The Effects of Flipped Learning on Output

in the Japanese English as a Foreign Language Environment

（日本の英語教育環境における反転学習のアウトプットへの効果）

by

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ABSTRACT

Many researchers of second language acquisition seem to agree that English as a foreign language students in Japan tend to be silent in the classroom. Various reasons for this lack of language production have been discussed, such as, low linguistic self-confidence, face-saving acts to avoid possible embarrassment, protection of self-worth, and few opportunities to use the language in an authentic way. With the Ministry of Education, Culture, Sports, Science, and Technology - Japan directing English teachers to conduct their classes with more focus on communication, it is necessary to discover approaches to teaching English in Japan that encourage output from students. The present dissertation assesses the impact the implementation of flipped learning has on the language production of English language students in Japan. This dissertation has the goal of discovering whether a flipped learning approach is effective in creating salient improvements in students' (1) linguistic self-confidence; (2) language production; and (3) linguistic proficiency. Multiple tests were conducted over three main studies with the findings from the research suggesting the flipped learning approach to indeed be a convincing way to improve the above three components. A fourth study was conducted related to the use of and authenticity of closed captions, what were discovered to be vital factors in the success of flipped classrooms. The author concludes

the implementation of a flipped learning approach to be highly effective for Japanese English classrooms. Theoretical contributions and pedagogical implications of the findings are also discussed throughout the dissertation.

DEDICATION

This dissertation is dedicated to my wife and children, who somehow always manage to put up with their grumpy husband and father.

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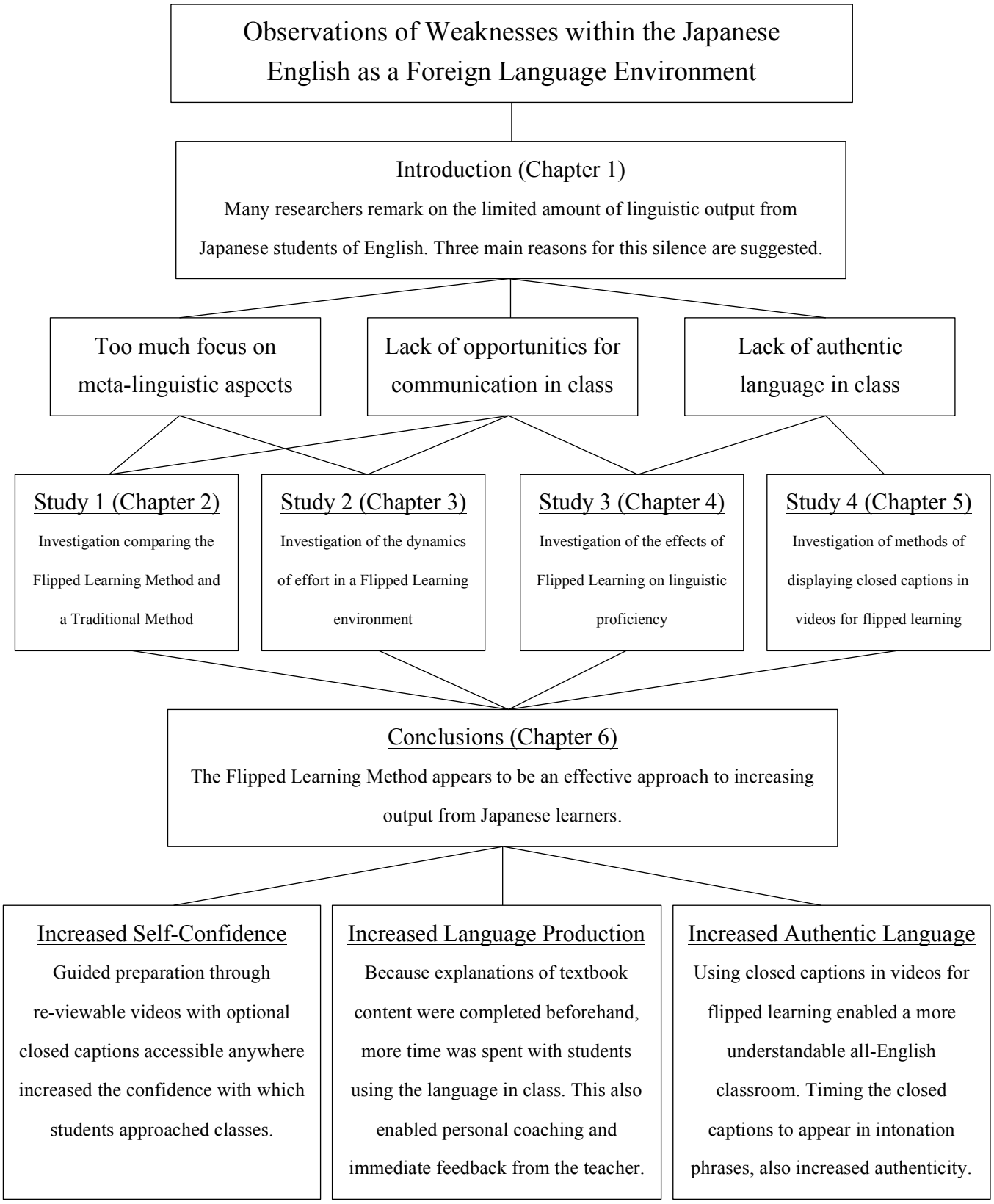
RESEARCH DESIGN



CHAPTER 1 - Introduction

1.1 Introduction

One of the oldest proverbs still commonly used in the English language is “You can lead a horse to water, but you can’t make it drink” (The Phrase Finder, 2015). This is especially true for teachers looking to increase the motivation of their students. I believe, however, a further clause can be added to this proverb for teachers: “You have to make the water look delicious.” Although it is often challenging for teachers, especially language teachers, to increase the motivation of their students to learn and produce language, there are many ways this can be achieved. In recent years, the area of Computer-Assisted Language Learning (CALL) has received much attention as a possibility of providing the recipes to make English as a foreign language (EFL) classes tastier for students. The field of CALL is broad, covering many approaches such as Mobile-Assisted Language Learning (MALL), digital textbooks, Massive Open Online Courses (MOOCs), and the use of applications for computer tablets in language learning. In the present paper, I discuss the use of flipped learning - an approach to teaching that has existed for several years but has recently become more prominent with the use of computer technology in a large variety of subjects - and the benefits it brings to the EFL environment in Japan.

1.2 The Japanese EFL Environment

The hesitation for many Japanese learners of English to produce language has been the center of discussions among teachers and researchers for several years. Some researchers have put this down to students' lack of confidence (e.g., Anderson, 1986), whereas others (e.g., Donahue, 1998; Harumi, 2011) have explained silence in the Japanese EFL classroom as a face-saving act. In Harumi's study, British nationals viewed videos of typical Japanese EFL classes. The silence of the students was perceived as an indication that they were bored, lazy, or simply had no interest in the subject. On the other hand, Japanese nationals regarded the silence as a way of averting difficult situations in which they may make mistakes (Harumi, 2011). Wilson and Leis (2015) suggested the lack of output by Japanese students could be due to students protecting their self-worth; when faced with situations in which they may fail, students would rather attribute their failure to laziness than to inadequate ability. See Covington (1992, 1998) for more about the Self-worth Theory.

Further studies have also revealed shifting patterns in Japanese students' motivation as possible reasons for the reluctance to produce language in Japanese EFL classrooms. Tachibana, Matsukawa, and Zhong (1996) and Matsukawa and Tachibana (1996), for

example, conducted surveys to compare the motivations and attitudes of Japanese and Chinese junior high school students towards learning English. The results suggested that the Chinese students generally displayed more positive attitudes towards learning English over the entire sample as the levels of motivation of the Japanese students tended to wane as they studied the language more. Furthermore, in comparison to the Chinese students, whose motivation appeared to be purely instrumental, the motivational patterns of the Japanese sample were apt to be not so salient, being a mix of both instrumental and integrative. Similar findings were reported in a study of 389 Japanese university students by Yashima (2000), who concluded that the participants identified both instrumental reasons and the goal of building intercultural friendships as the drives behind their will to learn. Japanese students "feel vaguely it will become a necessity to use English in the 'internationalized' society, but they do not have a clear idea of how they are going to use it" (Yashima, 2000, p. 131). The confusion with which Japanese students appear to feel regarding the directions their English studies are heading may be factors contributing to the lack of output from those studying in the Japanese EFL environment.

Other studies have discussed a lack of authentic language in Japanese EFL classrooms for students' hesitation to actively communicate with others in English. In surveys conducted

at Japanese universities by Osterman (2014) and Kikuchi and Browne (2009), for example, students reported that because grammar was concentrated upon too much in many Japanese EFL classes, the language did not reflect what students would use in communication in an all-English environment. Very few students (i.e., 6% in Kikuchi and Browne's study) actually believed that the English they had previously learned would be useful in verbally communicating with others. Due to the focus on grammar in many Japanese EFL classrooms, according to research by Mack (2012), as many as 66% of students remarked that there were not enough opportunities to interact with other students using English. Experience of interaction among students is vital for the Japanese EFL environment, as many students struggle to initiate conversations with other students in their first language, let alone a foreign language (Osterman, 2014).

Previous literature on the current attitudes of Japanese students of English, as mentioned above, strongly suggests a need for more opportunities for interaction between students in English or whatever the target language might be. However, much assessment at Japanese academic institutions tends to focus upon reading comprehension and grammatical features of language (Sasaki, 2008; Forsythe, 2015), which appear to have a backwash effect on the attitudes of students as described above. One way of achieving a balance of both

explicit instruction of the target language and opportunities for increased production, whether it be through the spoken or written form, is flipped learning. This paper will now describe flipped learning, discussing research to date, as well the implications of this relatively new approach to teaching in the Japanese EFL context.

1.3 Introduction to Flipped Learning

Put simply, flipped learning is an approach to teaching, in which explanations of a textbook done during class time in a traditional learning environment are provided to students before the lesson time. Then, activities and practice normally completed by students as homework in a regular classroom are done under the direct supervision of the teacher during class time. See Table 1.1 for an example of the structure of a lesson and extra-curricula activities comparing a traditional and flipped classroom.

One theory of how the idea of flipped learning came about can be branched back to research related to peer instruction by Mazur (1997) and later Crouch and Mazur (2001). At the request of his students, Mazur (1997) handed out copies of his lectures notes before class, rather than after class, in order to allow them to concentrate more on what he was saying during the lesson instead of trying to write down the main points.

Table 1.1

Structure of Lesson and Extra-curricula Activities in Traditional and Flipped Classrooms

Time	Traditional Classrooms	Time	Lesson warm up activity
Before class	Lesson preview on own	Before class	Watching videoed textbook explanations via the Internet
10	Warm up activity	10	Warm up activity
60	Explanation of the textbook conducted by the teacher	10	Checking content of the videoed textbook explanations
10	Practice using the focus point of the lesson	60	Discussions or tasks based on the goal of the lesson
10	Summarizing the main points and explanation of homework	10	Summarizing the main points and comments on class performance
After class	Students do homework, review, and prepare for next lesson	After class	Students review and prepare for next lesson

Note. Time is based on a 90-minute university lesson.

The students in Mazur's class then discovered, however, that he was unconsciously simply reading from his notes, which seemed to be a waste of time for both the students and Mazur himself. After attempting several teaching approaches, Mazur settled on a way that required his students to study the lecture notes before class, which they would then be tested on at the beginning of the lecture. Then, during the lecture time, after confirming students' understanding of the content of the pre-class reading, Mazur had his students participate in discussions. This resulted in the active involvement and participation of all students, even in large classes (i.e., up to 250 students), which would otherwise be a very passive learning environment. Although Mazur's approach to overcoming the traditional passive way of learning was based on science classes, it is valid for all subjects and as Mazur concludes, "we can no longer afford to ignore the inefficiency of the traditional lecture method" (Mazur, 1997, p. 983).

In the early years of the twentieth century, Bergmann and Sams (2012) integrated the idea of providing lesson content as preparation for class with the convenience of online video sharing websites, such as YouTube. Bergmann and Sams argue that in comparison to a traditional classroom environment, a flipped classroom allows more time for personalized learning, an aspect of learning which teachers must prioritize in order to draw the most

potential out of their students (Keefe, 2007). According to Bergmann and Sams, the use of flipped classrooms as a part of blended learning – described by Garrison and Kanuka as "the thoughtful integration of classroom face-to-face learning experiences with online learning experiences" (2004, p. 96) – is essential for teachers and students, listing several benefits to even suggest "we could never go back to a more traditional model of teaching" (Bergmann & Sams, 2012, p. 59). These benefits will be discussed in a latter section of this paper.

1.4 Flipping a Class

Although it may be possible to flip a classroom without the use of multimedia by, for example, giving students papers with reading material and topics to be discussed during class time based on that reading material, with a great majority of university students owning smartphones (Shearon & Leis, 2015) and these devices proving to be effective in increasing the motivation of students to learn (Leis, Cooke, & Tohei, 2014; Leis, Tohei, & Cook, 2015), it may be more beneficial for teachers and students to flip the class using online video sharing websites (e.g., YouTube). This also brings an added advantage of listening practice for students, especially with availability of closed captions proving to be beneficial for improving learners' listening proficiency (Chung, 1999; Huang & Eskey, 2000; Jones & Plass,

2002; Winke, Gass & Sydorenko, 2010; Yang & Chang, 2014) as well as their vocabulary banks (Garza, 1991; Markum, 1999; Huang & Eskey, 2000; Yuksel & Tanriverdi, 2009). A further advantage of using a video-style flipped learning approach comes in the ability to use closed captions in combination with annotated keywords (e.g., using colors or other effects to highlight keywords), which, according to Yang and Chang's (2014) study, enable students to catch the reduced forms of language in addition to clarifying the main points the instructor wants to make in the videoed lesson explanation. Although there are several ways of creating videos to use in a flipped classroom through various online applications or software, one suggestion is as follows:

1. Create a lesson presentation using software such as Keynote or PowerPoint. When creating the presentation, using animation and colors helps make the main points clearer for students.
2. For each slide in the presentation, type a script of what you want to say on a separate document.
3. Use audio recording software such as GarageBand to record your voice as you read the scripts prepared in Step 2.

