasegawa) I think she is younger than 30.

Line 6, S: I doubt it!

Line 7, T: SOU, SOU, SONNNAKANNJI. (Yes, that's right. you understood.)

(Teacher K, senior high school class 9)

In excerpt 1, eight students wrote the word 'doubt' in the uptake chart. The total number of students was 22, which means 38% of the students reported this as uptaken. In the uptake chart, six students out of eight wrote 'I doubt it' and two wrote "doubt it" for their sentence uptakes. Those eight students wrote the word 'doubt' as vocabulary uptake as well.

Excerpt 2

Line 1, T: No. 1, I do like your haircut. KONOBAAI, I like your haircut DEMOIINDAKEDO? SUGOI SUKIDAYO, TOIUTOKINI, I do like your

hairstyle. TOIU.

(I do like your haircut. If you want to emphasize, If you like it very much, you should say ‘I do like your hairstyle.’)

Line 2, T: MOSHI, I did love you. TE IWARETARA, URESHIKA, URESHIKUNAIKA?

(If you are said ‘I did love you,’ are you happy or unhappy?)

Line 3, S: URESHIKUNAI (unhappy)

Line 4, T: Unhappy? Why?

Line 5, S: KAKODAKARA (Because it is past form.)

Line 6, T: SOU, KAKODAKARA. I did love you. HA, WATASHI ANATAWO AISHITETAKEDO, IMAWA CHIGAU, I don’t love you now.

(Yes, right. It is past form. I did love you, this means I do not love you now, it’s all the past.)

Line 7, S: YADANA (so sad).

Line 8, T: Exactly. DEMO IMA SUKIDATTARA NANI GA HAIRU? I, what? love you.

(If you love him now, what do you put in the part?)

Line 9, S: Do

Line 10, T: Right. Do. I do love you.

Line 11, S: Kodaira kun do love old woman!

Line 12, T: Really? Kodaira does love old woman. old woman? KÔCHÔ SENSEI ?

(So, Kodaira loves the principal)?

Line 13, S: CHIGAU, old SUGIRU. (No, she’s too old.)

Line 14, T: middle aged women? middle aged women GASUKINANONE?

Kodairakun does love childlike girls?

(You like middle aged woman? or kodairakun loves childlike girls?)

Line 15, S: SORE ABUNAIDESUYO. (it’s kind of dangerous.)

Line 16, T: Right. Then what? Kodairakun does love…….?

Line 17, S: TOSHIUENO… (older than I am)

Line 18, S: Kodairakun does love older woman!

Line 19, T: OK. older, beautiful young lady NOKOTONE.

(you mean older, beautiful young lady.)

(Teacher F, senior high school class 1)

In excerpt 2, the total number of students was 33 and 22 uptakes of the use of 'do' were reported in this class, which means 66% of the students reported this as uptake. Among the 22 students who reported this as uptake, 18 students wrote 'Kodaira does love old woman.' and 4 students wrote 'does love.' 22 students wrote in the questionnaire that they understood how to use 'do' and 'does' to emphasize a statement. Another class where the teacher introduced this point directly without the students' initiation had only three uptakes. The difference in the number of uptakes (22 vs. 3) was maybe due to the combination of the teachers' explanation and the students' self-initiated utterances of the sentence using 'do'.

Excerpt 3

Line 1, T: TATOEBANE, Ms. Sharon is angry, SENSEIGA Sharon NI HIDOIKOTO SHITE, NAKANAORI SHITAITOKINI KOUIIMASU.

(For example, Ms. Sharon (assistant teacher) is angry because I did some bad things to her. if I want to make it up, I should say like this.)

Line 2, T: Sharon, I'm so sorry. I apologize to you for what I have done to you. Then, Sharon says?

Line 3, T: I accept your apology.

Line 4, T: I accept your apology.

Line 5, T: KOREGA ‘accept apology’ DESU.

(This is what ‘accept apology’ means.)

(Teacher H, senior high school class 3)

In excerpt 3, the teacher repeatedly explains the word ‘apology’ using rhythm to emphasize the meaning of the word. Additionally, the teacher tried to explain ‘accept apology.’ Twelve uptakes of the use of ‘accept’ and 10 uptakes of ‘apology’ were seen in this class as vocabulary uptake. Among those, seven students reported both ‘accept’ and ‘apology’ as uptake. The total number of students was 26, which means that about 40% of the students in this class reported these as uptake.

Excerpt 4

Line 1, T: Little, less least. little NO HIKAKUKYUU, SAIJYOUKYU GA less, least NINARIMASU. (comparative and superlative are less, least.)

Please underline those words, little, less, least.

Line 2, T: OK? Little, less, least.

(Teacher wrote ‘Little, less, least’ on the blackboard.)

(Teacher D, junior high school class 4)

In excerpt 4, the teacher had students underline the important words trying to emphasize these words. Nineteen students out of 27 reported uptake of ‘little, less, least.’ in this class.

As shown in the above excerpts, utterances initiated by students and teachers’ input enhancement like emphasized explanation and direction to underline a certain words or phrases were considered to contribute to students’ uptake.

Chapter 5

Discussion

In this chapter, I will discuss the results presented in the previous chapter and point out some points worth noting based on several excerpts from the transcriptions of the classroom interaction. Before doing so, I would like to review the research questions and summarize the findings.

Answers to Research Questions

Answers to Research Questions 1, 2, and 3 and Discussion of University Research

Research Question 1: Will learners' uptake lead to their learning?

Results:

According to the results of the one-way repeated measures ANOVA conducted to evaluate the effect of the activities (*drill*, *task*, and *translation*) on the pre-test, post-test, and delayed post-test in University Research, the main effects of all tests were significant. These results show that students' scores improved in all the classes where *drill*, *task*, and *translation* were carried out. Moreover, there was a strong positive relationship between 'uptake' written by the participants in the uptake chart and actual uptake seen in the transcriptions (see Table 19). Considering these results, the students' written uptake in the uptake chart was shown to be learned and their uptake leads to learning although their learning may not become acquisition.

Research Question 2: Which language of instruction (L1 or L2) is more effective to facilitate learners' uptake and learning?

Results:

The results of a two-way repeated-measures ANOVA in University Research revealed which language was effective for vocabulary, sentence, grammar, and total uptake. With the vocabulary uptake, the mean of the L2 scores was significantly higher than the mean of the L1 scores on the three tests (p <.001, r =.89). For sentence uptake, the mean of the L2 scores was significantly higher than the mean of the L1 scores (p <.001, r =.77), and with the total uptake, the mean of the L2 scores was significantly higher than the mean of the L1 scores (p <.001, r =.92). These results provided the evidence that, regardless of the activities conducted in class, using the target language (L2) was more effective than using the shared language with the students (L1), while for grammar uptake, the language main effect was not significant. Thus, there was no statistical difference in the effects of using the L2 and the effects of using the L1.

Research Question 3: Which activity is the most effective to facilitate learners' uptake and learning?

Results:

According to the results of a two-way repeated measures ANOVA in University Research, with the vocabulary uptake, the mean for *task* was significantly higher than the mean for *translation* (p <.001, r =.88). Also, the mean for *task* tended to be significantly higher than the mean for *drill*, (p =.069 (p <.10), r =.29). With sentence uptake, the mean for *task* was significantly higher than the mean for *drill* (p <.001, r =.84), and the mean for *task* was also significantly higher than the mean for *translation* (p <.001, r =.83). With grammar uptake, the mean for *task* was significantly higher than the mean for *drill* (p <.001, r =.56), and the mean for *task*

was also significantly higher than the mean for *translation* (p <.001, r =.59). Moreover, in total uptake, the mean for *task* was significantly higher than the mean for *drill* (p <.001, r =.65), and the mean for *task* was significantly higher than the mean for *translation* (p <.001, r =.86). Considering these results, it is *task* that was the most effective among the three activities.

In University Research, the effects of the languages mainly used and the activity mainly conducted in class were examined. To evaluate and compare the effects of languages and activities, a two-way repeated-measures ANOVA was conducted. To examine the effects of the two languages, the L1 and the L2 were compared and tested with all types of uptake. The mean of the L2 scores was significantly higher than the mean of the L1 scores in vocabulary, sentence, and total uptake, while in grammar uptake, there was no significant difference between the L1 and the L2. This means using the L2 is more effective than using the L1 to facilitate vocabulary, sentence, and total uptake. However, to facilitate grammar uptake, no statistical difference was seen between using the L1 and using the L2, which means that there would be little difference in using the L1 or the L2 when teaching grammar. This means that both the L1 and the L2 have roles in teaching grammar.

To evaluate the effects of three activities, *task*, *translation*, and *drill* were compared and tested. In all types of uptake, the mean for *task* was significantly higher than that of *drill* and *translation*, which means *task* was the most effective activity among the three activities. *Translation* was the least effective among three activities. Translation activity is teacher-initiated, and students had few opportunities to initiate themselves nor actively use the L2. These could be the reasons why the translation activity was least effective.

For vocabulary uptake, the results of the comparison between the mean for *task* and

the mean for *drill* were significant ($t(39) = 1.87$, $p = .069$, $r = .29$). Statistically, the mean for *task* was not significantly higher because the *p* value was higher than .05; however, it can be said that the mean for *task* tended to be higher than the mean for *drill*. Therefore, *Task* can be said to be the most effective. Considering the results above, using the L2 in *task* is more effective to facilitate all types of uptake than with other activities. However, the delayed post-test results showed that the gains were not sustained for all students. Thus, those forms may have been learned, but they weren't fully acquired.

Answers to Research Questions 4 and 5 and Discussion of Junior and Senior High School Research

Research Question 4: Is there any difference in the quantity of uptake depending on the type of language mainly used in class?

Results:

> The answers can be stated based on the results from Junior and Senior High School Research. In junior high school, the result of a Kruskal-Wallis Test showed that there was a difference in the quantity of uptake in vocabulary ($p = .000$), in sentence ($p = .001$), in grammar ($p = .046$), and in total ($p = .000$). Also, the results of Kruskal-Wallis Test in senior high school classes showed that significant differences were seen in all uptake: vocabulary uptake, sentence uptake, grammar uptake, and total uptake ($p = .000$). These results signified that the quantity and quality of students' uptake varied greatly depending on the class context.

Judging from the pairwise comparison tests, in the classes where the L1 and the L2 were equally used, students tended to have more vocabulary uptakes than in other classes.

In the classes where the L2 was a main language, more English sentence uptakes tended to appear than other classes. On the other hand, in classes where the L1 was mainly used, both vocabulary and sentence uptake were the lowest. As for grammar uptake, there was no significant difference depending on the language mainly used in class. Thus, as for teaching grammar, using either language, the L1 and the L2 has a role.

Research Question 5: Is there any difference in the quantity of uptake depending on the type of activity carried out in class?

Results:

> Among the three types of uptake (vocabulary uptake, sentence uptake, and grammar uptake), it was only sentence uptake that showed a statistical difference among the three groups where different activities were done (junior high school, p =.000; senior high school, p =.000). The results of the pairwise comparison and the descriptive statistics in both junior and senior high school classes showed that the language learning task group had a higher sentence uptake than the other groups for *drill* or *translation*. It can be said that the *task* is the most effective to have students get more uptake, namely, sentence uptake, than the other activities of *drill* or *translation*.

In Junior and Senior High School Research, whether there is a difference in the quantity of uptake depending on the main language or the main activity in class was examined using a Kruskal-Wallis Test. Regarding the difference in the quantity of uptake depending on the language, in classes where the main language was the L2 or both the L2 and the L1 were equally used, vocabulary uptake tended to be high. Also, in classes where the L2 was mainly used, sentence uptake tended to be high. On the other hand, in classes where the L1 was mainly used, those two types of uptake tended to be lower than in the

classes where the L2 was mainly used or the L2 and the L1 were equally used. These results signify that depending on the main language used in class, the quantity of students' uptake will be different. If teachers mainly use the L2 in class, students' uptake tends to be higher.

For grammar uptake, the results were different between the junior high school and senior high school classes. In the junior high schools, the classes where the L1 was mainly used had the highest grammar uptake, while in the senior high schools, classes where the L1 and the L2 were equally used had the highest grammar uptake. Looking at Table 45, the differences in mean is not greatly significant. In addition, Table 58 shows that the mean in Group 1 (the main language is the L1) is the lowest. These results imply that the L1 does not strongly affect grammar uptake.

Regarding the difference in the quantity of uptake depending on the activity, it was shown that in classes where Language-learning tasks were mainly done, sentence uptake tended to be high.

Qualitative Considerations

The results in Table 67 show that the L2 and mix utterances as well as the L1 utterances would influence students' grammar uptake. As studies discussed in Chapter 2 suggest, the L1 is used in explicit grammar teaching and the L1 has the role of the learners getting information (e.g., Swain and Lapkin, 2000; Storch and Wigglesworth, 2003; Scott and de la Fuente, 2008). On the other hand, to facilitate learners' uptake, using a mix of L1 and L2 is essential. As Table 67 shows, the percentage of using the L2 when explaining grammar is not low even in the class where the main language used was the L1. These results suggest that using the L1 helps learners get accurate information; however, the L1 may not be the factor that can facilitate students' learning.

As a whole, the results from University Research almost corresponded to those of Junior and Senior High School Research. Using the L2 is more effective than using the L1 to facilitate vocabulary and sentence uptake, and each language, the L1 and the L2, has a different role in facilitating grammar uptake. Also, Language-learning tasks were more effective than drill or translation to enhance all types of uptake.

Compared to Kaneko's (1991) results, in the present study, the rate of teachers' mainly using the L1 was much lower than Kaneko's (1991). Also, the result of Kaneko's (1991) study shows that students' L2 utterances are important for vocabulary uptake and also that teachers' mix utterances are effective with regard to grammar. The results of the present study and those of Kaneko's work have these two points in common.

There are many points in common between the results from junior high school and senior high school classes. There are also perspectives in common between University Research and Junior and Senior High School Research. This signifies that regardless of the level of students, the results showed little difference. In both junior high and senior high schools as well as in university, depending on the classroom context, the quantity and quality of uptake varied.

Regarding the activities, it was the language-learning tasks that showed positive effects on students' uptake. Referring to the theories reviewed in Chapter 2, the reasons why *task* was effective should be considered below.

Language-learning tasks are said to require cognitive processing. There are some important points in the features of task that Ellis (2003) introduced: (a) A task can involve any of the four language skills, and (b) A task engages cognitive processes (p.10). Ellis (2003) states that learners need to listen, read a text, and display their understanding. This means four language skills, speaking, listening, reading, and writing, are required to complete a task. Plus, a combination of receptive and productive skills is necessary. As an

explanation of cognitive processes which is required in the completion of a task, Ellis (2003) states that carrying out tasks requires learners to employ cognitive processes and these processes influence the choice of language.

In relation to the cognitive processes in task activities, other researchers (e.g. Prabhu, 1987; Nunan, 1989) pointed out the importance of thought processes in completing the task. Considering the definitions and suggestions of tasks, in addition to practicing the linguistic forms that the learners were taught, cognitive processing is required for the learners to work on the task activities. In short, learners are given the opportunities of actually using the words or grammatical forms that they learned in class, and cognitive processing is required through communication while working on the task. That could be considered as contributing to their uptake.

Ellis (2003) points out that the assessment of task performance must lie in whether learners manifest their language use, which will promote language learning. As Ellis states, the important points to know for language teachers is that the real goal of the task is not to have learners arrive at the successful outcome of the task but to have learners use language that can lead to their learning. When teachers set language learning tasks for the learners, they should pay attention to whether learners, when they perform task activities, are producing language, as this language production is the crucial process in language learning.

Students' initiation played an important role in their own uptakes. The interactions seen in excerpt 1 and 2 show how students' own utterances, the utterances initiated by students, along with teachers' input, helped students' uptake. As Nassaji and Wells (2000) states, IRF exchanges starting with a display question could have the possibility of producing students' initiation if the teacher avoids just giving evaluation but instead tries to encourage students to take an interest in the conversation. There were not so many

utterances initiated by students, and the total types and tokens of student initiation were only a few. Considering the large number of uptakes students wrote, if there should be more interactions which involve students' initiation, more uptake would appear.

As for students' initiation leading to uptakes, two cases were seen in the results. The first case (excerpt 1) was that the students' initiated utterance itself led to uptakes. The other (excerpt 2) was the students' initiated utterances with mistakes corrected by the teachers' corrective feedback which resulted in their uptakes.

Spontaneous utterances initiated by students often occurred in the interaction with teachers. Those utterances had the potential of leading to uptake. For teachers, having interaction using the L2, where students naturally initiate to speak up by themselves, would be important.

In Kaneko's (1991) study, it was students' spontaneous L2 utterances that influenced students' uptakes the most. The results of this study support Kaneko's (1991) results. Without students' spontaneous utterances, students' initiation will not occur. Looking back at the results of the pilot study (Ohashi, 2012), the more teachers' spontaneous L2 utterances were seen, the more students' spontaneous L2 utterances occurred. In order to elicit students' own initiated utterances, teachers' L2 utterances were very much required. What is important to know is when or how students' initiations occur. In the excerpt, the teacher's corrective feedback also initiated students' utterances. Further study is needed to uncover how and when students' initiated utterances occur during interactions. As Ellis (1999) states, learner initiation assists acquisition because it creates opportunities for the negotiation of form. In excerpt 2, a student initiated an utterance by himself and uttered a sentence spontaneously with a grammatical mistake (excerpt 2, line 11). Following the student's utterance, the teacher gave a recast (excerpt 2, line 12). During the negotiation with the teacher, the student finally made a grammatically correct sentence (line 18). This

is a case in which the students' uptake occurred through the teachers' corrective feedback. In addition, it could be said that learners' initiation creates not only negotiation of form, but also learners' interest as well through the interaction with teachers. These results signify that teachers' corrective feedback which leads to students' noticing has a large role to facilitate uptake. Also, excerpts 3 and 4 support the input enhancement theory that certain features should be highlighted so that they become salient and noticeable, proposed by Sharwood Smith (1993).

Observing the data qualitatively, it was revealed that students' initiated utterances and enhanced input by teachers facilitated uptakes. The effect of students' initiated utterances and teachers' input enhancement in class is important for students to have more uptake.

CHAPTER 6

CONCLUSION

This dissertation has investigated whether students' uptake can lead to their learning and the relationship between students' uptakes and the language as well as activities.

The results of University Research showed that students' uptake influences their study and it will lead to learning. Also, using the L2 in class can promote students' vocabulary and sentence uptake, while both the L1 and the L2 have a role for grammar uptake. As for the three activities compared in this study (Language-learning task, Translation, and Drill) Language-learning tasks contributed to students' uptake the most. It is considered that in Language-learning tasks, students have more opportunities of using the L2 through the communication with their classmates than in other activities, which resulted in more exposure to the L2 in class. It is clear that between the pre-test and post-test conducted in University Research, a lot was learned through all three activities. However, there was a drop in scores between the post-test and the delayed post-test. Nonetheless, the delayed post-test scores were still significantly higher than the pre-test scores. Thus, for a number of the students, their learning was sustained.

The results from Junior and Senior High School Research imply that the language and the activities or class work that teachers choose greatly influence students' quantity of uptake. To increase students' L2 uptakes, teachers' continuous L2 use is suggested. In the course of negotiating with teachers, students would come to enjoy more meaningful language use in classes. This could also lead to the realization of communicative language teaching. The frequent use of the L2 should be promoted because the result of this study shows that the more L2 input teachers give to students, the more vocabulary and sentence uptake can be produced.

In relation to grammar uptake, it was shown that using both the L1 and L2 will be necessary because each language has a different role. Using the L1 helps students understand grammar rules, whereas using the L2 is crucial to promote grammar uptake as well. Without using the L2, grammar uptake will not be facilitated. Using the L2 also facilitates students' spontaneous L2 utterances, which leads to uptake.

In addition to the frequent use of the L2, the quality of utterances also seems to be important. Teachers should provide students with input that can trigger students' spontaneous L2 utterances. When teachers emphasize language points by providing explanations, input is enhanced. Also, teachers' corrective feedback was shown to contribute to students' uptake.

In the previous chapter, answers to the research questions and the main results were provided, and then the discussion followed. Finally, the implications and limitations of the study will be discussed in this chapter in order to clarify some possible directions for further investigations.

Theoretical Implication

First, the present study supports the ideas that feedback from the teachers influences learners' use of the L2. The findings support Ohashi's finding (2012) that the more feedback is given to students in the L2 by the teachers, the more L2 is produced by the learners. Using the L2 is necessary to facilitate learners' use of the L2; however even though teachers constantly use the L2, learners' spontaneous L2 use will not be facilitated without feedback from teachers. Thus, learners' using the L2 is closely related not only to the teachers' L2 use, but to the feedback from the teachers. Additionally, learners' initiated utterances are also found in the course of interaction between teachers and learners.