4. Add the audio to the appropriate slides. When doing this, be careful of the timing of the animation suggestion in Step 1 to be synchronized with the audio.
5. Convert each individual slide into its own short movie using software such as Quicktime.
6. Add each movie created on Quicktime to movie-making software, such as iMovie or Windows Movie Maker.
7. Once all the short one-slide videos have been combined to one longer video, upload it to a video sharing website such as YouTube.
8. Using the closed captions option in YouTube, copy and paste the script written in Step 2 and automate the timing. It is important that instructors be aware that the timing of the captions will need to be manually adjusted to that of the audio recording in the videos.
9. Finally, share the link with students via email or classroom management systems (e.g., Edmodo, Moodle or Google Classroom).

The length of videos can vary from short videos at less than five minutes to longer ones at 20 minutes or more. One report discussing the length of videos uploaded to YouTube suggests that, although shorter videos will engage viewers more, there seems to be no salient

difference between 4-minute videos and 10-minute videos (Ruedlinger, 2012). Therefore, it is recommended that instructors aim to keep videoed lessons for their flipped classroom less than 10 minutes. Similar guidelines of making videos no longer than 15 minutes are made by Bergmann and Sams (2012) in their book *Flip your classroom: Reach every student in every class every day*, one of the most well-known sources of information related to approaches to flipping a classroom. For longer explanations, Bergmann and Sams (2012) suggest creating segments with videos being chunked, for example, into five-minute segments.

The idea of flipped learning has many implications for foreign language learners, in particular those studying English in Japanese classrooms. This paper will now discuss the benefits and possible challenges of converting a traditional EFL classroom into a flipped one.

1.5 Implications of Flipped Learning for Japanese EFL Students

Bergmann and Sams suggest flipped learning "has completely transformed our classrooms, how we think about education, and how we interact with students" (2012, p. 59). To support their claim, Bergmann and Sams list several benefits flipped learning brings to the classroom. For example, such an approach allows students to take charge of their own learning, a responsibility reflecting the definition of autonomy given by Benson (2001): "I prefer to

define autonomy as the capacity to take control of one's learning, largely because the contrast of control appears to be more open to investigation than the constructs of charge or responsibility (p. 47)." With the idea of *Promote Learner Autonomy* appearing as one of the major roles of teachers aiming to increase the motivation of their students (Dörnyei & Csizér, 1998), this is an obvious positive point for flipped learning. Due to textbook explanations being made available online, they are accessible by students at anytime and any place they wish to do their class preparation, allowing them to control and regulate their study. This may be especially valid for Japanese learners, many of whom use public transport such as buses and trains in order to attend the school of their choice. The availability of lesson explanations online would enable such students to use their commuting time efficiently.

It is, however, important for instructors to beware of the dangers related to the convenience for students of having access to lesson content at anytime and anyplace they wish. Because of the flexibility that comes with flipped learning, students may feel they do not have to watch the videos to prepare for class at a particular time. As a result, they may end up not taking the opportunity to watch the lesson, or watch it at the very last minute, just before class begins, thus defeating the purpose of conducting a flipped classroom. Therefore, it is necessary for teachers implementing flipped learning to give students guidance to

overcome this possible weakness.

In order to meet this challenge, it may be advisable for teachers to set a program (e.g., Figure 1.1) for students to follow, in which they must watch the video, take notes based on issues and discussion points that appear in the video and will be touched upon in class, and contribute to a class discussion board. Using learning management systems (e.g., Edmodo and Moodle) or other management systems (e.g., Google Classroom) will help the teacher easily add and remove videos according to the designated plan. Learners will need to be encouraged to possess strong self-control and self-regulation for flipped learning to be successful. The necessity for learners to develop learning strategies and display self-regulation has been well documented in previous studies. See Zimmerman (2008), for example, for further reading on self-regulation in learning.

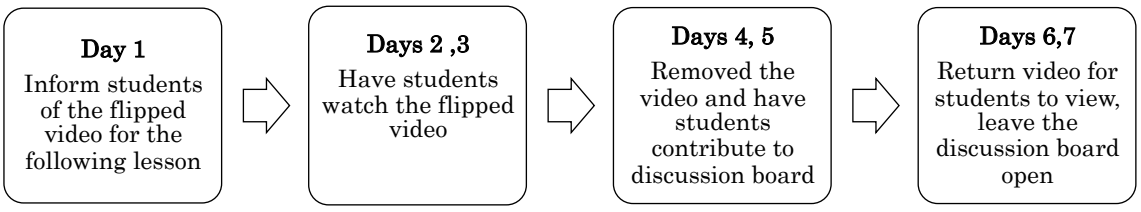


Figure 1.1. An example of a one-week program for guiding students to watch the video explanation in a flipped classroom.

A further advantage of using a flipped learning approach in the Japanese EFL environment centers around the importance put upon grammar instruction. As discussed earlier in the present paper and in previous studies (Sasaki, 2008; Forsythe, 2015), much of English education in Japanese schools tends to focus upon grammatical accuracy, often resulting in a passive learning environment in which students are provided with few opportunities to produce language. As Bergmann and Sams (2012) opine, using flipped learning in foreign language classes, however, enables students to view the grammatical explanation that will be focused upon in class before the lesson starts. For example, by having students watch a short video made available online related to the second conditional before class (e.g., https://www.youtube.com/watch?v=Z8veS1kKtBE), which includes closed captions for ease of understanding, the teacher could use actual class time centered on practicing this grammatical form in a communicative way. In short, the "Presentation" of the popular PPP (i.e., Presentation – Practice – Produce) approach could be reduced to a minimum amount of time, allowing more expenditure on production, an aspect of the PPP approach often neglected in class due to lack of time (Hossein, 2015).

In one of the few studies focusing on the effects of flipped learning for EFL instruction in the Japanese environment, Mehring (2015) reported on the experiences

Japanese university students had while studying an EFL flipped classroom. Mehring concentrated on students' opinions and impressions in addition to self-perceived changes in their study habits. The findings included increased active learning among students, answering the calls to overcome the passiveness of education in Japanese academic institutions discussed earlier in this paper and by other researchers (e.g., Aspinall, 2006; Nakata, 2006). Mehring also reported on his students' opinions that the use of flipped learning increased opportunities for collaboration and interaction with other students in comparison to a traditional classroom environment. This interaction allowed for more peer-evaluation, which in turn encouraged self-reflection and the use of meta-cognitive skills among students, helping improve the confidence with which they approached their language learning.

One other study (Leis, Cooke, & Tohei, 2015) discussed the benefits of using flipped classrooms in English composition classes conducted with university students. The study concluded that the use of flipped learning in such classes resulted in more production by the students (i.e., number of hours studied and length of compositions) in comparison to the students being taught in a traditional classroom. There is, however, still much room for research into the effects of flipped learning on overcoming the passiveness of Japanese students in their EFL classes, especially in subjects encouraging student output, such as

composition writing and speaking classes.

1.6 Conclusion

In the present paper, I have discussed the use of flipped learning and the benefits this teaching approach appears to bring to the Japanese EFL classroom. Despite flipped learning being possible without the use of mobile devices, such technology appears to bring several advantages, such as the convenience of being able to access lesson content at the students' discretion and the possibility of using closed captions to assist learners' listening proficiency and understanding of lesson content. The use of computer technology in the foreign language classroom has been receiving much attention in the past two decades, and especially with the surge of tablet computers and smartphones since 2010. Although some weaknesses have been discussed by researchers, for example, limited screen sizes and attitudes among students that such devices should be used for fun and entertainment, not study (see Stockwell, 2008), their use has still brought about changes in the way foreign languages are taught.

Although there is an abundance of research related to the use of computer technology for language learning, the number of empirical studies focused on flipped learning, especially in the Japanese context, is very limited. Therefore, there is a clear need for an increase in

such studies to provide strong statistical evidence to support the use of this approach for teaching.

CHAPTER 2 - The Effects of Flipped Classrooms on English Composition Writing in an EFL Environment

2.1 Introduction

A little over half a century ago, Morton (1960) wrote that the then newly-available language laboratories provided opportunities for students to take their learning beyond classroom time and study when it was convenient for them. In the early years of the twenty-first century, teachers are still faced with similar challenges of giving individual instruction and encouraging students to make more efforts outside of the classroom. Keefe (2007) implores that if teachers are to achieve the principal goal of education (i.e., for students to learn), it is vital to provide an environment in which individual instruction, or personalized instruction, is at the forefront of the way a teacher handles his or her classes. A few years earlier, Baker (2000) had suggested many instructors had attempted to change their teaching style by making classes more student-centered, thus encouraging students to be more active in their learning. This trend can also be observed in second language (L2) learning motivation research. Ushioda (2011), for example, opines that by identifying with students' personal goals and their individual motivational trajectories, teachers are able to influence their drive

to learn over a longer period of time. Davies et al. (2013) suggest that a regular way of teaching, in which the instructor stands at the front of the room and students learn as a group, often does not provide such personalized instruction. Instead, with the use of technology and flipped learning, a teaching approach prominent in recent discussions pertaining to computer assisted language learning (CALL), an environment in which teachers have the opportunity to provide students with individualized instruction and feedback on their learning progress may be achieved.

Researchers, such as Alvarez (2011) and Moravec et al. (2010), describe a flipped classroom as a teaching methodology in which practice exercises and assignments that are usually completed by students at home in a regular classroom are done during class under the individual guidance of the teacher. Conversely, lectures and textbook explanations, which would traditionally be performed by the teacher in front of the classroom with students listening, are instead recorded and made available to students via an online video sharing website, such as YouTube®. This approach to teaching, coined *classroom flip* by Baker (2000) and *inverted classroom* by other researchers (e.g., Lage et al., 2000) has allowed teachers and students to take learning beyond the constraints of the classroom, and set the tone for educators in the early years of the twenty-first century. One of the most well-known

examples of a lecture site that can be used for a flipped classroom is the series of instructional videos about a variety of topics made available online by Salman Khan of Khan Academy. Khan (2012) emphasizes that all people learn and concentrate in different ways and at different times. Therefore, it is the responsibility of teachers to provide the opportunity to their students to study at a time and place that best meets their learning styles in an attempt to personalize their lessons as much as possible.

In the present paper, we discuss the use of a flipped classroom approach in an English as a foreign language (EFL) environment, investigating whether students studying under this method tend to study more and its effect in increasing the length of students' compositions as well as improving their proficiency to write in English.

2.2 Literature Review

To date, the majority of studies examining the effects of flipped classrooms have focused on mathematics or sciences such as biology. A number of these have concentrated on either reporting on how the flipped classroom was conducted or students' opinions of this way of presenting the text in class. Moraros et al. (2015), for example, looked at the effectiveness of flipped classrooms with 67 Public Health students studying for a Master's degree. The

majority (i.e., 80%) of subjects found flipped classrooms to be effective, although these perceived effects did not prove to reflect their grades in the course. Moraros et al. did, however, claim that students who felt flipping the classroom was an effective way of teaching also tended to display more satisfaction with the course.

In one of the few studies comparing a flipped classroom with a traditional classroom environment, Strayer (2012) asserts that as a result of studying statistics using the flipped classroom methodology, students did become more open towards cooperative learning, although they still had doubts as to how learning tasks were presented. Earlier, in his PhD dissertation focusing on the effects of the flipped classroom teaching methodology, Strayer (2007) reported "[s]tudents in the flip classroom both *preferred* and *experienced* more innovation and cooperation in their classroom learning experience when compared to the traditional classroom students" (p. 180). This follows the advice of Baker (2000) who called for teachers to encourage more active participation by students in the classroom. Strayer (2007) concluded by adding suggestions to teachers who decide to flip their class, including increasing satisfaction and the comfort level of students by decreasing the array of tasks for learning. He cautions that "the variety of learning activities in the flip classroom contributed to an unsettledness among students (a feeling of being "lost") that students in the traditional

classroom did not experience" (Strayer, 2007, p. 180).

In an investigation of the advantages of using the flipped method while also giving an example of a flipped Chinese as a foreign language class in the United States, Egbert at al. (2014) note several benefits, such as increased capabilities to access authentic language, decreased anxiety among students and more opportunities for teachers to promote learner autonomy by centering choices related to several aspects of the lesson on the students themselves. Although Egbert at al. stress that the flipped approach to teaching is a recommendable way to create a student-centered learning environment, based on comments from students who had learned under this method, there were times when direct contact with the teacher during the explanation time would have been useful. Therefore, Egbert at al. conclude that when teachers are considering whether to flip their classroom or not, it is advisable to judge "whether the flip meets the needs of the target students" (2014, p. 9).

In a case study discussing the strengths and limitations of flipped classrooms, Herried and Schiller (2013) discuss how the use of videos in class for educational purposes is especially important in this modern age, and that teachers enable classes to become more student-centered through videos, thus encouraging active learning. Herried and Schiller, along with other scholars (e.g., Bergmann & Sams, 2012), do warn however, that preparation

for flipped classrooms can be very time consuming. This may also be especially true for videos in the present study being used in an EFL environment. Due to English not being the native tongue of the students in the present study, the possibilities of misunderstanding occurring due to insufficient English ability were high. Therefore, captions of what the teacher was explaining, timed exactly with speech, were added to each video in the course described in this paper. Adding and correcting the timing of these captions proved to be the most time-consuming aspect of making the videos. However, the use of subtitles and consequent benefits on language learning has proven to be effective in increasing both the listening ability (e.g., Chung, 1999; Huangu & Eskey, 2000; Jones & Plass, 2002; Winke et al., 2010; Yang & Chang, 2014) and vocabulary acquisition (e.g., Garza, 1991; Markum, 1999; Huangu & Eskey, 2000; Yuksel & Tanriverdi, 2009) of students studying in an EFL environment. Yang and Chang (2014) suggest the use of full captions in combination with annotated keywords (i.e., using colors or other effects to highlight keywords) increased students' comprehension as well as their ability to catch reduced forms of language even more.

Based on the research discussed in this paper thus far, the advantages of using the flipped classroom methodology do seem to outweigh the disadvantages. Fulton (2012a), for

example, reinforces the idea that this approach to teaching allows the core of the lesson to be available to students at anytime of the day and any day of the year. This way of learning, according to Fulton, is appropriate for the 21st century. With the increased accessibility to smartphones, the in-class use of which has proven to be effective in increasing the amount students study in their free time (Leis et al., 2015), flipped classroom videos can be viewed by students almost anywhere, providing learning opportunities to students whenever they are within range of an Internet connection. This idea that students are able to control when and where they study is vital as self-regulation in learning is promoted through the use of mobile devices, essential in modern flipped classrooms. Self-regulation, not that of others, is highly recommended by many researchers of metacognition, and "it is recommended that instruction encourage students to generate and use their own strategies and self-questions; this approach has been found more effective for promoting independent learning and transfer" (Gourgey, 2001, p. 20). Therefore, the use of mobile devices to access the videos used for textbook explanations in flipped learning encourage a learner-focused approach, one that raises consciousness of each individual's preferred styles and strategies for learning (Dörnyei & Ryan, 2015).

There are few studies, however, of the influence of flipped classrooms on the will to

learn or the proficiency of students studying in an EFL environment. This is surprising considering the obvious advantages flipped learning has brought to other fields and that, like movies shown on DVDs, closed captions may be made available to make the content clearer and enhance students' listening proficiency. Kohn and Hoffstaedter (2015) discuss the pedagogical benefits and disadvantages of flipped learning in an EFL context. The use of a flipped classroom approach in cooperation with video conferencing (e.g., Skype) with students from abroad allows students to go beyond the boundaries of the classroom and experience authentic interactions with their language of choice. Flipped learning, however, is as Kohn and Hoffstaedter maintain, rather focused on input. Therefore, it is vital that the instructor incorporate aspects of language learning in a flipped environment that the traditional classroom cannot provide.

In this study, we aim to present a way in which a flipped classroom was used to enhance language learning in a way that could not be done in a traditional classroom, by providing videoed explanations, through the video sharing website YouTube, of how to write an English composition with the added optional function of closed captions to improve students' understanding of the content. Furthermore, we hope to fill the gap in empirical research of flipped learning in an EFL environment thus far by comparing the number of

hours studied by students, in addition to increases in the length of compositions and improvements in proficiency of students studying English writing in a flipped classroom environment and a traditional classroom environment.

2.3 Research Questions

In the present study, the author looks for answers to the following research questions (RQs):

RQ1: Do students in a flipped classroom environment show a tendency to study longer and produce more words in their compositions in comparison to students in a regular classroom?

RQ2: Do students in a flipped classroom environment show a greater increase in proficiency in comparison to students in a regular classroom?

Because the course in this study was focused on improving students' English composition writing skills, the authors felt that the amount of time spent studying and the number of words produced by students would be an indicator of their intended effort, a factor in learning second languages given much weight in previous studies (e.g., Dornyei & Taguchi, 2010). It was decided that proficiency would be measured by how much students

improved their writing ability throughout the course. A rubric (see Appendix) was created with the components reflecting the focal points of the composition classes (e.g., Introduction, Body, and Conclusion).

2.4 The Study

2.4.1 Participants

A total of 22 Japanese students studying at universities in northeast Japan participated in the present study. The average age was 19.57 (*SD* = .75) and there were three male and 19 female students. All students in the Regular Group majored in English in their university studies. In the Flipped Group, eight students majored in English education, one student majored in Japanese education, one in kindergarten education and one in special needs education with a focus on teaching deaf and hard-of-hearing students. All students majoring in English took this class for credit required to graduate from the university. However, those not majoring in English took the subject as an elective, suggesting they were motivated to improve their language proficiency. Table 2.1 displays descriptions of the students in the present study.

Table 2.1

Demographics of students in the present study

Group	Mean Age (*SD*)	Gender		University major	
		Male	Female	English	Other
Flipped	19.36 (.92)	3	8	8	3
Regular	19.73 (.47)	0	11	11	0

2.4.2 Materials and procedure

The present study was conducted as part of a writing course at two separate universities in northeast Japan. A textbook designed to enhance reading skills was used to allow students to observe the writing styles of native speakers of English. The instructor concentrated on the structure of an English composition during class, with a goal for students to write a 500-word English composition at the end of the course. Due to the required length set by the instructor, this final assignment was not included as part of the present study. Students in the Regular Group were taught with the instructor using Keynote Presentation software. Identical slides were converted into movie format and shared with students in the Flipped Group via YouTube®. These videos were made available for students to view four days before the actual

class was taught. Students were required to submit weekly compositions via email. However, to increase the ease with which students could submit these assignments and the instructor could hand out and return them, the Google Docs® add-on Doctopus® and marking add-on Goobric® were incorporated into both classes during Week 6 of the course. The remaining English compositions were submitted and returned using the Doctopus® application.

The present study was conducted over a 10-week period. Two classes were taught English compositions using the same teaching schedule and textbook. In the first week of the study, the instructor had participants watch a short video and then write an English composition based on their opinion of what they saw in the video (i.e., Pretest) with the number of words written by students in this composition being recorded for comparison later in the study. The two classes were then assigned to be taught in either the Flipped Classroom method (i.e., Flipped Group) or a more traditional way of the teacher using presentation software and explaining the text during class (i.e., Regular Group). The same task conducted in Week 1 was repeated in Week 10 (i.e., Posttest) to investigate the differences both within the groups and between the groups over the duration of the course. During Week 10, participants were also asked to complete a survey in order to obtain basic demographics and an indication of approximately how many hours they studied each week during the course.

Table 2.2 shows the procedure for this experiment.

Table 2.2

The procedure for the present study

Week 1	Weeks 2~9	Week 10
Pretest	Instruction using the flipped method or presentation software during class. Participants were required to submit English compositions each week of the course.	Posttest and survey

It should be noted that the content of classes were identical with the same teaching schedule, textbook, instructor and assessment. The instructor, who was one of the authors in the present study, was aware of the possibility of an unconscious bias in teaching the class expected to perform better, thus extra effort was made to ensure the quality of teaching and amount of feedback based on students' compositions remained the same. However, the process of teaching differed depending on the group. Table 2.3 shows the teaching plans used within the 90-minute classes for the two groups in this study. During the in-class composition writing time in the Flipped Group (i.e., 55 minutes) and Regular Group (i.e., 20 minutes), the

instructor was able to walk around the classroom, observing students' progress in their compositions, giving individual instruction and guidance to assist in improving their writing

It is also worth noting that both groups were required to submit compositions on the same topics during each week of the study. The compositions were submitted electronically to the instructor who then made comments based on the structure, which was the main focus of this composition course, and major grammatical errors. Students were also given a score based on a rubric (Appendix) created by the instructor, which concentrated on the principal goals of the course. Students in the Flipped Group were required to submit their compositions at the end of the class, while the deadline for those in the Regular Group was four days after class. As this deadline was chosen, the videos for the Flipped Group were uploaded four days before class, meaning both groups had the same amount of time to write their compositions.

Table 2.3

Teaching plans followed in this study

Flipped Group		Regular Group	
Time		Time	Content
20	Greetings and dictogloss activity	20	Greetings and dictogloss activity
10	Confirmation of content explained in the video explanation and homework	45	Explanation of the text book, including suggestions of extra-curricula work and videos related to the lesson topic to watch online, and checking homework
55	Composition writing	20	Composition writing
5	Confirming preparation for next lesson	5	Confirming deadline for submitting compositions and preparation for next lesson

Note. Time is displayed in minutes; the extra-curricula work and videos to watch online suggested in the Regular Group's class time were mentioned in the videoed explanation given to the Flipped Group.

2.5 Results and discussion

2.5.1 Production

The first RQ in the present study asks whether students in a flipped classroom environment tended to study longer and produce more words in their compositions in comparison to students in a regular classroom. In order to find an answer to this question, this section will be divided into two parts: the amount of time students studied each week, and the number of words students wrote in each composition.

2.5.1.1 Hours studied

Independent-samples *t* tests were conducted in order to evaluate the hypothesis that students studying English composition in a flipped classroom environment would study more than those in a regular classroom. The amount of study time was measured by considering the amount of time students studied before class, after class and total (i.e., a combination of the number of hours studied before and after class).

The tests showed significant differences in the number of hours studied before class, $t(20) = 4.10$, $p < .001$ with a very strong effect size $d = 2.01$ but rather wide confidence

intervals for the difference in means, ranging from 36.16 to 111.11. Similar differences were observed in the total number of hours studied, $t(20) = 2.67$, $p = .014$ with a strong effect size $d = 1.14$. Again, there were wide confidence intervals for the difference in means, ranging from 16.86 to 135.87. However, no significant difference was observed in the number of hours studied after class $t(20) = .21$, $p = .839$. Table 2.4 shows the results for the three tests.

Table 2.4

A comparison of study times for the Flipped Group and Regular Group

Group	Before (*SD*)	95%CI	After (*SD*)	95%CI	Total (*SD*)	95%CI
Flipped	122.74** (51.01)	[88.46, 156.99]	46.36 (24.61)	[29.83, 62.89]	169.09* (70.06)	[122.02, 216.16]
Regular	49.09 (9.29)	[28.39, 69.79]	43.63 (36.41)	[19.18, 68.09]	92.73 (63.58)	[50.02, 135.44]

Note. Before: the number of hours studied before class; After: the number of hours studied after class; Total: the total number of hours studied; * p <.05; ** p < .001.

Due to students in the Flipped Group being required to watch the video explanations before class, it is not particularly surprising that a significant difference was observed in the number of hours studied before the lesson. In a survey conducted in Week 10 of this study, students were asked to indicate what they did before class. Students in the Flipped Group suggested they used the time to watch the explanation video, look up vocabulary, do homework and practice writing the English composition. The Regular Group remarked that their class preparation time was limited to doing homework and looking up vocabulary. This suggests that the difference in the number of hours preparing between the two groups was a result of time spent watching the video explanations and writing composition drafts. Because the average length of the videos was less than 10 minutes (M = 9:10, SD = 1:59) it can be supposed that students spent the majority of their preparation time thinking about and writing drafts of their compositions for class.

It had been expected, however, that the Regular Group students would study significantly more than students in the Flipped Group after class; these students were required to complete an English composition as part of homework after class, whereas students in the Flipped Group had already completed the required tasks for the unit. Such a significant difference was not observed. In fact, the Regular Group spent *less* time reviewing the lesson

and writing their compositions than preparing for class, albeit not statistically significant (i.e., $p = .708$). This low number of hours studied by students in the Regular Group may have been a result of lack of understanding of the lesson content. Classes for both groups were conducted entirely in English. However, the videos used for the Flipped Group included the option of displaying closed captions. When students were unable to understand what was being said in the videos, they could read the captions as well as pause or replay any parts of the lesson at their free will. Students in the Regular Group did not have this option and, as a result, anything that was not understood during the class remained that way unless students asked for confirmation. This lack of understanding and inability to review the explanations given in class seem to be major factors in the little time spent studying by students in the Regular Group.

The combined time students spent studying before and after class proved that students studying English compositions in a flipped classroom environment do indeed study significantly more outside of the class than those in a traditional classroom environment. This may have been a result of those in the Flipped Group being able to clearly comprehend explanations of the process of writing English compositions given in the students' second language. Next, changes in the number of words written by students in their compositions

will be analyzed and discussed.

2.5.1.2 Word counts

Over the ten weeks of the present study, students were asked to write compositions in English based on essay structures and topics discussed in class. In the first and 10th week, the same composition topic was given to students to enable a comparison to be made in the number of words written in each of these compositions. In these compositions, students were required to watch a video about various technological advances predicted for the year 2020 and give their opinion about whether such technology would be good for the environment or not. The students were not given a word limit (i.e., neither maximum nor minimum number) in any of their compositions, therefore the authors deemed that the number of words produced would be a fair indication of the effort they were making in their studies.

Independent samples *t* tests were conducted to evaluate whether students would produce longer compositions in a Flipped Classroom environment in comparison to those studying in a regular classroom. In the first week of the course, no significant difference could be observed between the Flipped Group ($M = 134.73$, $SD = 39.42$) and the Regular Group ($M = 133.45$, $SD = 38.50$), $t(20) = .08$, $p = .940$. In Week 10, however, the number of

words produced by the Flipped Group (M = 260.45, SD = 49.30) was significantly greater than that of the Regular Group (M = 167.36, SD = 76.75), $t(20) = 3.39$, $p = .003$. The standardized effect size index was very strong (d = 1.44) and the 95% confidence interval for the mean difference between the two groups was 35.72 to 150.46. Table 2.5 displays the average number of words produced by students in the first and final compositions in this study.

Table 2.5

Number of words produced by students in compositions

	Week 1			Week 10		
Group	Mean	*SD*	95%CI	Mean	*SD*	95%CI
Flipped	134.73	39.42	[108.25, 161.21]	260.45*	49.30	[227.33, 293.57]
Regular	133.45	38.50	[107.60, 159.32]	167.36	76.75	[115.81, 218.92]

Note. * $p < .01$.

In addition to a comparison between the two groups' number of words in Week 1 and Week 10, a comparison *within* the groups was also conducted to judge increases in the

number of words, or lack thereof by students over the course of the study. Two paired samples *t* tests were conducted to find if statistically significant differences could be found between Week 1 and Week 10 for each group. The results for the Flipped Group indicated that the mean for Week 10 ($M = 26.45$, $SD = 49.30$) was significantly greater than that of Week 1 ($M = 134.73$, $SD = 39.42$), $t(10) = 7.68$, $p < .001$ with very strong effect sizes ($d = 2.82$). The 95% confidence interval for the mean difference between the two groups was 89.26 to 162.19. On the other hand, although some increase in the number of words written was observed in the Regular Group in Week 10 ($M = 167.36$, $SD = 76.75$) compared to that of Week 1 ($M = 133.45$, $SD = 38.50$), it was not great enough to be considered statistically significant, $t(10) = 1.31$, $p = .219$.

Furthermore, a Split-Plot Analysis of Variance was conducted to measure whether the increase in the number of words produced by the Flipped Group was significantly greater than the increased number of words produced by the Regular Group. The results were significant with the Flipped Group displaying great improvements in comparison to the Regular Group between the Pre and Posttests, $F(1, 20) = 9.00$, $p = .007$, $\eta_p^2 = .31$.

Similar to the reasoning behind the number of hours studied by students, it can be reckoned that the ability to review parts of the lesson that students have not understood has

had a significant effect on students' production in class. This is especially vital in the present study, in which classes are not being taught in the students' mother tongue. Therefore, without the ability to watch and listen to the teacher's explanations a number of times and have the option of reading closed captions of what is being said, it becomes easy for students to miss important explanations of the class.