Second, the present study supports the optimal combination of both using the L2 and

having the learners work on the tasks. Language-learning tasks showed positive effect on learners' uptake especially when the L2 was used. The findings support the importance of cognitive processes pointed out by Ellis (2003), Prabhu (1987), and Nunan (1989). The pre-tests, the post-tests, and the delayed post-tests results in University Research implied that learners' uptaken items lead to learning and for most students, their learning was sustained.

Third, learners should also be given repeated chances of enhanced input by the teachers. When important information is emphasized and repeatedly given to the learners, they showed more uptake.

Pedagogical Implications

Two pedagogical implications arise from my study. First, it should be noted that the influence of L2 input from teachers should not be underestimated. However, this does not mean that teachers are not supposed to use the L1 because mixed utterances appeared to enhance students' grammar uptakes. In this study, it was the language-learning task that most effectively facilitated students' uptake in all types of uptake, and using the L2 was more effective than using the L1 in facilitating students' vocabulary and sentence uptake. These results show that depending on the different types of teaching context, the amount of students' uptake would be different as well. Therefore, it will be very important and helpful for language teachers to understand the relationship between students' uptake and teaching context, as well as the languages used in classrooms, so that they can manage language classes in ways that can lead to students' uptakes.

The second implication is that transcription can be considered useful for teachers because transcriptions help explore the processes involved. Teachers need to understand what process is involved when they ask questions, when they resort to the use of the L1,

and when they correct students' errors. Transcribed data can enable the teachers to realize how the interactions that take place can promote or impede learning. Having transcribed the recorded data for this study, I was able to observe what was occurring in classrooms as outlined above. Ellis (2012) points out the possibility of raising teachers' awareness of the various options available by transcribing utterances in the classroom. He also adds that encouraging teachers to question their existing conceptions of how to teach can bring changes to their beliefs. As Ellis suggests, the classroom transcription can reveal what is happening in the whole classroom, which can help us know what we need to focus on in class.

Methodological Implications

This section reflects on the action research aspect of the study. Firstly, making a corpus of classroom interactions can reveal the kinds of utterances and the source of utterances. If the classroom data is properly tagged, teachers will be able to investigate what is occurring in class, such as the effective interactions between teachers and students, or the relationship between question types and responses. For example, in the previous chapter, students' initiation was pointed out as one of the possibilities of eliciting students' uptakes. Corpus data can make it easier to trace the utterances that facilitate uptakes. For classroom observation, making classroom discourse data is suggested. Expanding this corpus data larger would make it possible to carry out further studies on this point. More large scale data would be beneficial, and the development of parallel corpora of classroom data would be an interesting future project.

Secondly, tests used for the study need to be designed to evaluate the degree to which learners understand what was done in class. I conducted a pre-test, post-test, and delayed post-test in this project, it was necessary to prepare more through tests that cover

all target linguistic items. Also, learners' familiarity or unfamiliarity with the target forms might influence the test results. Thus, these factors must be reconsidered for meticulous statistical analyses.

Some Other Implications

Only four classes among 22 classes mainly used the L1. The rate of mainly using the L1 in class was the lowest compared to the rate of using the L2 or equally using the L1 and the L2. This means that more teachers are encouraged to use the L2 in class. However, teachers do not seem to willingly provide negotiations or interactions with students in the L2. Also, they tend to depend on the L1 when students fail to understand what they are explaining using the L2. Considering the level of the students, conducting a class using only the L2 will be difficult, but continuous use of the L1 to facilitate communication will deprive students of opportunities to use the L2 and hinders them from raising their levels. Language teachers would hope to create classrooms where more students' uptake occurs from the beginning level so that they experience less difficulty communicating in the L2 and improve their English ability.

This study revealed that among some L2 activities, the language-learning task influences students' uptakes. Having students engage in tasks is possible from the beginning level to the advanced level and it helps them uptake. Adopting language-learning tasks can be suggested to have students use the L2 because the more L2 exposure students are given, the more spontaneous initiation by students can occur. As was shown in excerpts 1 and 2, students' initiation triggers negotiation with teachers as well as corrective feedback from the teacher. With regard to teachers' corrective feedback, students have more opportunities to correct errors themselves, which will lead to their uptakes.

Considering all these, without teachers' continuous use of the L2 in class,

meaningful L2 interactions, and students' initiated L2 utterances, the chances for language learning will be very limited.

Limitations of the Present Study

This is an exploratory study and there are some points that require further investigation. The following are some of the weak points of this study.

1) Sample classes

There must be a great difference in classroom contexts. A random selection of subjects from more various areas in Japan would provide more data variety, which would be preferable for the investigation.

3) Design of the study

Gathering data from junior and senior high school classes was not organized as the author wanted. For that reason and because of time requirements, the only possible way to get the uptake data was to conduct questionnaires with the participants. If it could be possible to conduct confirmation check tests to investigate their uptakes, as was done for the university students in University Research, the data on uptakes would be more accurate and more qualitative data could be collected as well.

Final Conclusion

The major goal of this study was to investigate whether students' uptake can lead to their learning and to examine the quantity of uptake depending on the language mainly used in class and activities carried out in class. The results of the quantitative studies support the idea that language teachers should be encouraged to use more L2 in class, and

language-learning tasks served as a way that helped learners uptake. Qualitatively, the results showed the importance of having students initiate L2 utterances by themselves and having more interaction between the teachers and the students with the teachers' feedback.

It is the quality as well as the frequency that influences students' uptaking. Further research will be required to make accurate comments on the quality of teacher talk. Considering that teachers take the initiative in organizing classes in general, it depends on the teachers whether the students have opportunities of being exposed to effective L2 input or not. Playing this role as an initiator of L2 conversation in classrooms is one of the greatest contributions that teachers can make to promote students' uptakes.

In Japan, students have few opportunities to use English outside the classroom and it is only in the classroom where they have a chance to be exposed to English. Having opportunities of using English outside the classroom such as watching movies or visiting places where English is used should be suggested by teachers; however, for most Japanese students, the classroom is the only place where they can communicate in English. Using English as a communication tool by both teachers and students is essential. If students receive continuous L2 input in classrooms, and students are willing to be exposed to the L2, they will have less hesitation in using English and will have more confidence in using it as a communication tool in the near future, which is the intended purpose of language education in Japan.

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APPENDICES

APPENDIX A

PRE-TEST, POST-TEST, AND DELAYED POST-TEST USED IN EACH ACTIVITY

Treatment 1 Language-learning task

Name_____

１．以下の単語を日本語は英語で、英語は日本語で意味を書きなさい。

提案する （ ） place （ ）

appointment ( ) however ( )

used to ( ) 便利な（ ）

conceit ( ) ～の後ろに( )

たくさんの a ( )( ) convenient ( )

～を巻き込む（ ） irritate ( )

～の間に （ ） cure ( )

～の前に（ ） the number of ( )

convenient ( ) 牧場（ ）

２．穴埋めをしなさい。

( )( ) rain, they cannot go out.

雨のせいで、出かけられない。

There is a post office ( )( ) this street.

この通りの向かい側に郵便局がある。

take a break しませんか、という表現を 2 通りで。

①

②

３．問題に合うように空欄を埋めなさい。

彼は今日は学校に来ないと思います。

I……..

If I……., I (　　) make the same decision.
もし私があなたの立場なら、同じ選択をするだろう。

If you think of your (　　), you (　　) change your job.
もし将来を考えるなら、転職してもいいかもね。

I (　　) you (　　) change your mind.
考えを変えることを提案します。

……..……..stop blaming yourself?
自分を責めるのはやめたら？

Teaching is (　　) thing, and learning is (　　).
教えるのと学ぶのは別物です。

One is a large, tall tree, and (　　)(　　) is a small tree.
　一つは大きくて背の高い木、もうひとつは小さい木です。

She is always ……
彼女はいつでも時間厳守です。

以下の文について、文法的に説明できる部分に下線を引き、全て説明しなさい。

I don’t want to get involved in such a crime.

If you visit Kyoto, I suggest you to try eating Yatsuhashi.

Treatment 2 Translation

name_____

１．以下の単語を日本語は英語で、英語は日本語で意味を書きなさい。

administer (　　)
bow deeply (　　)
all the time (　　)
realize (　　)
euthanize (　　)
observe (　　)
satisfy (　　)
ordinary (　　)
＝normal
abandon (　　)

従業員（　　）
効率（　　）
～かどうか疑う
（　　）（　　）
嫌な、気に障る（　　）
効果（　　）
効果がある（　　）
A に B を提供する
(　　) A (　　) B

２．訳しなさい

The same is true to those who work in elevators.

Some employees' jobs maybe appear less useful, but these jobs are very important.

It has more effect on customers although it may not seem very efficient.

AHT means people who take care of animals.

３．穴埋めしなさい

(　　) is (　　) precious than our family.
家族より大切なものはない。

I hate …….. are always complaining.
いつも不平を言っている人は嫌いです。

This is ……..……..event I have ever had.
今までに一番驚いた出来事です。

There is (　　)(　　) dishonorable for a merchant than to cause the customer inconvenience.
商売人にとって、お客様に不都合を感じさせるほど不名誉なことはない。

I know a woman ……..to a customer over there.
向こうでお客様に話しかけている女性を知っている。

I doubt (　　) there is anyone in Japan today (　　) cannot operate an elevator.
この日本にエレベーター操作ができない人がいるのかどうか疑わしい。

I wonder if we really need someone ……..an elevator.
エレベーターを操作するべき人が本当に必要なのかどうか不思議に思う。

Which is……this sofa or that one?
このソファとあのソファはどちらがより心地良いですか？

以下の文を読み、使われている文法に下線部を入れ、その文法について簡単に説明しなさい。
To have customers feel more elegant, department stores, which are famous in Japan, provide perfect services and even provide their employees with the latest, most fashionable uniforms to wear.

We should punish those who abandon animals. To abandon animals is the worst thing for me. There is nothing sadder than euthanizing dogs.

Treatment 3 Drill

name_____

１．以下の単語を日本語は英語で、英語は日本語で意味を書きなさい。

temperature (　　)	肉屋（　　）
complicated (　　)	お腹がペコペコで
operate (　　)	（　　）
inside (　　)	運動（　　）
medicine (　　)	～を含む（　　）
injection (　　)	目的（　　）
sit up late (　　)	習慣（　　）
health (　　)	着る（　　）
during (　　)	のどが渇いて（　　）

２．以下の文を穴埋めしなさい。

……stop ……?
煙草をやめたらどうですか？

……is not very easy for me.
動物の面倒をみるのはそんなに簡単なことではない。

……is important for us.
早寝早起きをすることは重要です。

……in Rome.
ローマには訪れるところがたくさんある。

３．誤っている部分に下線を引き、正しい形に直しなさい。

Use this machine is easy.