2.5.2 Proficiency

The second RQ in the present study looks at how the proficiency of students changed as a result of studying how to write English compositions in a flipped classroom environment or being in a regular classroom. Students were asked to write a composition in Week 1 of the course, and once again on the same topic in Week 10. At the end of the course, in order to measure the changes in subjects' English composition proficiency, three native speakers of English who were not aware of the purpose of the study were asked to give a score to each composition based on a marking rubric assigned by the authors (see Appendix). The inter-rater reliability was measured using Cronbach's Alpha Reliability Scale, with the results being deemed reliable for data analysis ($\alpha = .878$). The same rubric had been used by the authors to evaluate students' weekly composition and provide feedback. The average scores

for the students' compositions in Week 1 and Week 10 for each group can be seen in Table 2.6.

Table 2.6

Comparisons of English composition proficiency in the present study

	Week 1			Week 10		
Group	Mean	*SD*	95%CI	Mean	*SD*	95%CI
Flipped	11.09	3.19	[9.96, 12.22]	15.55*	4.44	[13.97, 17.12]
Regular	7.67	2.73	[6.70, 8.63]	9.70*	3.88	[8.32, 11.07]

Note. * $p < .001$; Max.: 25; Min.: 0.

Independent samples *t* tests were conducted to determine whether learning in a flipped classroom environment is more effective in increasing the proficiency of students' ability than those studying in a regular classroom. The results indicated that at Week 1, the mean proficiency of the Flipped Group ($M = 11.09$, $SD = 3.19$) was already significantly greater than that of the Regular Group ($M = 7.67$, $SD = 2.73$), $t(64) = 4.42$, $p < .001$ with an effect size index of $d = 1.15$. This suggests that the proficiency of the Flipped Group was higher

than that of the Regular Group at Week 1 of the study. Therefore, rather than compare the two groups' proficiency at the beginning and end of the study, the authors decided to look at changes of proficiency within each group.

A paired samples *t* test was conducted to investigate the changes in proficiency within the Flipped Group and whether a significant improvement would be observed. The results, which can be seen in Table 2.6, indicated that the mean average for Week 10 ($M = 15.55$, $SD = 4.44$) was significantly greater than the mean proficiency for Week 1 ($M = 11.09$, $SD = 3.19$), $t(32) = 5.17$, $p < .001$, with a strong effect size ($d = 1.15$). The 95% confidence interval for the mean difference between the two ratings of proficiency was 2.70 to 6.21.

Second, a paired samples *t* test was conducted to evaluate whether students in the Regular Group were able to make significant improvements in their English composition writing proficiency. The results showed that the mean for Week 10 ($M = 9.70$, $SD = 3.88$) was significantly greater than that of Week 1 ($M = 7.67$, $SD = 2.73$), $t(32) = 3.72$, $p < .001$, with medium effect sizes reported ($d = .61$). The 95% confidence interval for the mean difference between the two ratings of proficiency was 1.78 to 5.07. A Split-Plot Analysis of Variance was conducted to measure whether the increase in the English composition proficiency of the Flipped Group between the Pre- and Post- Tests was significantly greater

than that of the Regular Group. The results were significant with the Flipped Group displaying great improvements in comparison to the Regular Group between the Pre and Posttests, F (1, 64) = 9.00, p = .020, η_p^2 = .08.

A second way of testing the effects on proficiency was conducting a one-way analysis of covariance (ANCOVA). Larson-Hall suggests an ANCOVA as a useful technique to use when "there is some external factor, such as pre-test or TESOL score, which will affect how your students will perform on the response variable" (2010, p. 357). This method has been used in previous studies (e.g., Lyster, 2004; Lim & Hui Zhong, 2006; Fraser, 2007; Larson-Hall, 2008) in order to remove the differences observed at the pre-test stage. The study by Lim and Hui Zhong (2006) comparing a regular reading class and one conducted in a computer-assisted language learning environment especially resembles the study described in the present paper as it found statistically significant differences in the pretest scores. It was therefore deemed satisfactory by the authors to run an ANCOVA to give an accurate indication of the performance of both groups, despite the statistical differences observed in the pretest. The ANCOVA shows that when pretest scores for both groups are adjusted to 9.38, the proficiency of students in the Flipped Group in the posttest (M = 14.67) is significantly greater than those in the Regular Group (M = 10.57), F (1, 63) = 13.50, p < .001,

with strong effect sizes ($\eta^2 = .18$) according to the standards of effect size strength for ANCOVA (Green & Salkind, 2011, p. 213). Table 2.7 displays the adjusted scores for the Flipped Group and Regular Group in this study.

Table 2.7

Comparisons of English composition proficiency with ANCOVA adjustments

Group	Week 1	Week 10	95%CI
Flipped	9.38	14.67*	[13.20, 16.14]
Regular	9.38	10.57	[9.10, 12.04]

Note. * $p < .001$; Max.: 25; Min.: 0; SPSS Version 22 does not supply standard deviations for ANCOVA; 95%CI is not required for Week 1 as both scores are adjust by the ANCOVA to be identical.

The results confirm that using a flipped method in an English composition class is indeed more effective in increasing students' proficiency than a regular class. Significantly greater scores were seen in Week 10 for both groups, which indicates that the teacher's instruction was effective in improving writing ability. However, despite the significantly

greater proficiency observed in the Flipped Group at the beginning of the study, the members of this group were able to increase their scores even further which is evident in the stronger effect sizes in the comparison of Week 1 and Week 10 for the Flipped Group. Similar to the discussion related to the number of hours studied and amount of words produced by students earlier in this paper, the ability to play and replay explanations of the structure of English compositions given by the instructor, as well as accessibility to links recommended to students via the videos rather than simply being mentioned in class, may have been vital factors in helping to increase the proficiency of students in the Flipped Group more rapidly than that of those in the Regular Group.

Another reason for the increased study and production by students and more rapid improvement in proficiency seen in the Flipped Group may be personalized instruction, a vital aspect of education at any level (Keefe, 2007). Students in the flipped classroom environment were able to watch the instructional videos at their convenience and digest the teacher's explanation well before the class. This allowed more opportunities for the instructor to work one-on-one with those students on weekly assignments. In the present study, these weekly assignments were English compositions. As the students were typing their compositions, the instructor walked around the classroom giving advice based on weak points

he noticed in students' work. Furthermore, it was easy for the teacher to give brief explanations to the entire class if there were any common errors discovered. On the other hand, students in the Regular Group only received feedback from the teacher a week after they had completed their compositions. What students were writing was no longer fresh in their mind, and they were not able to make any adjustments to their compositions as those in the Flipped Group were. Furthermore, even though the instructor was able to give feedback to the entire class regarding common errors noticed in students' writing, which also could not be done until days after the compositions had been submitted. The capability of giving immediate feedback to students during the process of writing the English compositions appears to give a clear advantage to students in a flipped classroom environment.

2.6 Conclusion

In the present study, we have discussed how the use of a flipped classroom, a teaching methodology in which tasks normally done by students alone are conducted under the personalized supervision of teachers, was effective in increasing production by students made in class and the quality of written English compositions they produced. The capability to review difficult parts of lesson content and availability of removable closed captions, vital for

making explanations clearer for students in an EFL environment, both contributed to helping students prepare for class more effectively enabling the teacher to give personalized advice and instruction as students wrote compositions during class time. Students in the regular classroom, however, were unable review the teacher's explanations at their leisure and did not have the convenience of the teacher's words being displayed on a screen. These two factors seem to have the most importance in the success seen in students studying under the flipped classroom methodology.

Flipping the classroom requires students to take control of their learning (Alvarez, 2011; Fulton, 2012b), similar to the definition of autonomy provided by Benson (2001), who states, "I prefer to define autonomy as the capacity to take control of one's learning, largely because the contrast of control appears to be more open to investigation than the constructs of charge or responsibility (p. 47)." Therefore, the authors had hypothesized that students in a flipped classroom environment would feel more in control of their learning as they could choose when and where they wished to study, resulting in higher writing ability, demonstrable through measured improvements in the length of and quality of in their writing skills.

Despite the results of this study indicating flipped learning to be greatly beneficial to

students in the language classroom, we do admit it is limited by several weaknesses. First, the sample size of both the RG (i.e., 11) and the FG (i.e., 11) may not be considered large enough to give a strong enough indication of whether similar results would be observed in other classrooms. However, the effect sizes were strong throughout the analyses, and there was no overlapping of 95% Confidence Intervals suggesting such findings may also be observed in other studies. Conclusions may be strengthened with larger sample sizes in future researches.

A second weakness is the lack of base information about the subjects at the beginning of the study. Although demographics were received, further details, such as those related to students' scores in English proficiency tests, the amount of time students spend studying, experience with English outside of classes at school and experience studying abroad will certainly be required in future studies.

A third and perhaps most serious limitation of the study is the statistical difference in proficiency at the pretest stage. Due to the two groups being taught at different academic institutions, the authors were unable to mix participants to create statistically even groups. However, the results of the ANCOVA and paired-sample *t* tests conducted within the groups indicated the proficiency of the FG was significantly higher in the posttest when pretest scores were assumed equal (i.e., an ANCOVA) and when we looked at the progress by each

group. Admittedly, it is possible that a higher proficiency at the initial stage of the study may have contributed to the differences in the number of hours studied and words produced. In future projects, researchers will need to be aware of this and take necessary steps to prevent differences early in the study. Despite this difference, the authors do believe a base on which further research into the benefits of teaching L2 composition writing in a flipped classroom environment has been established.

Teachers considering the flipped classroom methodology, however, must be aware of the burden they will be faced with, especially within an EFL environment. Bergmann and Sams (2012) recommend 10 to 15 minutes as the ideal length for a flipped classroom video. With the added feature of closed captions, timed to match the utterances of the speaker, which proved a vital point in the present study, it can take several hours for teachers to create effective videos. This effort by teachers, however, has statistically proven to be reflected in students' study time, amount of production in writing and quality of their work in class.

As the use of a flipped classroom appears to be effective in an EFL environment, there is a need to look at the finer points of this approach to teaching. What kinds of students tend to get the most out of studying under the flipped classroom methodology? Are students who are highly motivated to study English more likely to be satisfied with this way of

teaching, or are flipped classrooms the answer to increasing the drive to learn in those who have low L2 learning motivation? Questions such as these will be the focus of further research as the quest to discover more about the effectiveness of flipped classrooms continues.

CHAPTER 3 - Dynamics of Effort in Flipped Classrooms in an EFL Environment

3.1 Introduction

In the past two decades, dramatic changes in technology have brought about immense differences to our everyday lives, including the way we work, play, and, of course, learn. Computers are becoming thinner and lighter, yet faster and more powerful. Mobile phones have developed from heavy slow brick-like devices into much lighter smartphones, which give the owner the capability to access the Internet at just about anytime, just by the touch of a button. Through Internet access, not only can contact with friends, relatives, colleagues, and almost anyone around the world be achieved in an instant, information, including photographs and videos, can easily be shared through homepages, social networking services and video sharing web sites. Video sharing web sites, such as the YouTube® site invented by Steven Chen and Chad Hurley, have especially received attention from the public, with YouTube® statistics showing more than one billion users and over 300 hours of videos uploaded to the site every minute, with up to 60% of those watching these videos living in a different country to the people who created them (YouTube, 2015). Although many people use such videos for personal entertainment, the ease with which humans can access videos

recorded in various countries has created much interest in the field of education, especially in foreign language education where access to the target language would otherwise be limited.

Computer-assisted language learning and computer-assisted language teaching have generated a lot of interest among language teachers, especially since the increase in number of language laboratories in academic institutions in the 1960s. Since then, as computers have become cheaper and more accessible since the 1970s, research into how this approach to teaching influences the attitudes to learning and language proficiency of students has also increased. More recently, blended learning, integrating the use of the Internet into regular classroom environments, has grown in popularity. One example of blended learning, the flipped classroom method, has also received much attention from a wide range of scholars. The purpose of this study is to investigate the extent to which the flipped method has on increasing the effort made by students, in addition to changes in L2 proficiency.

3.2 Literature Review

3.2.1 Flipped classroom research in EFL

The flipped classroom method has created much excitement in computer assisted language learning circles. In the flipped classroom method, instructors provide explanations of lesson

content, which would traditionally be conducted during class time, via online video sharing web sites such as YouTube®. Students are then required to watch these videoed explanations via devices that can connect to the Internet, such as computers, tablet computers and smartphones. Because the students have already watched the instructor's explanations, in the designated class time more effort can be spent on giving more personal assistance to students as they work on tasks focused on topics being studied in that lesson.

The majority of studies and literature dedicated to the flipped classroom method have focused on either describing how to use this way to teaching effectively (e.g., Herried & Schiller, 2013; Bergmann & Sams, 2012) or investigating the effects of this method of teaching in non-linguistic subjects such as math and science (e.g., Strayer, 2007). Several discussions have been conducted pertaining to how this approach can be useful for teachers and students learning foreign languages. When writing about the use of technology in foreign language classrooms, Cowie and Sakui (2014), for example, view the flipped classroom as a valuable way of encouraging students to access lesson material while away from the classroom in a way that cannot replicated to the same effect in the traditional classroom.

Although there is a great amount of literature discussing flipped classrooms in an EFL environment, there seem to be few scientific studies investigating whether this teaching

method is effective in assisting students' learning. In one study of the attitudes of university students in northeast Japan toward learning under the flipped classroom method, Mehring (2015) suggested that this method increased the responsibility students felt to be more active in classes, especially in comparison to the traditionally passive high school classroom participants had been used to (see Aspinall, 2006; Nakata, 2006). Ishikawa et al. (2014) used the flipped classroom method as part of a course focusing on improving students' scores in the TOEIC Test. In this study, students were required to solve problems using online courseware for homework, and then during class time, received individual instruction to improve their test-tasking skills. The results of Ishikawa et al.'s study indicated that students were very satisfied with the flipped method of learning and at the end of the course had high confidence that they would be successful in achieving high scores in the proficiency test.

Although the studies conducted by Mehring (2015) and Ishikawa et al. (2014) are vital to gain an understanding of the influence of using the flipped classroom method in an EFL environment, there is still not enough statistical evidence to support the hypothesis that the flipped method brings about significantly higher proficiency and an increase in the amount of effort students make in the classroom, not only measured by a pre-post-test designed study, but also considering the dynamics occurring from the beginning to the end of

the study.

3.2.2.Complex dynamic systems in motivation research

As the name suggests, research related to complex dynamic systems in motivation is far from simple and a detailed report is beyond the scope of this paper. Ellis (2007) explains that in a complex system, changes are perpetual and are influenced by interaction between cognitive, affective, social and environmental factors. Therefore, instructors should not expect to see a static and steady increase (or decrease) in the motivational levels of their students, but rather fluctuations in these levels, as students are affected by variables, both within and beyond the control of the teacher.