The work of AHT includes take blood samples, take temperature of animals, and check monitor during operation.

We are interested in collect stamps.

His goal is become a veterinarian.

We were all happy heard that you succeeded in your trial.

Why don’t you going outside and have a break?

My dog prefers play outside to stay inside.

I have no time write report.

以下の文で使用されている文法について全て説明しなさい。
My mother and I took our dog, Pochi, to animal hospital to have Pochi get injection.

She hates having her children study forcibly.

APPENDIX B

STUDENTS' QUESTIONNAIRE

今日の授業で勉強したことについて質問します。

１．今日学んだ単語、表現を書いてください。

２．今日学んだ文法項目を書いてください。

３．今日の授業で最も印象的だった内容を書いてください。

４．日本語と英語とどちらで授業をしてほしいですか？(1)～(4)からえらんで、○をつけてください。

(1) 日本語だけで授業をしてほしい

(2) 英語だけで授業をしてほしい

(3) 日本語と英語両方まぜてほしい

(4) どちらでもよい

ご協力、ありがとうございました。

APPENDIX C

CLASSROOM DATA

Junior high school data

Class No.	Date	Teacher	Student
1	July, 2012	Female teacher, A	Junior High School (Age 14-15), 14 women, 13 men
2	September, 2012	Female teacher, B	Junior High School (Age 14-15), 27 women
3	July, 2012	Male teacher, C	Junior High School (Age 14-15), 14 women, 16 men
4	July, 2012	Male teacher, D	Junior High School (Age 14-15), 7 women, 7 men
5	June, 2012	Female teacher, E	Junior High School (Age 14-15), 12 women, 11 men
6	July, 2012	Female teacher, A	Junior High School (Age 14-15), 14 women, 16 men
7	September, 2012	Female teacher, B	Junior High School (Age 14-15), 18 women
8	July, 2012	Male teacher, C	Junior High School (Age 14-15), 12 women, 12 men
9	July, 2012	Male teacher, D	Junior High School (Age 14-15), 7 women, 6 men
10	June, 2012	Female teacher, E	Junior High School (Age 14-15), 12 women, 12 men
11	July, 2012	Male teacher, D	Junior High School (Age 14-15), 9 women, 9 men

Senior high school data

Class No.	Date	Teacher	Student
1	May, 2012	Female teacher, F	Senior High School (Age 16-17), 17 women, 16 men
2	May, 2012	Male teacher, G	Senior High School (Age 16-17), 15 women, 16 men
3	September, 2012	Male teacher, H	Senior High School (Age 16-17), 13 women, 13 men
4	July, 2012	Male teacher, I	Senior High School (Age 16-17), 7 women, 9 men
5	September, 2012	Male teacher, H	Senior High School (Age 16-17), 8 women, 8 men
6	July, 2012	Male teacher, I	Senior High School (Age 16-17), 14 women, 13 men
7	July, 2012	Male teacher, J	Senior High School (Age 16-17), 19 women, 21 men
8	July, 2012	Male teacher, J	Senior High School (Age 16-17), 19 women ,19 men
9	September, 2012	Male teacher K	Senior High School (Age 16-17), 9 women, 8 men
10	September, 2012	Male teacher K	Senior High School (Age 16-17), 10 women, 11 men
11	October, 2012	Female teacher, L	Senior High School (Age 16-17), 16 women, 17 men

APPENDIX D

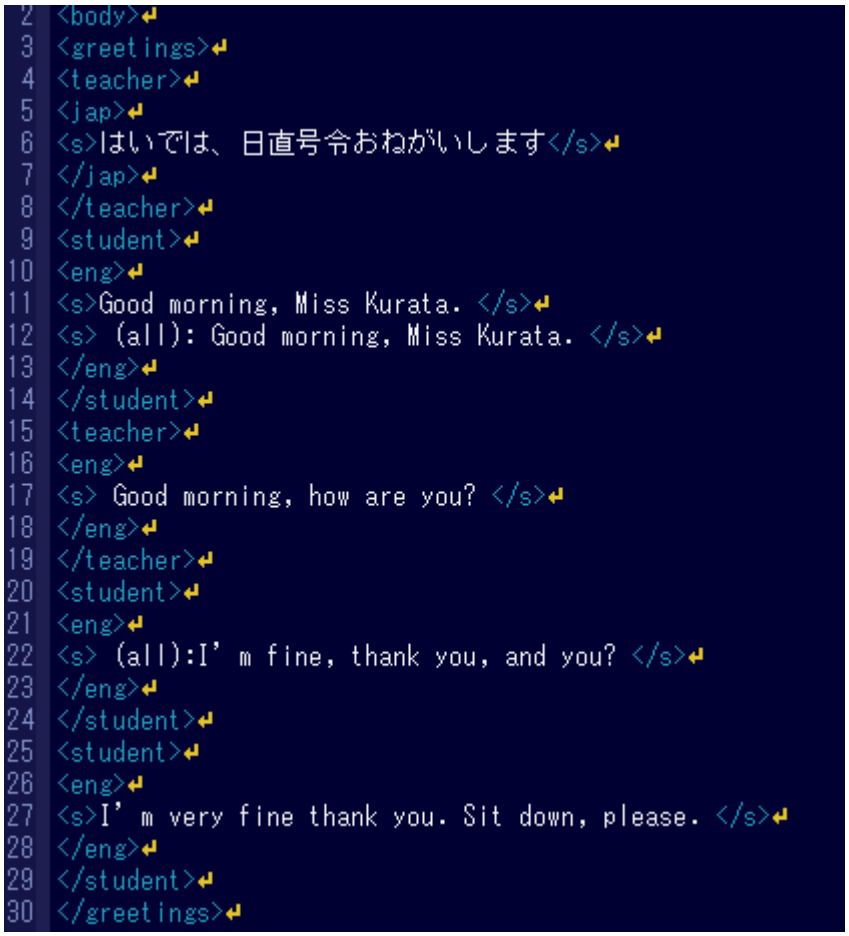
TABLES USED FOR COUNTING UPTAKES

Sample sheet to count uptakes in each class (from Senior high school, Class 6)

student ID	Word 1	Word 2	Word 3	Word 4	Word 5	Word 6	Sentence	Grammar content 1	Vocabulary uptake total	English sentence uptake total	Grammar uptake total
1	head	interrupt	maitred'				not only but also		3	1	0
2	betray	interrupt	exhaustion				not only but also		3	1	0
3	exhausted	drowsy	betray	interrupt	head		not only but also		5	1	0
4	betray	destiny	foolishly	tragic			not only but also		5	1	0
5	exhausted	drowsy	betray	interrupt	wake		not only but also		4	1	0
6	interrupt	betray	maitred'				would you mind..?		3	1	0
7	exhausted	drowsy	betray	interrupt	maitred'		not only but also three day break		5	2	0
8	exhausted	drowsy	betray	interrupt	maitred'	wake	not only but also three day break		6	2	0
9	exhausted	drowsy	betray	interrupt	apparently		not only but also	分詞構文	5	1	1
10	exhausted	foolishly	interrupt				not only but also		3	1	0
11	exhausted	drowsy	betray	interrupt	oxford		not only but also either…..or		5	2	0
12	exhausted	drowsy	betray	interrupt				分詞構文	4	0	1
13	exhausted	drowsy	betray	interrupt	maitred'		what had seemed destiny was…. Not meant to be…..		5	2	0
14	exhausted	oxford	drowsy	sleepless					4	0	0
15	betray	maitred'	exhausted				not only but also		3	1	0
16	drowsy	NYU	meant				not only but also		3	1	0
17	exhausted							分詞構文	1	0	1

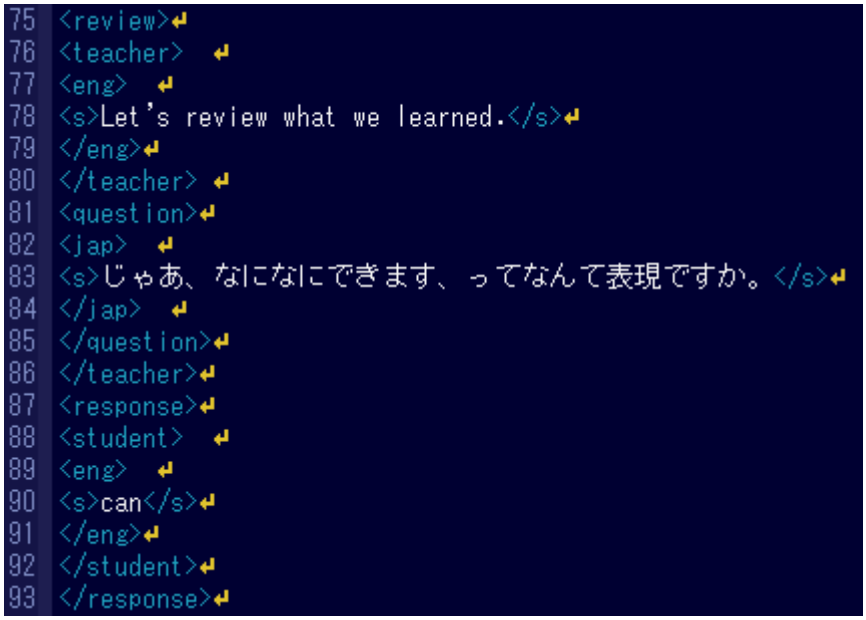
APPENDIX E

TAGGED UTTERANCES EXAMPLE



```
<body>
<greetings>
<teacher>
<jap>
<s>はいでは、日直号令おねがいします</s>
</jap>
</teacher>
<student>
<eng>
<s>Good morning, Miss Kurata. </s>
<s> (all): Good morning, Miss Kurata. </s>
</eng>
</student>
<teacher>
<eng>
<s> Good morning, how are you? </s>
</eng>
</teacher>
<student>
<eng>
<s> (all):I' m fine, thank you, and you? </s>
</eng>
</student>
<student>
<eng>
<s>I' m very fine thank you. Sit down, please. </s>
</eng>
</student>
</greetings>
```

Figure 3. Tagged utterances example in 'Greeting' category.



```
<review>
<teacher>
<eng>
<s>Let's review what we learned.</s>
</eng>
</teacher>
<question>
<jap>
<s>じゃあ、なになにできます、ってなんて表現ですか。</s>
</jap>
</question>
</teacher>
<response>
<student>
<eng>
<s>can</s>
</eng>
</student>
</response>
```

Figure 4. Tagged utterances example in 'Review' category.

```
<presentation id="new words">
<question>
<teacher>
<eng>
<s>What is "betray"?</s>
</eng>
</teacher>
</question>
<response>
<student>
<eng>
<s>I don't know...</s>
</eng>
</student>
</response>
<teacher>
<eng>
<s>To be disroyal to someone</s>
<s>So they are set, Ok?</s>
<s>To hurt or disappointing something or someone.</s>
<s>Good.</s>
</eng>
</teacher>
</presentation>
```

Figure 5. Tagged utterances example in 'New vocabulary' category.

```
<presentation id="structure">
<teacher>
<jap>
<s>はい、それではここからは日本語でね。</s>
<s>昨日より今日の方が寒くなるでしょう、とか、昨日の温度と今日の温度を比べたりの表現</s>
<s>中間の時のテストと比べて、あら、下がった、とかね。</s>
<s>誰が可愛いとかかわいくないとか、こっちの方がかわいいとか</s>
<s>そういうわれわれが使っている、比べる時に使ってる尺度のことですね。</s>
<s>寒い、暑い，重い、こういうことば、これ形容詞、あるいは副詞、といいます。</s>
</jap>
<mix>
<s>例えばOsamu is tall. あるいはOsamu is a tall boy.</s>
</mix>
<jap>
<s>二つを比べて差がある時。誰かと比べる表現。じゃあマイケルとおさむは</s>
</jap>
</teacher>
<teacher>
<eng>
<s>Micheal is a tall boy. Osamu is taller than Micheal. </s>
</eng>
</teacher>
<teacher>
<jap>
<s>こういうふうにおさむのほうが高い、など、こういう風に差がある時、こういう形で表現します。
<s>ええと、これ初めて今日教えますけど、erがつく形、形容詞にerがつく形を比較級、といいます。</s>
<s>これ覚えておいて下さい。ちょっとハイライトしておいて。</s>
<s>授業でやるのは今日初めてだけど、erがつく形、これ比較級と言います。</s>
</jap>
</teacher>
</presentation>
```

Figure 6. Tagged utterances example in 'New structure' category.

```
1078 <practice id="drills">↵
1079 <direction>↵
1080 <teacher>↵
1081 <eng> ↵
1082 <s>Ok. let's do some drill work. Fill in the blanks.</s>↵
1083 </eng>  ↵
1084 </teacher>↵
1085 </direction>↵
1086 <student>  ↵
1087 <eng>↵
1088 <s>Yes, we can. No, I can't</s>↵
1089 <s>can you play basketball?</s>↵
1090 </eng>  ↵
1091 </student>  ↵
1092 </response>↵
1093 <feedback>↵
1094 <teacher> ↵
1095 <mix> ↵
1096 <s>Can Yumiですね、Can Yumi play basketball?</s>↵
1097 </mix>  ↵
1098 </teacher> ↵
1099 </feedback>↵
1100 <question>↵
1101 <teacher> ↵
1102 <jap>↵
1103 <s>で、次は？</s>↵
1104 </jap>↵
1105 </teacher>  ↵
1106 <student>  ↵
1107 <eng>↵
1108 <s>Can Bob read Japanese?</s>↵
1109 </eng>  ↵
1110 </student>  ↵
```

Figure 7. Tagged utterances example in 'Drill practice' category.

```
<practice id="communicative">
<teacher>
<direction>
<jap>
<s>はい、では絵を比べて、グループでさっきの表現をつかって話してみてください。</s>
</jap>
</direction>
</teacher>
<student><eng>
<s>S1 I think...I think rabbit.</s>
<s>S2 What? </s>
<s>S1 rabbit here.</s>
<s>S3 yes, apple here?</s>
<s>S1 yes. across from? what?</s>
<s>S2 I don't know.</s>
<s>S3 form? far? what is form?</s>
<s>S1 form? farm</s>
<s>S4 carrotは？</s>
<s>S2 five.</s>
<s>S1 over the river? </s>
<s>S2 this? </s>
<s>S2 bridge!ああ</s>
<s>S3 this is best.</s>
<s>S1 ok, yes.</s>
</eng></student>
<teacher>
<jap>
<s>では、今からスクリプトを配りますから、ただしいかどうかみてください</s>
</jap>
</teacher>
<student>
<eng>
<s>S1 a number of, what?</s>
<s>S4 number, number</s>
<s>S3ん？.</s>
<s>S1 because of. across from the tree?</s>
</eng>
</student>
</practice>
```

Figure 8. Tagged utterances example in 'Language-learning task' category.

```
<pre-reading id="reading aloud">
<teacher>
<eng>
<s>Okay</s>
<s>The next day, Sunday, he traveled out to Brooklyn to visit his parents.</s>
</eng>
</teacher>
<student>
<eng>
<s>The next day, Sunday, he traveled out to Brooklyn to visit his parents.</s>
</eng>
</student>
</pre-reading>
<pre-reading id="oral introduction">
<teacher>
<eng>
<s>All right, look at this map.</s>
<s>Brooklyn is one there is in New York.</s>
<s>It's in New York./s>
<s>And this is, this area is called Brooklyn, okay.</s>
<s>All right?</s>
<s>Very popular.</?>
<s>So there are many buildings.</s>
<s>Tall buildings here.</s>
<s>Okay?</s>
<s>Again.</s>
<s>The next day, Sunday, he traveled out to Brooklyn to visit his parents.</s>
</eng>
</teacher>
</pre-reading>
```

Figure 9. Tagged utterances example in 'Oral introduction and reading aloud' category.

```
<while-reading id="translation">
<teacher>
<jap>
<s>North pole と South poleを この 'which' いかが説明しています。</s>
<s>はい、じゃあどうやって訳せばいいのか。福田さん。右、にじゃないよ。</s>
<s>この 'right' 、ちょうどまえに、です</s>
</jap>
</teacher>
<student>
<jap>
<s>まさにその上にある、だから地軸のまさにうえにある、地軸のちょうどうえにある</s>
</jap>
</student>
<teacher>
<jap>
<s>そうね。南極や北極、これは、地軸のちょうどうえにあるのだが、あるのだが、
その、近くに立っている人々は、その、近くに立っている人々は、ていうことです。</s>
</jap>
</teacher>
</while-reading>
```

Figure 10. Tagged utterances example in 'Translation' category.

```
<while-reading id="explanation">
<teacher>
<jap>
<s>じゃあ、主語をみていきましょう。ここでのポイントは、ここです。</s>
<s>何が気づかないかっていうと、人々が、気付かない。人々はなにかっていうと、さっきの</s>
</jap>
<eng>
<s>Standing near the North pole or South pole</s>
</eng>
<jap>
<s>つまり、北極や、南極に立ってる人々は、違いに気づかない。</s>
<s>さらに、ここコンマがきて、さらに、'which'がきてるのね。</s>
</jap>
</teacher>
<question>
<teacher>
<jap>
<s>はい、これコンマがきて、whichがきてるのって、なんだった？</s>
<s>関係代名詞の何とか用法、なに？</s>
</jap>
</teacher>
</question>
<response>
<student>
<jap>
<s>関係代名詞の非制限用法</s>
</jap>
</student>
</response>
<teacher>
<jap>
<s>あったでしょう。非制限用法</s>
</jap>
</teacher>
</while-reading>
```

Figure 11. Tagged utterances example in 'Explanation' category.

```
<listening>
<CD>
<eng>
<s>My mother went to England to take literature courses at Oxford.</s>
<s>In late July, with a three-day break in her studies my mother flew to Paris.</s>
<s>She carried along a new copy of Great Expectations on the trip.</s>
<s>After the sad business with my father, she hadn't had the heart to read it,
 but now, as she sat down in a crowded restaurant after a long day of sight-seeing,
she opened it to the first page and started thinking about him again.</s>
<s>After reading a few sentences, she was interrupted by a maitre d' who asked her,
first in French, then in broken English,if she wouldn't mind sharing her table.</s>
<s>She agreed and then returned to her reading.</s>
<s>A moment later, she heard a familiar voice.</s>
<s>"A tragic life for poor dear Pip," the voice said,
and then she looked up, and there he was again.</s>
</eng>
</CD>
</listening>
```

Figure 12. Tagged utterances example in 'Listening' category.

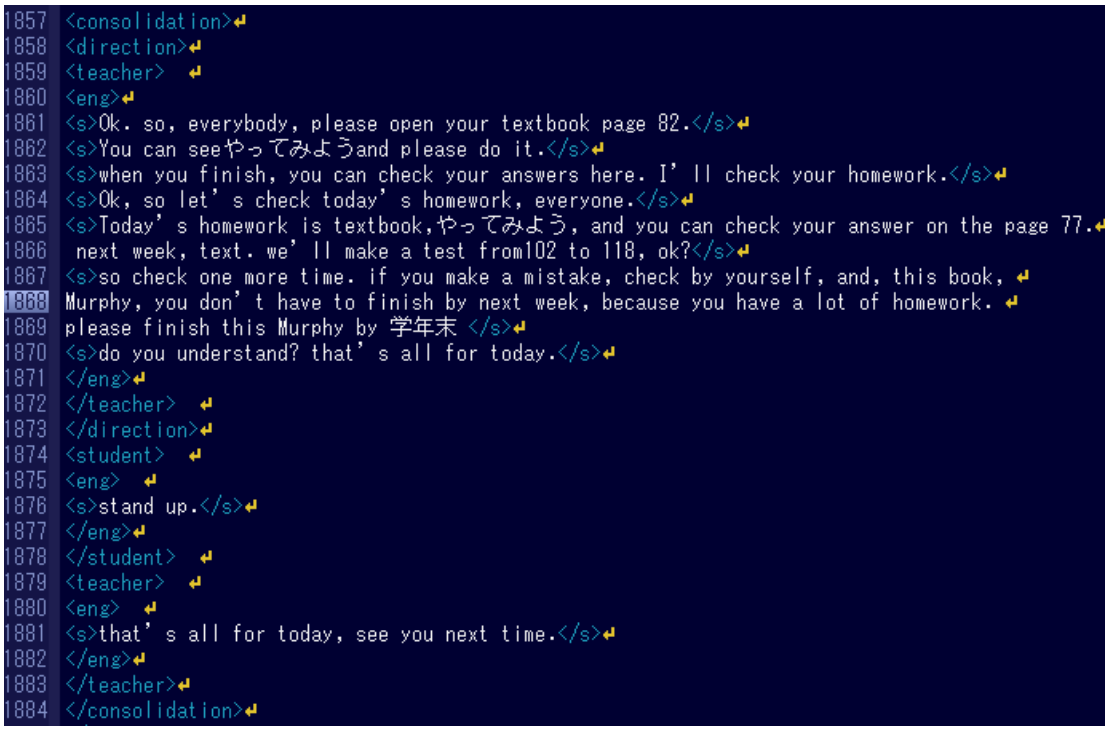


Figure 13. Tagged utterances example in 'Consolidation' category.