Dörnyei, MacIntyre, and Henry (2015) suggest that a number of theories concentrating on measuring students' levels of L2 learning motivation under multiple rubrics, such as the chaos theory introduced by Larsen-Freeman (1997), Ellis and Larsen-Freeman's emergentism (2006), dynamic systems theory (de Bot et al., 2007) and the complexity theory of Larsen-Freeman and Cameron (2008) were responsible for complex dynamic systems being introduced into the field of SLA. Although there is a large amount of literature supporting the theories of a dynamic approach to L2 learning motivation, Dörnyei, MacIntyre

and Henry (2015) recognized a need to increase the volume of empirical studies to give further insight to the complexity of the drive behind a student learning a language that is not his or her mother tongue. In response to this call, more empirical studies have been conducted to fill this important gap in L2 learning motivation research, ranging from a study investigating the dynamic effects and changes of Japanese university students before and while studying abroad (Irie & Ryan, 2015), to one investigating approach and avoidance changes in students' anxiety levels on a per-second timescale due to their performance in language tasks (MacIntyre & Serroul, 2015). Although it is generally accepted that a dynamic paradigm shift in SLA research is necessary, Noels (2014) stresses that it is too early for researchers to discard pretest/posttest research designs, which still give us important knowledge to deepen our understanding of the motivation of language learners.

3.3 Research Questions

Considering the lack of empirical studies related to the effects of using the flipped classroom method in an EFL environment, and the need for a more dynamic approach to research in the field of L2 learning motivation, in the present study, I aim to provide answers to the following research questions (RQs):

RQ1: Does using a flipped classroom method result in significant improvement in participants' effort to write English compositions?

RQ2: How do the dynamics of effort change over the duration of a course taught using a flipped classroom method?

RQ3: Does the use of a flipped classroom methodology in an English composition class result in a significant improvement in proficiency?

Based on one the conclusions of a previous study (Leis, Cooke, & Tohei, 2015), the author predicts that the flipped classroom method will be successful in resulting in a significant increase in effort made by students and likewise a large improvement in students' linguistic proficiency will also be seen.

3.4 The Study

3.4.1 Participants

The participants in the present study were 17 EFL students (four male and 13 female) enrolled in an English composition course at a university in northeast Japan. The average age of participants was 19.47 (*SD* = 1.01). The majority of participants (i.e., 11) majored in

English education at their university. The other majors were special needs education (i.e., four students) with three focusing on teaching deaf and hard-of-hearing students and one on the education of those with developmental disorders. One participant majored in kindergarten education and one in Japanese. The students majoring in English took this English composition course to obtain credit as a requirement for graduation. The other students took the course and an elective in order to improve their English language skills. Because the students either majored in English or chose to take this English course and class attendance by the participants was very good (only three students being absent once each during the study), it was assumed by the author that participants were highly motivated to learn English from the beginning.

3.4.2.Materials and procedure

Despite the present quasi-experimental study being conducted in an English written composition class, the chosen textbook focused on improving students' reading proficiency. By using such a text, the instructor aimed to provide input by having students read and notice the structure (e.g., introduction, body, conclusion, topic sentences, thesis statement, etc.) of passages written in the text and then give opportunities for output by having them write

English compositions each week. No minimum or maximum word limit was required for each of these compositions, meaning students were free to write as much or as little as they liked. The instructor recorded the total number of words written by the students each week.

All compositions conducted throughout the study were submitted electronically. For the first six weeks, students typed their compositions on a Word® document, which was then emailed to the instructor. After Topic 6, the instructor changed the submission format to Google Docs®, which were distributed through the Google Drive® add-on, Doctopus®[1]. This decision was made to enable students to access their documents at anytime as well as for uniformity throughout the composition styles[2].

In Topic 1, students were asked to write a composition based on their opinion of the effects of advances in technology on the environment. After writing compositions on various topics throughout the course, for Topic 12, they were asked to write about the same topic as they had written for Topic 1. These compositions written for Topic 1 and Topic 12 were collected and three native speakers of English, who were not aware of the purpose of this study, were asked to give a score out of 25 to each composition based on a rubric that had been used by the instructor throughout the course (see Appendix). The marking rubric focused upon the structure of the composition, with 60% of the total score being given for

introduction, body and conclusion and 20% being given for content. Because the instructor did not concentrate heavily on grammatical accuracy throughout the course, only 20% of the total score was weighed to grammatical accuracy. The results of effort based on the number of words written and proficiency were analyzed using SPSS Version 22.

It should be noted that after the sixth week of the course, a review test was conducted during class covering Units 1 to 6 in the textbook. The compositions written by students during this test were not included in this study as they were written under different conditions to other compositions throughout the course. Therefore, there was a two-week gap between Topics 6 and 7 in the course.

3.5 Results and discussion

3.5.1 Effort

In the present study, I investigate the effects on student effort as a result of studying under a flipped classroom methodology. To measure changes in effort, first I compared the number of words written in a composition for Topic 1 of the course and the number of words written in the same composition topic for Topic 12 of the same course. In a similar study, Leis et al. (2015) reported that students in a flipped classroom environment made significantly more

effort to write than those in a regular classroom. Also, students in the flipped classroom made significantly more effort in the final writing topic than that in the initial composition. This improvement was not seen in the regular class. Similar results of a statistically significant improvement in effort and proficiency due to being in a flipped classroom environment are evident in the present study.

First, a paired samples *t* Test was conducted to analyze whether a significant improvement in the effort to write could be observed at the end of the study when compared to the effort made to write about the same topic at the beginning. The results indicated that the mean number of words in Topic 12 ($M = 255.88$, $SD = 44.82$) was significantly greater than that of Topic 1 ($M = 131.18$, $SD = 34.15$), $t(16) = 10.26$, $p < .001$. The standardized effect size index, d, was 3.13 and 95% confidence interval for the mean difference between the two ratings was 98.93 to 150.48. Table 3.1 displays the statistical descriptions for the number of words written by students in composition in the pre- and posttest of this study.

These results indicate that the use of a flipped classroom in an English composition course did indeed bring about a significant improvement in the effort participants made in their composition writing. One reason for this may lie in the ability to understand the instructions given by the instructor better under the flipped method than under the traditional

method. In the videos presented to students in this study, subtitles were made available for students to add or remove from the video at will. Because the subtitles were timed to appear on the screen at the same time of the instructor's utterances, participants may have understood the content of the videos much more than if their were no subtitles, or the lesson had been conducted in a traditional classroom.

Table 3.1

Statistical Descriptions for the Number of Words in the Pre- and Posttest in this Study

Test	*M*	*SD*	95%CI	Skewness	Kurtosis
Pretest	131.18	34.15	[113.62, 148.73]	-.25	-1.26
Posttest	255.88*	44.82	[232.84, 278.93]	.68	-.66

Note. $N = 17$; * $p < .001$.

The use of subtitles and consequent repercussions on language learning in an EFL environment has proved to be effective in increasing both listening ability (e.g., Chung, 1999; Huangu & Eskey, 2000; Jones & Plass, 2002; Winke et al., 2010; Yang & Chang, 2014) and vocabulary acquisition (e.g., Garza, 1991; Markum, 1999; Huangu & Eskey, 2000; Yuksel &

Tanriverdi, 2009). The results of Yang and Chang's (2014) suggest although the use of full captions helped all students improve their listening proficiency, providing annotated keywords (i.e., using colors or other effects to highlight keywords) increased students comprehension as well as their ability to catch reduced forms of language even more. Therefore, it may be beneficial for instructors to consider ways of making keywords more recognizable in the subtitles of the flipped classroom videos in order to increase students' comprehension of the content. In the present study, although animation of key points of each section of the explanation was included in the visual parts of the slides, no such annotation had been considered for the subtitles. It can be concluded, however, that the combination of subtitles being made available for students and animated explanations within the slides themselves, increased the level to which students comprehended the explanations of the text given by the instructor in the videos. Thus, students understood more clearly the writing tasks they were given throughout the course, resulting in a statistically greater effort in the posttest. Whether this improvement could be observed each week of this study, and possible reasons for significant spikes or dips ($p < .05$) in the number of words (i.e., effort) made by students will be noticeable by looking at the dynamics of students' effort.

In the second RQ, I ask how the dynamics of effort change as a result of studying

under the flipped method. Table 3.2 displays the average number of words written by students in each composition in the 12 weeks of this course along with the composition topic for each week.

Table 3.2

Average Number of Words in Students' Compositions

Topic	Composition Topic	Words
1	Watch the video and give your opinion regarding advances in technology and their effects on the environment.	131.18
2	Write three diary entries about the daily life of a Japanese university student for a magazine in the United States.	285.06
3	Interview your partner about one aspect of their university life. Write a report on this interview.	292.60
4	Think of three smartphone applications that are popular for university students. Persuade me to download them.	280.41
5	Describe three unusual Japanese foods.	317.35
6	Write a recipe for a food you can cook well.	330.47

7	Think of a field you are interested in (e.g., Australian animals, European architecture). Briefly describe five items in that field.	304.65
8	Choose one of the items you described in Topic 7 and give a more detailed description.	284.35
9	Write diary entries for three days past week.	352.88
10	Write about a first experience you had that was a little scary.	269.88
11	Find a magazine article you are interested in. Write a question based on that article, then write an answer for that question.	251.88
12	Watch the video and give your opinion regarding advances in technology and their effects on the environment.	255.88

Note. Composition topics are summarized for the purposes of this paper.

A Friedman test was conducted to evaluate differences in medians among the number of words written each week. For the purposes of an accurate analysis, the data from students who were absent during the study (i.e., three students) were removed. The test was significant, χ^2 (11, N = 14) = 67.87, p < .001. Figure 3.1 displays a graphical image of changes in student's effort in the twelve topics of the present study

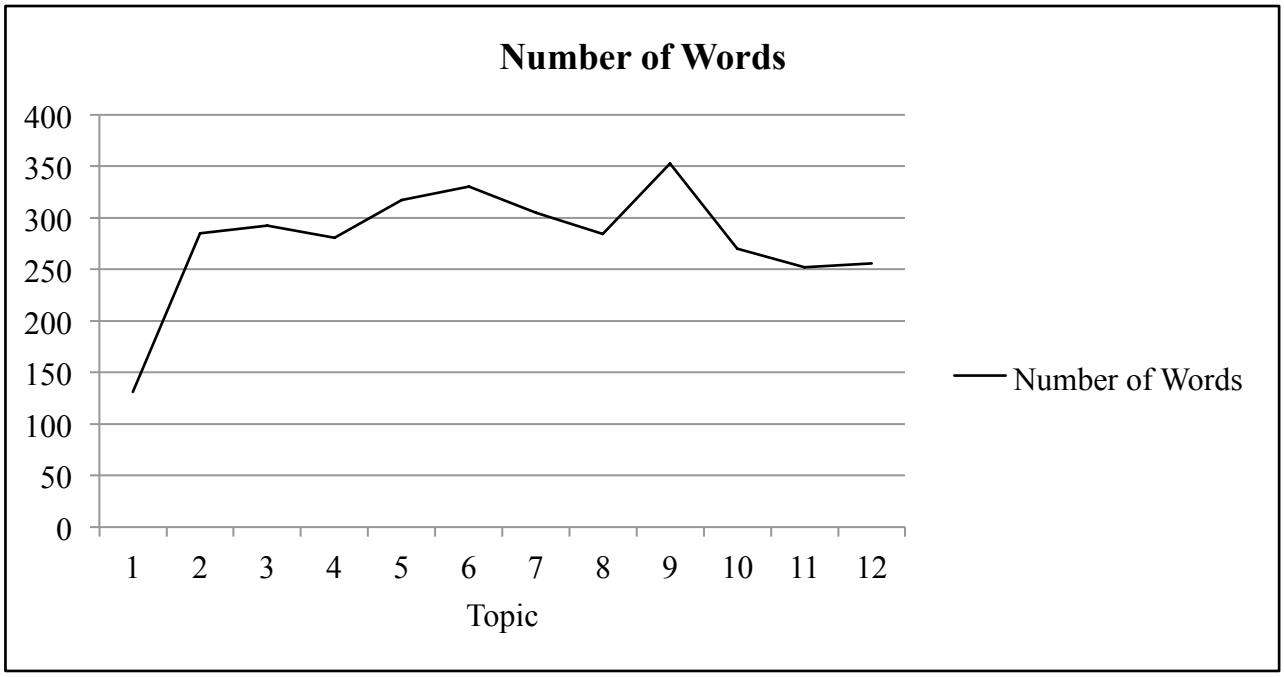


Figure 3.1. The number of words written by students in each composition displayed in a graph. The vertical axis presents the number of words. The horizontal axis shows the topic number. Due to a review test being conducted after Topic 6, there was a two-week gap between Topic 6 and Topic 7.

Some scholars (e.g., Ur, 2013) have expressed concern that the results of research pertaining to the use of technology in the classroom may be influenced by the Hawthorne Effect. The Hawthorne Effect, according to Gillespie (1993), refers to a series of experiments conducted on worker satisfaction at the Hawthorne Works of the Western Electric Company. In the experiments, researchers measured the effects of different shades of lighting on the

productivity of workers. Although there is debate surrounding the actual results of these experiments, some accounts claim that workers' production was affected not by the different shades of light, but rather the simple fact they were being experimented on. Because workers were aware of the experiments, they may have felt a need to increase production. Furthermore, although initially after each change in the shade of lighting there were sharp increases in production observed, this production level seemed to decline almost just as quickly. This is where Ur's (2013) concerns lay; although the use of technology may bring initial improvements in effort and proficiency, it does not seem to result in a lasting effect in the same way a traditional classroom does.

The results seem to partly support Ur's (2013) concerns about the Hawthorne Effect being evident in classrooms where technology is being used. After the first week of the course, a dramatic rise is clearly seen to Topic 2. From there, the dynamic pattern of effort continues and although there are some dips throughout the course, none are sudden enough to suggest a statistically significant ($p > .05$) decline in effort on students' behalf. This decline in the number of words, albeit it minor, may have been as a result of the review test conducted after the sixth topic of the course. Students may have paid more attention to the test than to their weekly compositions, because it had a heavier influence on their overall

grade for the course. A sharp and statistically significant spike ($p < .001$) in Topic 9 (M = 352.88) in comparison to Topic 8 (M = 284.35) provided a brief stoppage to the steady decline in effort seen in the latter half of the course. A salient drop ($p < .001$) was once again observed, however in Topic 10 (M = 269.88) in comparison to Topic 9 (M = 352.88). This rise and drop could be due to the composition topic (i.e., Write diary entries for three days past week), which was arguably the most personal of the composition topics students were asked to write on during this course. Furthermore, because students were asked to write three diary entries in a one-week time frame, it was possible for students to write similar content each time. Thus, it was considerably easier for students to write more each time. Without this spike in the latter half of this study, the concerns of Ur (2013) would have been even more apparent. Therefore, it is vital that teachers considering implementing a flipped classroom methodology to their course be aware of the possibility of a declining drive in the latter half once the 'honeymoon phase' has faded out. Whether this pattern is also seen in other subjects beyond EFL requires further research.

Although not statistically significant (χ^2 (2, N = 14) = 5.57, p = .062), an obvious dip in the number of words produced by participants over a two-week period can also be observed from Week 6 to Week 8. As mentioned in the procedure section on this paper, after

Topic 6 had been completed, students were required to complete a review test of the first six units of the text. A combination of a break from watching the flipped classroom videos, as well as studying for the review test, which included both vocabulary items as well as requiring students to write a composition, may have influenced the decline in students' effort. Also, in Topic 7, participants were asked to briefly describe five different items in a particular field (see Table 3.2 above). By including the word 'briefly' in the composition task, the instructor had hoped to encourage students to focus more on getting to the point and concentrate on the most important parts of information to be conveyed to the reader in their composition, rather than for students to interpret the instruction as meaning that they were not required to write expansively. Furthermore, in Topic 8, participants were asked to develop one of the items they had covered in Topic 7. If students had chosen a theme they were not particularly familiar with for Topic 7, it would have resulted in a lower number of words for Topic 8. With the instructor focusing on three main points in the body of a composition throughout the course, it may have been more beneficial to only ask students to write about three items in Topic 7, especially considering the one-week gap in videoed explanations due to the review test.

3.5.2 Proficiency

The third RQ in this study investigates changes in students' proficiency as a result of participating in a class taught using the flipped classroom methodology. A paired samples *t* Test was conducted to measure whether a statistically significant improvement in the quality of students' written compositions could be observed. Table 3.3 displays the average scores given to students' compositions by three native speakers.

Table 3.3

Average proficiency scores for written compositions in the present study

Week	Introduction (*SD*)	Body (*SD*)	Conclusion (*SD*)	Content (*SD*)	Accuracy (*SD*)	Total (*SD*)
1	2.80	1.82	1.29	2.14	3.02	11.08
	(1.51)	(.84)	(1.01)	(.83)	(.88)	(2.77)
12	3.51*	2.88**	2.53**	3.10**	3.14	15.16**
	(1.55)	(1.35)	(1.80)	(1.22)	(.87)	(4.08)

Note. Max.: 5; Min.: 1; Total scores are given out of a maximum of 25; * $p < .05$; ** $p < .01$.

Paired samples *t*Tests were conducted for each of the variables in the marking rubric as well as the total score. Although a significant improvement was not observed in the category of *accuracy* ($p = .47$), which was relatively high (i.e., 3.02) at the beginning of the course and not focused upon throughout, statistically significant progress was evident in the categories of *introduction* ($t(50) = 2.57$, $p = .01$), with a medium effect size ($d = .46$), *body* ($t(50) = 4.83$, $p < .01$), with a strong effect size ($d = .94$), *conclusion* ($t(50) = 4.21$, $p < .01$), with a strong effect size ($d = .85$), *content* ($t(50) = 4.71$, $p < .01$), with a strong effect size ($d = .92$), and the total score ($t(50) = 6.48$, $p < .01$), with a strong effect size ($d = 1.17$). The strengths of effect sizes are based upon the recommendations of Cohen (1992).

The results support the hypothesis that a significant improvement in students' writing proficiency would be observed as a result of participating in a class taught using the flipped method. One potential reason for this improvement may be in the ability to view the videos, including places misunderstood, as many times as students wished. Passing on the capability to view and review the videoed explanations of the text at times and places meeting each student's individual needs may prove to be effective in increasing the autonomous study habits of students. This perspective of autonomy is based on the definitions provided by a

number of researchers of L2 learning motivation. Benson (2001) states, “I prefer to define autonomy as the capacity to take control of one’s learning, largely because the contrast of control appears to be more open to investigation than the constructs of charge or responsibility (p. 47)”. In addition, Cooke and Leis (2015) argue it is important not to misinterpret autonomy as self-instruction or individualization whereby learners can determine their own needs and act upon these needs independently. Through studies such as Kohonen’s experiential model (1992), autonomy is conceptualized as an interdependent model, involving the student, the institution and the teachers within it. This enables students to explore avenues of self-regulation in learning both inside and outside the classroom. Based on these perspectives of autonomy, it appears the flipped method is especially recommendable for classroom environments in which students may feel less inclined to actively participate in learning process.

3.6 Conclusion

It is often a point of discussion among EFL instructors in Japan that many students tend to make little effort in class. Leis (2014a) argued from the perspective of the Self-worth Theory (Covington, 1992; 1998) that creating a classroom atmosphere in which students do not

compare themselves to others to be vital. Some researchers (e.g., Harumi, 2011) have argued that Japanese adolescents tend not to take the initiative in learning and wait to be told what to do. Therefore, it is necessary to consider teaching methods that encourage students to think more about classroom topics before the lesson is conducted by the teacher. In this paper, I have argued that the flipped classroom method is one way that seems to work in increasing not only the effort, but also the proficiency of students studying English composition writing. The results show that this increased effort is clear throughout the course, despite some dips due to review tests or composition topics which students may not have had the background knowledge to write enough about.

There is still much more room for further investigation into the effects of using a flipped classroom method in an EFL environment. Is this method effective in subjects beyond writing? Is the flipped classroom method more effective for students who have higher proficiency (both based on tests and self-perceived) than for those who have lower proficiency? What does a more holistic view of students' motivation tell us about changes in their drive to study as a result of studying under the flipped method? In the early stages of empirical studies related to the flipped classroom method, however, it is clear that this approach to teaching is something more instructors should consider in order to see positive

reactions in both the effort their students make and consequently the quality of the work they produce.

3.7. Notes

1. Doctopus® is a free add-on for Google Sheets allowing teachers to easily distribute manage and organize students' class projects. See https://chrome.google.com/webstore /detail/ doctopus/ffhegaddkjpkfiemhhnphmn adfbkdhbf?hl=en for more details.
2. By using Google Docs®, which can be installed on one's smartphone or computer tablet, students were able to access and edit their compositions even when outside of the classroom.

CHAPTER 4 - Flipped Learning and EFL Proficiency: An empirical study

4.1 Introduction

It would not be going too far to say that the integration of technology into the classroom is now widely accepted at a great number of academic institutions. Foreign language classrooms have been no exception with the number of studies focusing on Computer-assisted language learning (CALL) increasing dramatically over the past decade. CALL research has focused on various areas, such as the use of mobile devices for vocabulary acquisition (e.g., Levy & Kennedy, 2005; Kennedy & Levy, 2008; Stockwell, 2008), the use of mobile devices for increasing students' second language learning motivation (e.g., Gitaski & Robby, 2014; Leis, Tohei, & Cooke, 2015), and the use of social networking services for foreign language learning (Mork, 2009; Promnitz-Hayashi, 2011; Leis, 2014b). In the present study, the author concentrates on one aspect of CALL, flipped learning, investigating the effects this approach has on the self-perceived and measured proficiency of students studying in such an environment.

4.2 Literature Review

In a simple definition, flipped learning is an approach to teaching in which explanations of the textbook, which would normally be conducted during class time, are provided to students via media such as videos or printed material before classes. These explanations guide students in their preparation for the class, in which they do practice exercises and tasks under the direct supervision of the teacher.

The origin of the idea of flipped learning is debatable, with many researchers citing the work of Bergmann and Sams (2012), who provided clear steps to creating a flipped learning environment with the use of online media and video-sharing web sites such as YouTube. Others mention the work of Baker (2000), who coined the phrase “classroom flip” or Lage, Platt, and Treglia (2000), who used the term “inverted classroom” to describe this approach to teaching. Although no specific word or term to describe the approach to teaching was used, Mazur (1997) and later Crouch and Mazur (2001) reported on physics classes in which students were given lecture notes a week before the actual lecture. Then, the majority of the designated class time was spent concentrating on discussions, with the distributed lecture notes being viewed as guides to assist students as they prepared for each lesson.

Although the use of flipped learning has received much attention in various fields of

education, such as medicine (e.g., Moraros, Islam, Yu, Banow, & Schindelka, 2015) and math (e.g., Strayer, 2007), there had been little research conducted in English as a Foreign Language (EFL) environments until recently. One recent research, conducted by Kohn and Hoffstaedter (2015), investigated the effects of studying in a flipped learning environment integrated with video conferencing (e.g., Skype) with students from abroad. It was believed that the use of video conferencing would allow students to go beyond the boundaries of the classroom and experience real interactions with native speakers of the target language. Kohn and Hoffstaedter maintained, however, that flipped learning is rather focused on input, and therefore, the instructor must incorporate aspects of language learning that focus on output into flipped classrooms.

In a study focusing on the effects of flipped learning for EFL instruction in the Japanese environment, Mehring (2015) reported on the experiences Japanese university students had while studying in an EFL flipped classroom. Mehring concentrated on students' opinions and impressions in addition to self-perceived changes in their study habits. Based on interviews conducted with students, the findings included increased active learning, answering the calls to overcome the oft-cited passiveness (i.e., hesitation to initiate conversations, and lack of confidence to ask questions in class) of Japanese students

(Aspinall, 2006; Nakata, 2006). Mehring also reported that the use of flipped learning appeared to increase opportunities for collaboration and interaction with other students in comparison with a traditional classroom environment. This interaction allowed for more peer-evaluation, which in turn encouraged self-reflection and the use of meta-cognitive skills among students, helping improve the confidence with which they approached their language learning.

Another study concentrating on the Japanese EFL environment (Leis, Cooke, & Tohei, 2015) discussed the benefits of using flipped classrooms in English composition classes conducted with university students. The study concluded that the use of flipped learning in such classes resulted in more production by the students (i.e., number of hours studied and length of compositions) in comparison to the students being taught in a traditional classroom.

There is, however, still much room for research into the effects of flipped learning on overcoming the passiveness of Japanese students in their EFL classes. The passiveness of Japanese learners of English has been documented in much research to date. Harumi (2011), for example, suggested, based upon feedback from students, that linguistic problems (e.g., problems concerning vocabulary and grammatical accuracy), as well as psychological problems (e.g., nervousness, self-perceived pronunciation) to be at the core of the reason for

the general lack of output in Japanese EFL classrooms.

In the present study, the author concentrates on whether using the flipped learning method in a class aimed at improving students' spoken language skills resulted in increased proficiency measured both through an independent test and students' perceptions of their own linguistic ability. The present study aims to provide answers to the following research questions (RQ):

RQ1: Does studying in a flipped-learning environment bring about significant improvements in language proficiency?

RQ2: Does studying in a flipped-learning environment bring about significant improvements in linguistic self-confidence?

4.3 The Study

4.3.1 Participants

The participants in the present study were 27 students attending a university in an urban city in northeast Japan. Of the entire sample, 19 were majoring in English education, three in special needs education, three in general education, and one each majoring in science

education and music education. There were 18 females and 9 males in the sample. At the beginning of the course, the average English proficiency according to the Test of English for International Communication (TOEIC) was 590.37 (*SD* = 126.38). The subjects self-reported that they studied English an average of 45.56 minutes per day (*SD* = 35.17), suggesting they had intermediate English proficiency and were relatively motivated to study English.

4.3.2 Materials

In order to measure changes in their language skills and linguistic self-confidence, the participants were asked to complete questionnaires before and after the course. The questionnaires included items to obtain basic demographics, TOEIC scores (including the breakdown of listening and reading scores), and self-perceived linguistic proficiency based upon CEFR-Japan (CEFR-J). CEFR-J is a list of descriptors for foreign language proficiency based on those provided by the Common European Framework of Reference (CEFR), developed as measures of proficiency of Japanese learners of English. CEFR-J, commonly referred to as the CEFR-J Can-do List, has been used as a base for describing the proficiency of Japanese learners of English in several studies (e.g., Runnels, 2014). (See Negishi, 2011; Negishi, 2012; Tono and Negishi, 2012; and Negishi, Takada, and Tono, 2013 for further on

CEFR-J.) Student numbers were obtained in order to track individual students' responses in these questionnaires thus allowing the researcher to measure differences according to their linguistic proficiency at the beginning of the study.

In addition to this information, separate to the post-study questionnaire, the students were asked to anonymously write their opinions about studying under the flipped learning approach. It was hoped that through feedback provided by the participants, further insights could be gained to discuss reasons for significant improvements, or lack thereof, in both measured and self-perceived English proficiency.

4.3.3 Procedure

The present study was conducted over one 15-week university semester. The class used in this study was an introduction to foreign cultures course. The students were required to watch short videos (i.e., less than 10 minutes) uploaded to the video-sharing website YouTube. The weekly videos, which were entirely in English, briefly summarized the main points of the text, introduced ideas and links to further information related to the text, and gave the main questions for discussions to be held during class time. The videos included the option of viewing closed captions to make the content more comprehensible for the students.

In the first week, the participants were asked to complete a questionnaire, which included items related to their student numbers and basic demographics, proficiency according to their scores in TOEIC, and their self-perceived proficiency as defined by the CEFR-J Can-do List. The researcher, who was the teacher for the course, also introduced the students to the idea of flipped learning. Because the instructor used the classroom management system, Google Classroom, the links for the videos were accessible to the students via their computers or smartphones.

The videos used in this course summarized the main points of the chapter being studied that week in addition to introducing the topics that would be covered in discussions held in class. The purpose of providing the discussion topics beforehand was to allow the students to prepare for the discussions. It was hoped that this would result in a reduction in the anxiety students may have felt in participating in the discussions as well as increase the fluency with which they spoke.

Finally, in Week 15 of the course, the students were once again asked to complete the same questionnaire as conducted in Week 1. In addition to this, using a separate anonymous form, the participants were asked to give their opinions about the use of flipped learning. The quantitative data were analyzed using the data analysis software SPSS Version 22 to measure

whether there were any statistically significant differences before and after the course in the students' measured and self-perceived proficiency.