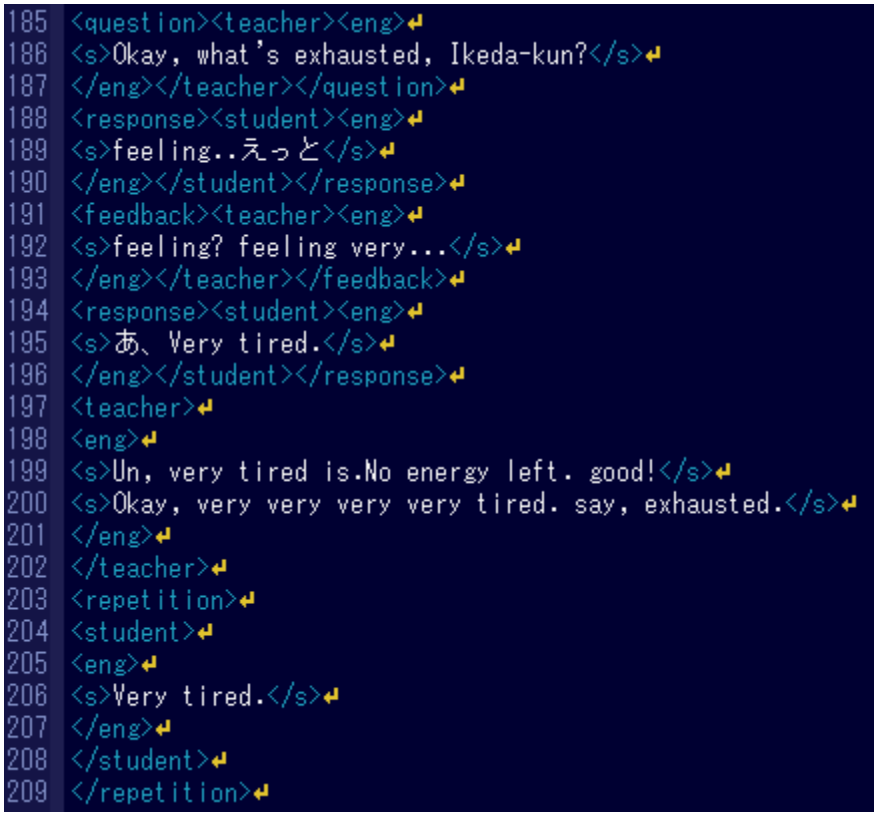


Figure 14. Tagged utterances example in Discorse function category.

APPENDIX F

DISTRIBUTIONS OF UPTAKE SCORES IN JUNIOR AND SENIOR HIGH SCHOOL

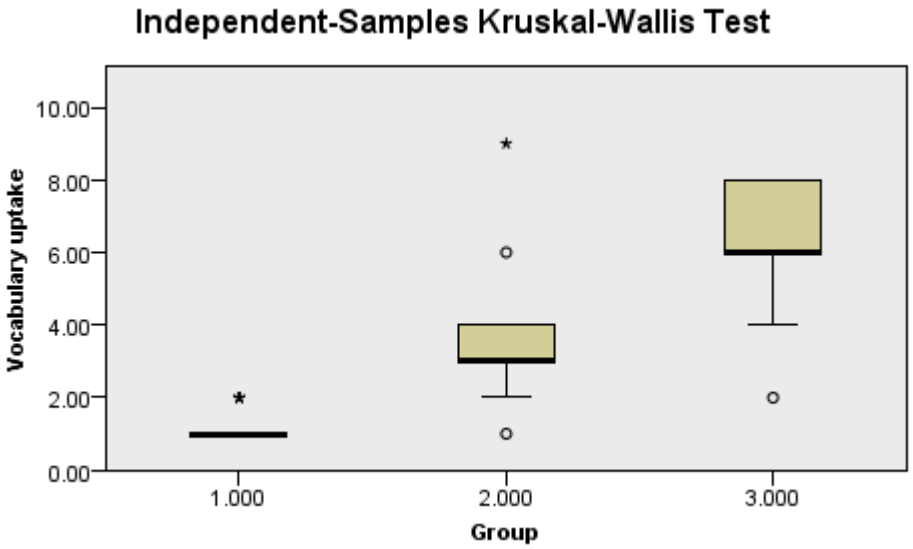


Figure 15. Vocabulary uptakes comparisons among selected junior high school classes with different language use.

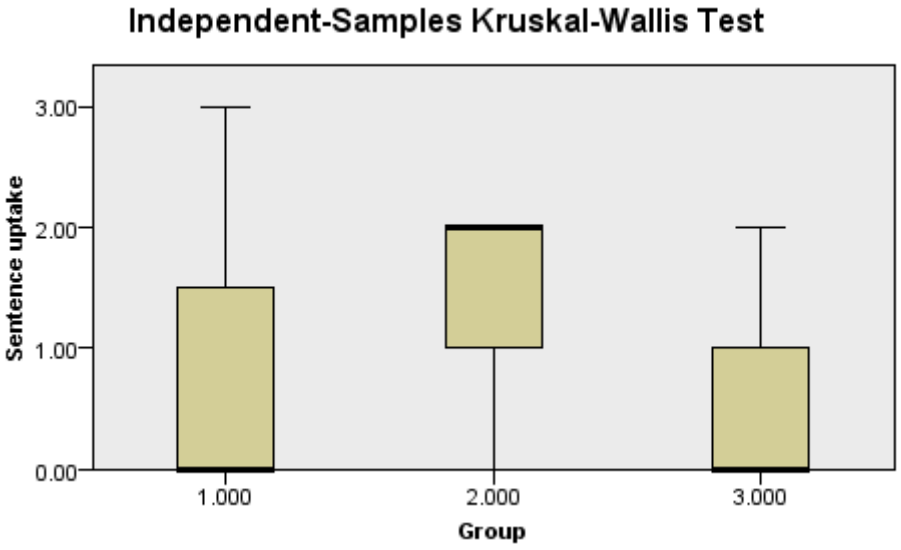


Figure 16. English sentence uptakes comparisons among selected junior high school classes with different language use.

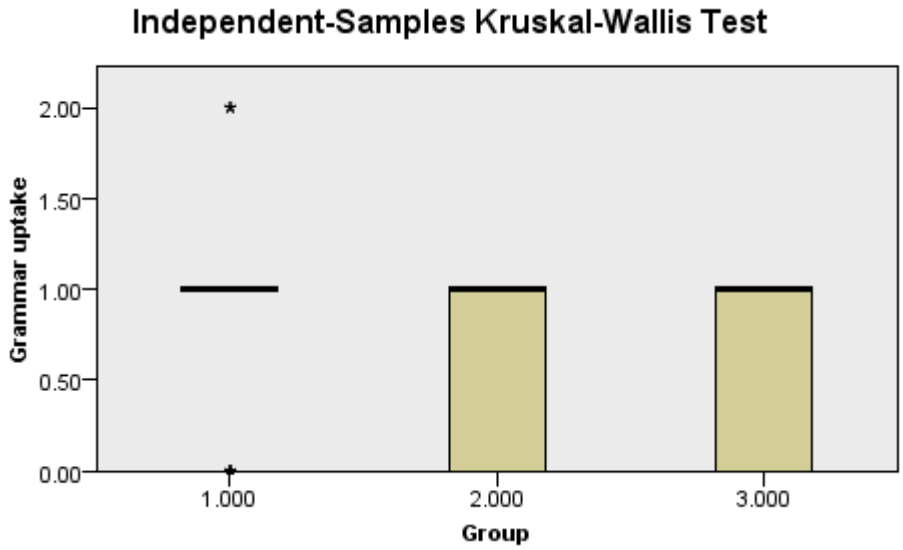


Figure 17. Grammar uptakes comparisons among selected junior high school classes with different language use. The Asterisk (*) shows extremal values.

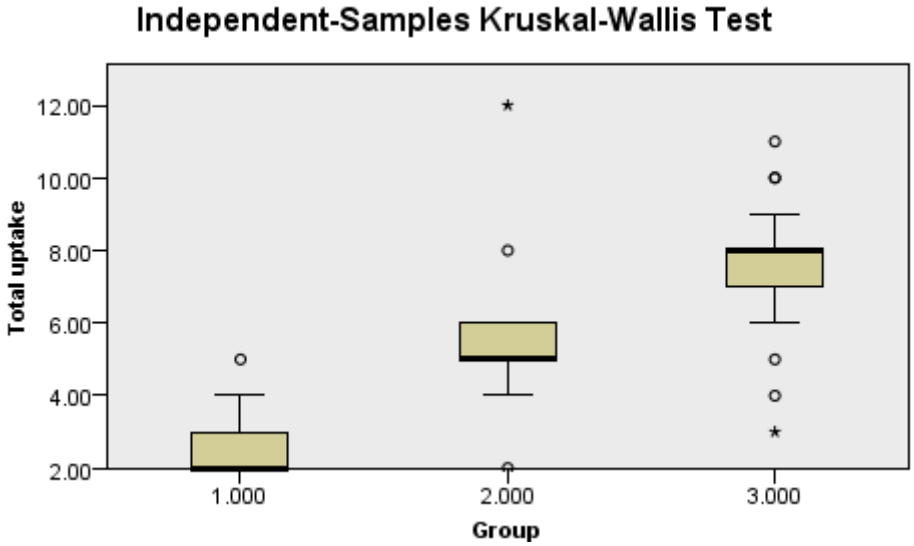


Figure 18. Total uptakes comparisons among selected junior high school classes with different language use. The cirle (○)is the outlier and the asterisk (*) shows extremal values.

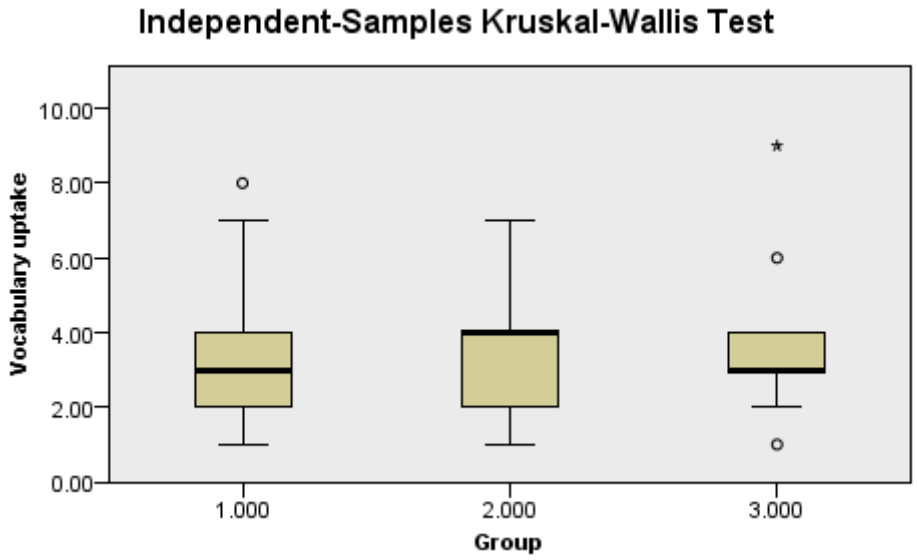


Figure 19. Vocabulary uptakes comparisons among selected junior high school classes with different activity. The circle (○)is the outlier and the asterisk (*) shows extremal values.

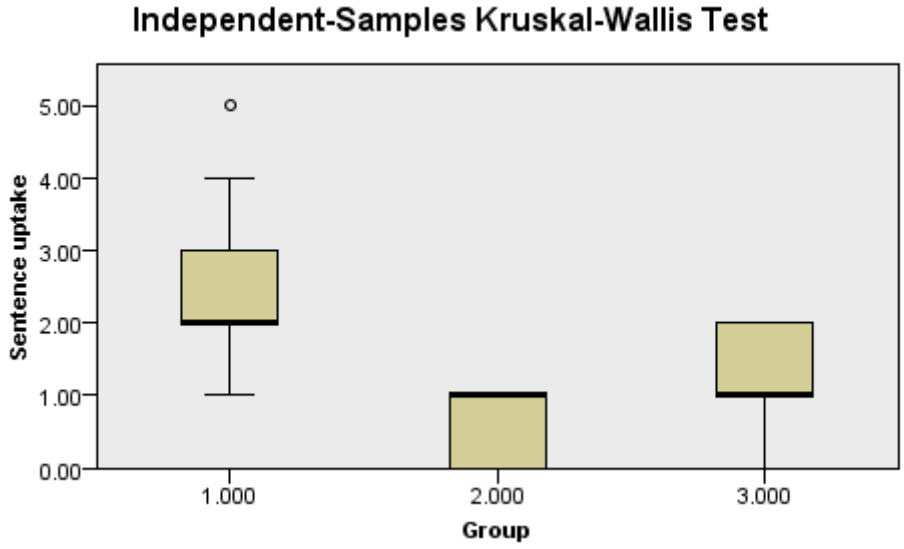


Figure 20. English sentence uptakes comparisons among selected junior high school classes with different activity. The circle (○)is the outlier.

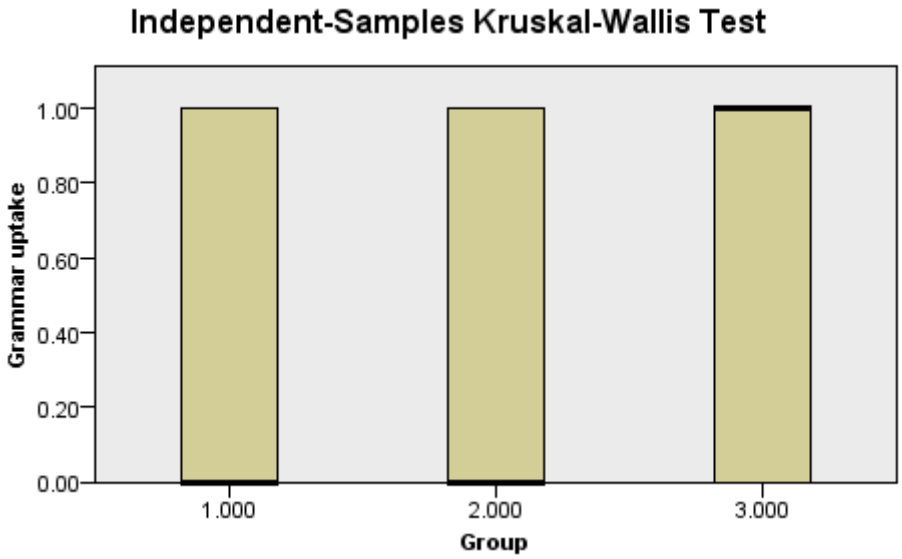


Figure 21. Grammar uptakes comparisons among selected junior high school classes with different activity.

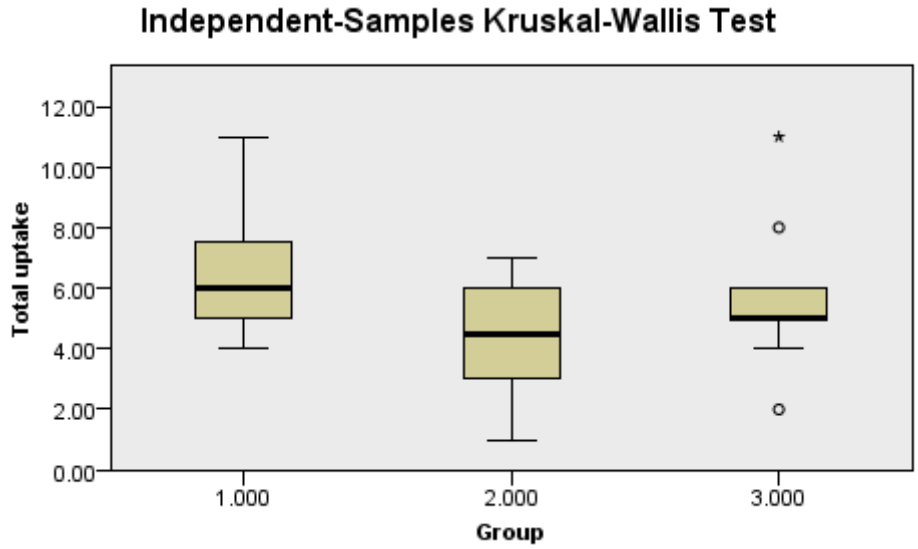


Figure 22. Total uptakes among comparisons selected junior high school classes with different activity. The circle (○)is the outlier and the asterisk (*) shows extremal values.

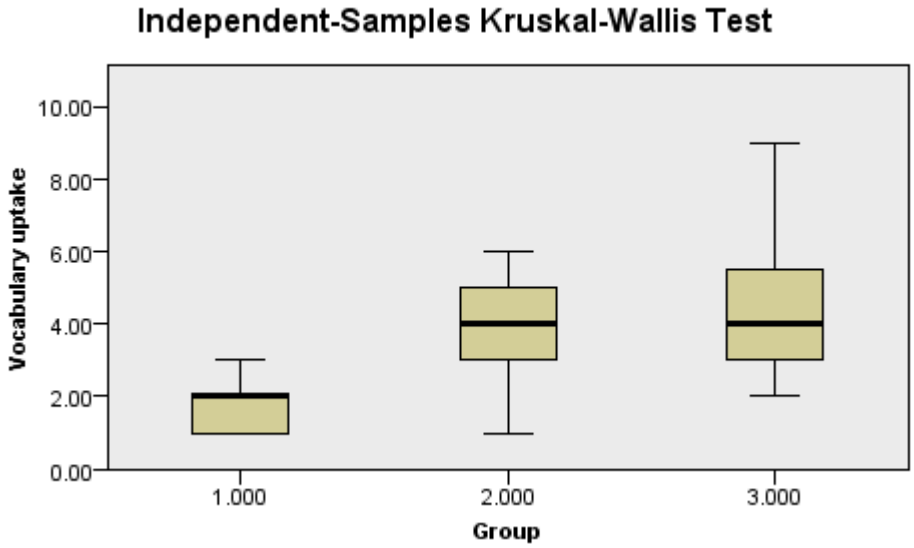


Figure 23. Vocabulary uptakes comparisons among selected senior high school classes with different language use.

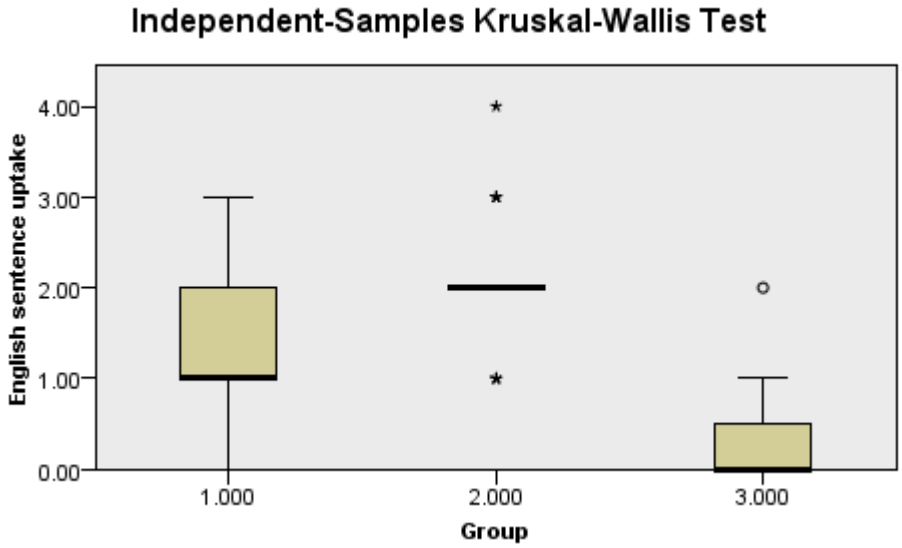


Figure 24. English sentence uptakes comparisons among selected senior high school classes with different language use. The circle (○)is the outlier and the asterisk (*) shows extremal values.