4.4 Results and discussion

4.4.1 Proficiency

In order to investigate the first RQ, which asks whether the use of flipped learning brings about significant improvements in the participants' linguistic proficiency, the researcher compared TOEIC scores of the participants at the beginning of the study and at the end of the study. Due to three students not being able to take the TOEIC at the end of this study, they were not included in this analysis. Paired-samples *t*Tests were conducted to compare listening scores (hereafter, Listening), reading scores (hereafter, Reading), and total scores (hereafter, Total) of the participants prior to the study (i.e., pretest) and after the study (i.e., posttest). The results were significant for Listening, $t(23) = 2.60$, $p = .016$, $d = .483$, and Total, $t(23) = 3.02$, $p = .006$, $d = .344$, but not for Reading $t(23) = 1.58$, $p = .129$. Although statistically significant improvements were observed for Listening and Total, the effect sizes had, admittedly, medium to weak strength due to the rather small sample size. This is also reflected in the relatively large overlapping of the 95% Confidence Intervals for these two

variables. Table 4.1 displays the descriptive statistics for the TOEIC scores of the participants in the present study.

Table 4.1

Comparisons of Linguistic Proficiencies in the Pre and Posttests

Skill	Test	Mean Score	SD	95%CI
Listening	Pre	307.92	61.49	[281.97, 333.86]
	Post	336.25*	55.72	[312.72, 359.78]
Reading	Pre	278.54	66.94	[250.27, 306.81]
	Post	288.75	62.40	[262.40, 315.10]
Total	Pre	586.46	115.76	[537.58, 635.34]
	Post	625.00**	108.43	[579.22, 670.78]

Note. $N = 24$; * $p < .05$; ** $p < .01$; Three participants' data were removed from this analysis due to their being unable to do the TOEIC at the end of the study.

To further investigate the effects of flipped learning on proficiency, and whether this approach to teaching was more beneficial for the students with lower TOEIC scores or higher

TOEIC scores at the beginning of the study, subjects were divided into two groups based on their total scores in the TOEIC (i.e., Lower Group and Upper Group). By keeping track of the participants' student numbers, the researcher was able to make sure the students who had been put into the Lower Group at the pretest stage remained there at the posttest stage, regardless of whether their posttest scores would have placed them in the Upper Group.

Table 4.2

Descriptions of Upper and Lower Proficiency TOEIC Scores for Pre and Posttests

		Lower Group			Upper Group		
Skill	Test	Mean	SD	95%CI	Mean	SD	95%CI
List.	Pre	260.83	44.76	[232.39, 289.27]	355.00	32.47	[334.37, 375.63]
	Post	298.33*	42.76	[271.16, 325.50]	374.17	30.07	[329.34, 398.99]
Read.	Pre	226.67	47.50	[196.49, 256.85]	330.42	35.25	[308.02, 352.82]
	Post	241.25	37.00	[217.74, 264.76]	336.25	43.02	[308.91, 363.58]
Total	Pre	487.50	55.49	[452.24, 522.76]	685.42	59.79	[647.43, 723.41]
	Post	538.58*	57.90	[502.80, 576.37]	710.42	72.88	[664.11, 756.72]

Note. List: Listening; Read: Reading; *$p < .05$.

As displayed in Table 4.2, paired-samples *t*Tests were conducted to measure whether the students in each group made statistically significant progress in Listening, Reading, and Total scores. For the Lower Group, the results were significant for Listening $t(11) = 2.31$, $p = .041$, $d = .857$ and Total, $t(11) = 2.43$, $p = .033$, $d = .901$, but not Reading $t(11) = 1.04$, $p = .322$. However, the Upper Group showed no statistically significant improvement in any of the tested areas: Listening, $t(11) = 1.74$, $p = .109$; Reading, $t(11) = .72$, $p = .485$; Total, $t(11) = 1.67$, $p = .123$.

The results indicate that the students studying in the flipped learning environment saw significant improvements in their overall and listening scores in TOEIC, but not in their reading scores. The lack of improvement in reading scores is not surprising as in the present course the focus was not on reading, but rather on speaking through discussions related to foreign cultures and current international affairs. The increased scores observed in listening proficiency, especially of those in the Lower Group at the beginning of the study, may be attributed to a concentration on discussions in the course, reflecting the benefits of social interactions for learning (Vygotsky, 1978; Swain & Lapkin, 2002).

Another reason for the increased scores in listening proficiency may lie in the

accessibility the students had to closed captions in the videos provided in this course. Because the videos watched by the students in this study were uploaded to the video sharing website YouTube, the researcher was able to easily add closed captions of exactly what was being explained in the video. The benefits of using closed captions in videos for improving the listening ability of foreign language students has been well documented in previous research (e.g., Chung, 1999; Huang & Eskey, 2000; Jones & Plass, 2002; Winke, Gass, & Sydorenko, 2010), as well as the combined use of annotations (e.g., the use of colors and other visual effects to highlight keywords) to improve students' comprehension skills (Yang & Chang, 2014).

In the anonymous questionnaire given to the students at the end of the course to gain deeper knowledge of their opinions regarding flipped learning, it was commented by several participants that the further videos and links provided through videos for flipped learning were useful for improving their listening skills. For example, one participant commented: *Chapter ni kanren shita douga wo maikai shoukai shitekure, sore ga chishikiteki nimo, risuninngu renshuu nimo hijou ni yaku ni tachi, mata omoshirokatta* [We were introduced to several videos related to the chapter, which were beneficial for our general knowledge as well as listening ability, and were very interesting.] Comments such as this suggest that links

introduced through the video explanations of each chapter did not only help improve the students' listening proficiency, but also built their schemata, or background knowledge: a vital area for improving language proficiency (Maghsoudi, 2012).

It can be therefore be summarized that due to the focus on speaking and listening in the course, the use of closed captions in the videos provided in the flipped learning environment, and building of schemata through links related to material provided in the videoed explanations of the textbook, the students were able to make significant improvements in their listening abilities. Reasons for the lack of improvement in the Upper Group, however, require further research.

4.4.2 Linguistic Self-confidence

In the second RQ, the question is asked as to whether studying under the flipped learning approach would result in the students having higher linguistic self-confidence. Because the course focused upon in this study concentrated on improving the participants' communicative skills through discussions based on recent global issues, the researcher was mostly interested in whether the students perceived themselves to have more ability using spoken English for communication at the end of the study than they did before studying under the flipped

classroom method.

Table 4.3

Descriptions of Can-do Variables for Pre and Posttests

Skill	Test	Mean Score	SD	95%CI
Listening	Pre	6.30	1.73	[5.61, 6.98]
	Post	7.19*	1.42	[6.63, 7.18]
Reading	Pre	7.26	1.63	[6.61, 7.90]
	Post	7.11	1.37	[6.57, 7.65]
Speaking (Communication)	Pre	5.56	2.01	[4.76, 6.35]
	Post	6.78*	1.58	[6.15, 7.40]
Speaking (Presentation)	Pre	6.15	2.09	[5.32, 6.97]
	Post	6.56	1.55	[5.94, 7.17]
Writing	Pre	6.56	1.69	[5.89, 7.23]
	Post	7.41*	.84	[7.07, 7.74]

Note. N = 27; * $p < .01$; Max: 12; Min: 1.

Paired-samples *t*Tests were conducted to compare the participants' self-perceived English proficiencies before and after studying in a flipped classroom environment. The results were significant for three of the five variables in the CEFR-J Can-do List: Listening, $t(26) = 2.80$, $p = .009$, $d = .562$; Speaking (Communication), $t(26) = 3.26$, $p = .003$, $d = .675$; and Writing $t(26) = 3.60$, $p = .001$, $d = .637$. Table 4.3 displays the descriptive statistics for the CEFR-J Can-do scores of the participants in the present study.

Similar to the results of linguistic proficiency measured using TOEIC discussed earlier, statistically significant differences were observed in the confidence the participants felt in their own listening ability. This may be attributed to, as mentioned earlier in this paper, the increased number of opportunities for the students to listen to English with and without closed captions using the videos provided to them. This, along with the experience of participating in discussions and classes conducted entirely in English may have contributed to this increased linguistic self-confidence.

Such improvements in self-perceived proficiency were also observed in the skills of speaking for communication and writing. The increased confidence with which the students approached communicative speaking tasks was not surprising, as the objective of the course described in this paper was to improve their communicative skills while discussing current

international issues and topics. This can be confirmed when referring to the CEFR-J Can-do List, in which Level A2.2 (given a score of 6 in the present study) had the description, "I can exchange opinions and feelings, express agreement and disagreement, and compare things and people using simple English," and the descriptor for Level B1.1 (given a score of 7 in the present study) was "I can express opinions and exchange information about familiar topics (e.g., school, hobbies, hopes for the future), using a wide range of simple English." These two descriptors reflect the goals of the course being described in this paper. At the beginning of the study, the group average was below these descriptions (i.e., 5.56, implying a self-confidence at Level A2.1 on the Can-do List), but increased to between Levels A2.2 and B1.1 (i.e., 6.78 out of a possible score of 12). Whether this increased self-confidence was due to the focus of the lesson being on speaking and discussions, or the influence of being in a flipped learning environment requires further research. However, as is argued below, with the guided preparation for discussions provided via the videos, which would not be as salient in a non-flipped learning environment, the students may have felt more confident verbally expressing their opinions.

In addition to the focus of the course being on discussions, the students' increased confidence to speak English may have also been due to their being told the topics that would

be discussed during class in the weekly videos. This would allow them to prepare their answers, thus increasing the confidence with which they could participate in the discussions. Comments supporting this were clear in the anonymous opinions of the students regarding the use of flipped learning obtained at the end of the study, with one student remarking, for example, *hantenjugyou wa yoshuu ga shiyasui tame kongo mo tuzukete hoshii* [A flipped classroom makes preparing for class very easy, so I want the teacher to continue using it].

As can be seen in Figure 1, the students were seen to take notes during the videos of both the content and their own opinions regarding discussion topics raised. It can be seen in the example shown in Figure 4.1, that while watching a video explaining a chapter in which gender equality and gender nouns (e.g., actress, actor) were discussed, the student took notes about vocabulary items (i.e., -ess, -ienne = *joseiyou* [use for females]), the student's own opinion regarding whether gender nouns should be separate or not, and an explanation of the Whorf Hypothesis, a topic which had appeared in the chapter video. Because the video gave the students clear guidance regarding how to prepare for class and the topics for discussions, the employment of a flipped classroom format appears to have contributed to the confidence with which they approached the lesson and the speaking tasks within.

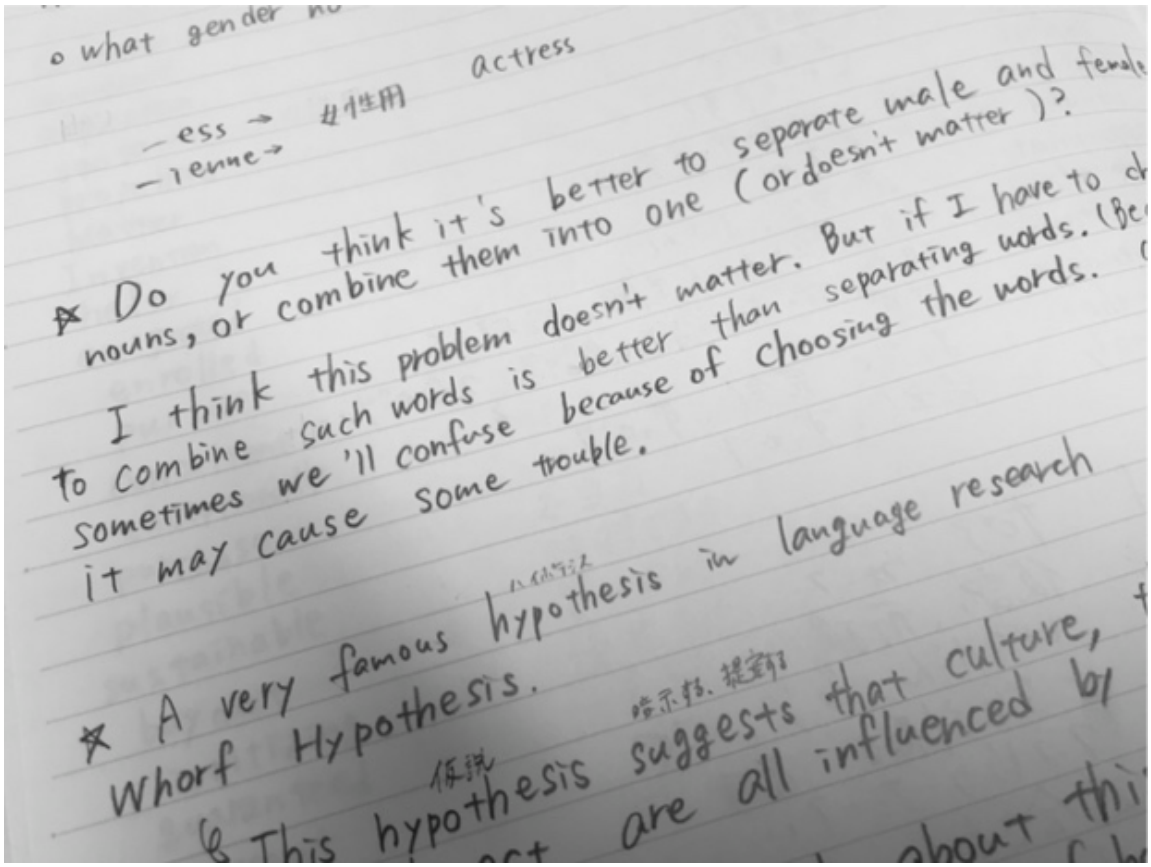


Figure 4.1. *One student's notes taken during a video for a flipped classroom.*

Although the increases in self-confidence students had in their speaking and writing proficiencies had been expected, the increase in self-perceived writing proficiency was not. The class used in the present study did not focus on the skill of writing at all, and the participants were not required to submit any written assignments. Generally, however, because both are considered output skills, speaking and writing tend to have much in common. Therefore, the increased self-perceived proficiency in writing may be explained by the descriptors given in the CEFR-J Can-do List. At the beginning of the study, the

participants had a mean score of 6.56 on a scale of 1 to 12, which ranked them at Level B1.1, describing their proficiency as "I can write a description of substantial length about events taking place in my immediate environment (e.g., school, workplace, local area), using familiar vocabulary and grammar." However, at the end of the study, this increased to 7.41, suggesting their writing proficiency had moved into Level B1.2: "I can report the outline or basic content of newspaper articles and movies, expressing my own opinions, using nontechnical vocabulary and less complicated sentence structures."