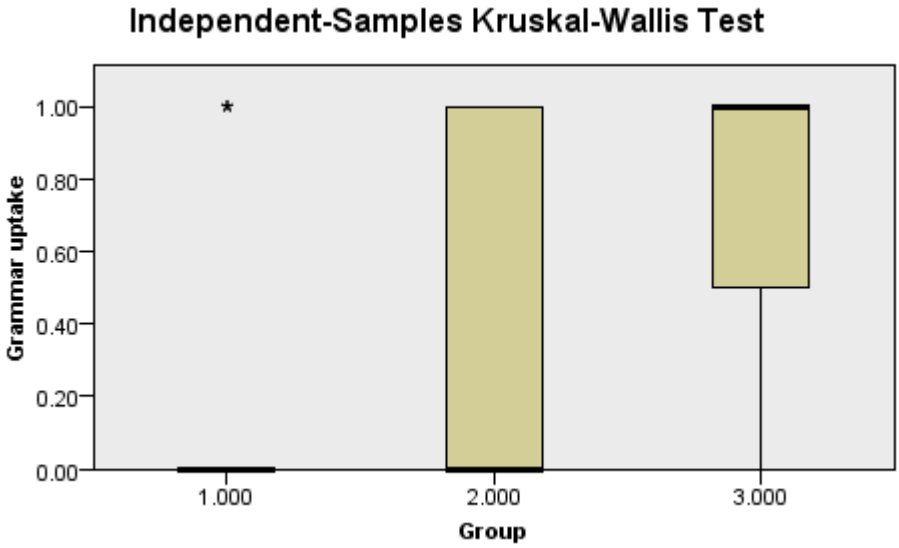


Figure 25. Grammar uptakes comparisons among selected senior high school classes with different language use. The asterisk (*) shows extremal values.

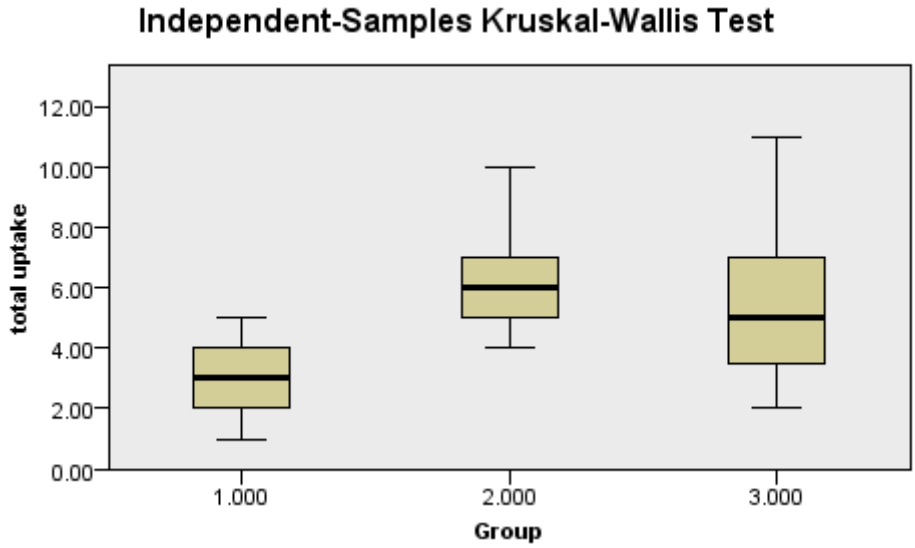


Figure 26. Total uptakes comparisons among selected senior high school classes with different language use.

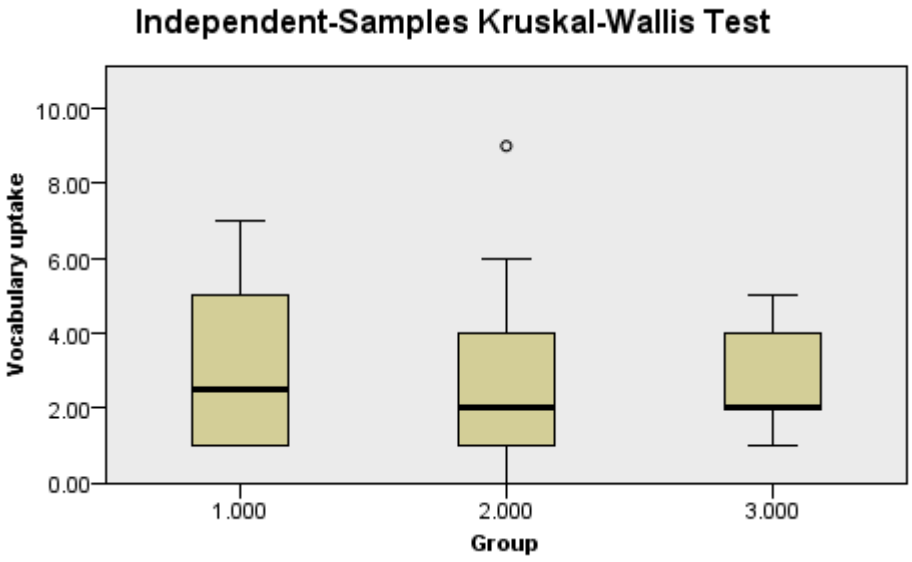


Figure 27. Vocabulary uptakes comparisons among selected senior high school classes with different activity. The circle (○)is the outlier.

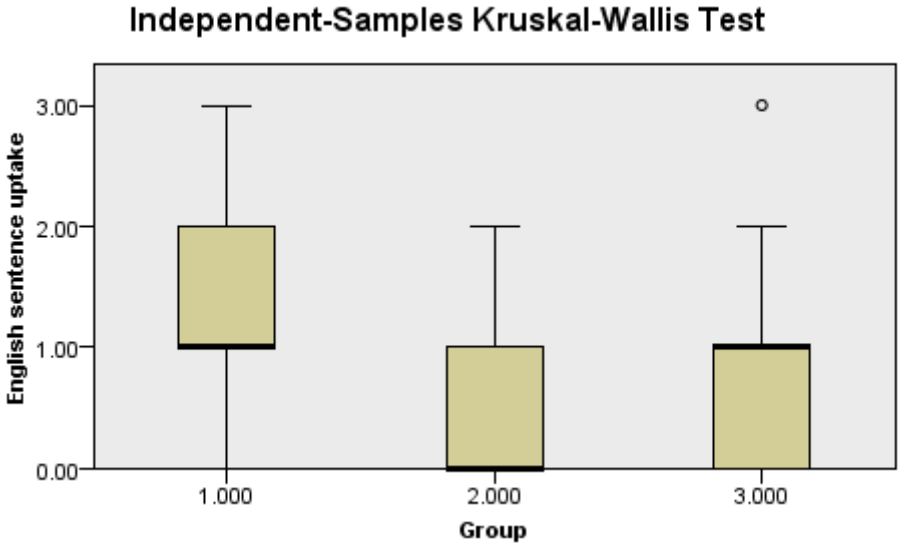


Figure 28. English sentence uptakes comparisons among selected senior high school classes with different activity. The circle (○)is the outlier.

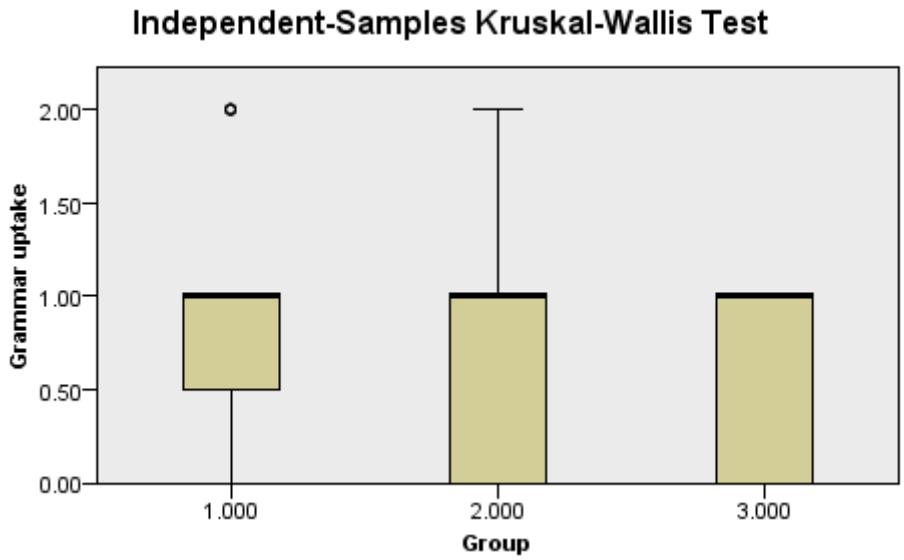


Figure 29. Grammar uptakes Comparisons among selected senior high school classes with different activity. The cirle (○)is the outlier.

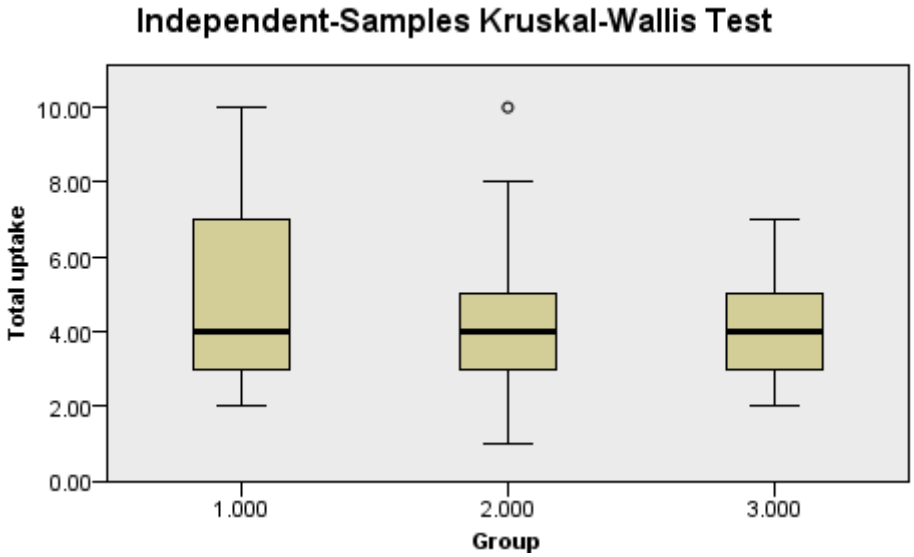


Figure 30. Total uptakes comparisons among selected senior high school classes with different activity. The cirle (○)is the outlier.