With the Level B1.2 descriptor including the aspect of expressing one's opinion, similar to Levels B1.1 and A2.2 in speaking, it can be concluded the increased confidence the participants felt in their speaking ability may have also affected their writing self-confidence. The increased linguistic self-confidence observed in speaking proficiency was attributed to guided class preparation for discussions to be held in class through the videos used in the flipped learning environment. Therefore, it can be concluded that not only did studying in a flipped learning environment directly influence the students' self-confidence in speaking a foreign language, but it also indirectly increased the assurance they had in their own writing ability.

4.5 Conclusion

There is an increasing amount of evidence to support the opinion that the use of CALL is beneficial for improving students' language proficiency. In the present study, the use of flipped learning in a university class focused on improving the students' spoken language skills resulted in improvements in listening skills measured by an independent test of English proficiency (i.e., TOEIC) as well as the confidence the students had in their listening, speaking, and writing abilities measured using the CEFR-J Can-do List. Improvements in measured listening proficiency were attributed to the use of closed captions in the videos provided to the students. Because the students had the choice of whether to display or remove the captions, the videos appeared to provide them with listening practice, which could be accessed by their mobile devices at a place and time of their own discretion.

Salient increases in the students' self-perceived language skills (i.e., linguistic self-confidence) can be attributed to the guided preparation for class provided through the videos explaining the contents of chapters and topics being studied in the course. Furthermore, because topics that were to be discussed during class were introduced in these videos, the students were able to prepare more concretely for class, increasing the confidence with which they approached discussions held during class time.

The results of this paper, admittedly, could be argued against based on two main weaknesses. First, the sample size is relatively small, which reflects the medium to weak effect sizes and overlapping of 95% Confidence Intervals appearing in the statistical analyses. Further studies are necessary to strengthen the findings of the present study. Second, due to the lack of a control group, that is a group of students studying the same material but without the flipped learning aspect, it may be difficult to determine whether the statistical improvements in listening proficiency and linguistic self-confidence are in fact due to studying under a flipped learning environment, or some other factor. Although such a comparison was conducted in the study on the effects of flipped learning on EFL composition writing (Leis, Cooke, & Tohei, 2015), with clear benefits for those studying under the flipped learning approach, the inclusion of a control group in a study focused on spoken language, such as the present study, would strengthen those findings and the opinion that flipped learning is effective in improving the linguistic proficiency of students studying in an EFL environment.

Despite these limitations, the author is confident that the present study has provided further evidence that creating a flipped learning environment for students studying EFL ensures salient improvements in their linguistic proficiencies. It is hope that more language

instructors will take up this effective approach to language teaching for the benefit of their students.

CHAPTER 5 -Intonation Phrases in the Use of Closed Captions for Deaf and Hard-of-Hearing Students in EFL Classes

5.1 Teaching deaf and hard-of-hearing students

The importance of providing equal opportunities for all students has been underlined in recent years with an increasing number of students who have some kind of disability attending university. Tertiary institutions must go beyond simply constructing barrier-free facilities, and maintain a learning environment enabling students with special needs to take any class with any student. In late 2012, the Ministry of Education, Culture, Sports, Science and Technology - Japan (MEXT) decreed that all educational institutions provide equal opportunities for students with disabilities to receive the same quality of academic instruction as able students (MEXT, 2012). According to MEXT's report, the number of Japanese university or two-year college students with some kind of disability more than doubled from 4,937 in 2006 to 10,236 students in 2011. This increase also included deaf and hard-of-hearing (DHH) students, the number of which registered at university or two-year colleges rose by 356 to 1,556 in the same five-year period. In order to meet the needs of these students, MEXT initiated an "inclusive education system" directing academic institutions to

provide a learning environment that allows students with such disabilities to receive the same quality of education and freedom of career choice as any student. As a result, teachers and staff at such institutions are required to consider methods of allowing students with disabilities to integrate smoothly into the general curriculum and classes. One area in which it has proven to be a major challenge for this to occur successfully, especially in the case of DHH students, is in second language education.

As expressed by Fukuda (2009), the literature on teaching English as a foreign language (EFL) in Japan to DHH students is rather limited. Suggestions and advice for assisting with the skills required to improve listening comprehension proficiency are even more limited. There are, however, some reports on methods undertaken by various institutions within Japan. According to Fukuda (2009), one of the most popular approaches to enable a smooth transition into regular classes for DHH students, is a note-taker system, which has been introduced at many universities. Such a system requires a staff member or another student from the university who has no hearing impairments to summarize what the teacher has said during class and take notes for the DHH student, either in a note pad or on a computer. Even though Fukuda (2009) expresses concern that DHH students are required to arrange all the notes together like a jig-saw puzzle in order to make sense of the lesson, a

recent investigation by Hosono, Suto, Osugi and Matsufuji (2012) suggests that the note-taker system is in fact seen as the most effective by DHH students. In the survey conducted by Hosono et al., 63 DHH students were asked to list the most effective methods of support enabling them to understand and participate in EFL classes. The results indicate that a note-taker was the most effective method, followed by talking to friends, displaying the lesson content on a screen via a projector, using PowerPoint® and translation into sign language. In addition to this, participants in the survey were asked to indicate methods they would like to try to help them become more involved in regular lessons. Note-taking via computer, followed by video with captions were seen as the two methods participants were most eager to use in class.

While considering this interest in the incorporation of computer technology, in the remainder of this paper, I compare two methods of presenting passages, discussing which results in DHH students participating more easily in listening tests and instruction in EFL classes at regular universities. The methods suggested in this paper reflect the preferences indicated by participants in the study conducted by Hosono et al. (2012), proposing the use of computer technology to present chunks of language, allowing DHH students to experience the same kind of listening tests as their peers who do not have hearing impairments.

Training the listening skills of DHH students can be challenging. Various methods have been used to allow DHH students to participate in listening practice. Fukuda (2009) suggests that listening practice could incorporate speed-reading, giving DHH students a written script to read while others in the class practice authentic listening tasks. Fukuda adds that such speed-reading activities will train DHH students to prepare for reading subtitles when watching movies. The focus on reading, rather than listening, in EFL classes reflects the advice of Tsoneva and Makrieva (2011), who argue that it is imperative for teachers of DHH students in an EFL environment to focus only on the reading and writing skills of their students, and ignore the listening and speaking skills. However, with the use of computer technology to add captions to videos timed at the same rhythm as natural English speech, it is possible to create listening tests for DHH students in an authentic way, allowing them to 'hear' language in a similar way to students with full hearing.

One common way of adding captions to a video, and often used in English proficiency tests for DHH students, is to have the words scroll across the computer or television screen as students attempt to comprehend the message racing by before their eyes. This method, however, is not advisable due to the difficulty of reading the sentences, as well as the unauthentic rhythm of speech that does not reflect the way a native speaker of English would

make such utterances. Instead, the content of the listening test should be displayed on a computer or television screen in intonation phrases, also referred to in the field of phonology as sense units, breath groups, intonation units and tone groups, animated by computer to appear and disappear at the same timing and speed of natural speech.

5.2 Intonation phrases

The importance of Intonation Phrases[1] (IPs) when presenting information orally has been well documented in previous research not just in the English language. In a study looking at the importance of IPs conducted in Japan, Sugito (1999) made a 70-second recording of a television broadcaster reading a piece of news and digitally removed all pauses from one copy of the recording. Sugito then had 20 members of the general public listen to the news report twice, once without the pauses removed and once with the pauses removed. Reactions from listeners indicated that although there were no problems comprehending the news report with pauses, once the pauses were removed, it became too fast and listeners were unable to understand what was being said. Sugito stresses that adding pauses in language allows humans to reintegrate information in their short-term memory and consequently process it

into their long-term memory. Therefore, unless pauses are used in speech, the interlocutor does not have enough time comprehend the speech they have heard.

The length of an IP is often at the discretion of the speaker at the time utterances are being made. Tench (1996) explains that in usual speech, IPs generally last between one and two seconds. Therefore, within one utterance, a speaker may make one, or many more IPs. Wells (2006) explains that an IP will typically contain only one or two accented words, however it is possible for one IP to have up to five. Due to the variety in length of IPs, it is necessary to consider the relationship between IPs and grammatical features for the purposes of providing spoken English in written form for the purposes of DHH students. Wells reports that the influence of grammar on the length of IP is clear in some cases. For example, pauses are commonly observed at the end of sentences, between clauses and "anywhere where it will make the grammatical structure clearer" (2006, p. 193). See Wells (2006) for a list of the grammatical features of IPs.

5.3 Research questions

Considering the importance of IPs in spoken language for within the above research context, in this paper, I aim to gain a deeper understanding of which method of presenting listening

test scripts (i.e., in IPs, or scrolling without pauses) is easier to understand and causes less anxiety for those taking the test. I address the following research questions (RQs):

RQ1: Is a passage presented in IPs more intelligible than one presented without pauses?

RQ2: Do DHH students feel less anxiety when reading a passage in IPs than a passage presented without IPs?

Through the first RQ, I hope to gain an understanding of whether a text presented in IPs reflects the kind of language those with full hearing are used to. The author predicts that, like the findings of Sugito (1999), the deletion of necessary pauses in language, even when presented in a printed version on a computer screen, will result in listeners experiencing difficulties in comprehension, regardless of whether they are native speakers of English or not. This will then support the author's suggestions that language presented to DHH students in the written form should be done so in IPs, providing a more authentic example of language.

The author also expects to see similar results in the second research question, based on the suggestions of Hosono et al. (2012) that DHH students found the note-taker system to be most effective method of participating in regular classes and were eager to try a note-taker

system via computer. As note-takers are only able to provide short chunks of information at one time, not a continuous breathless clutter of words, it may reflect the method preferred by DHH students, thus decreasing the possibility of increases in anxiety throughout the listening exercises.

It is hoped that by answering these two research questions, a deeper understanding of the way language should be presented to DHH students when using closed captions, one that reflects the way English is uttered by native speakers, will be reached.

5.4 The Study

5.4.1 Study 1

The first RQ asks whether a passage presented visually in IPs is indeed more intelligible than a passage scrolling across a computer screen without IPs. In order to find an answer to this question, I conducted an online survey similar to that reported on by Sugito (1999), comparing a passage presented twice: with and without IPs.

5.4.1.1 Participants

A total of 60 examinees voluntarily participated in the survey. The survey was created using the free software Google Forms and included items asking whether the participants were native speakers of English and if they had any hearing impairments. The mother tongue of participants was asked in order to resolve whether any differences existed depending on their first language. Because I wanted to obtain the opinions of those without hearing impairments for this study, the data of those participants who indicated they had a hearing impairment (i.e., one) were removed from the analysis, resulting in data from 59 participants to be analyzed for this study. Of these participants, 27 (i.e., 47.76%) were non-native speakers of English (NNS) and 32 (i.e., 52.24%) were native speakers of English (NS).

5.4.1.2 Procedure

In the survey, participants were shown a 78-word passage twice: once with the content scrolling across the screen, and once shown in IPs. Both passages lasted 35 seconds and were silent. Although not instructed to do so, participants were able to watch the videos multiple times if they wished. After watching the videos, participants were asked to indicate which they felt was easier to understand. Finally, participants were given an option to provide

feedback regarding the reason for their choice of video. The survey took participants between two and three minutes to complete, depending on whether they added a comment or not.

5.4.1.3 Results and discussion

The first RQ in the present study asks whether a video presenting a passage in IPs is easier to comprehend than a video presenting a passage without pauses. As displayed in Table 5.1, four participants (i.e., 6.78%) indicated a passage without IPs to be easier to read, while 55 participants (i.e., 93.22%) elected the passage in IPs to be easier.

Table 5.1

Comparison of presentation style of passage

	All subjects	NS	NNS
Video Preference	*N*	*N*	*N*
Without IP	4	3	1
In IP	55*	29*	26*

Note. * $p < .001$; IP: intonation phrases; NS: native speaker of English; NNS: non-native speaker of English.

Although the results quite obviously show a much higher preference for a passage with IPs, a non-parametric chi-squared test was conducted to see whether the video presenting a passage in IPs was statistically easier to understand than a video presenting the script scrolling across the screen. The results of the test were, as expected, significant, χ^2 (1, $N = 59$) = 44.09, $p < .001$. In a follow-up analysis, the responses of both NS and NNS were measured using a non-parametric chi-squared test. The results indicated that both NS,χ^2 (1, N = 32) = 21.13, $p < .001$, and NNS,χ^2 (1, N = 27) = 23.15, $p < .001$, found the passage in IPs to be statistically easier to follow.

In addition to statistical backing of whether passages presented in IPs were easier to understand than those without pauses, participants were given an option to comment on reasons for their choice of video. A total of 12 (i.e., 20.34%) participants made comments in the survey. All of these comments were made by those who had chosen the video presented in IPs. Table 5.2 shows a list of comments related to the choice of video made in the survey.

Table 5.2

List of comments related to the reasons behind participants' choice of video

Video choice	NS or NNS	Comment
In IP	NS	Number 1 was far too fast to be read, so I couldn't answer any question about it. Number 2 was at first quite easy to read but became a bit difficult at the end.
In IP	NS	I could read number one, but I felt it would be bit fast for someone for who is learning English. For the second video it felt like the pauses were a bit unnatural, but that it went at a better pace.
In IP	NNS	I've got dizzy to read the first one (sic). When I read the second one, I felt like I was listening to a careful statement with a soft nice voice and felt like there were breaks between the sets of words in each pages (sic), but the first one (sic) I almost felt like someone is yelling at me with no pause.
In IP	NNS	Number 2 was easier to read because the sentences were cut into phrases.

Note. IP: Intonation Phrases; NS: Native speaker of English; NNS: Non-native speaker of English; Number 1: Passage presented without IP; Number 2: Passage presented in IP.

Both the statistical data presented in Table 5.1, and qualitative data in Table 5.2, clearly show that, similar to the reactions of subjects in the study conducted by Sugito (1999), a passage presented without pauses, presented visually (or orally), does not allow enough opportunity for the reader (or listener) to cognitively process the inputted information and comprehend what has been read (or heard). The qualitative data provided in comments by participants in the study reinforces the necessity of IPs in order for language to be comprehensible. Similar opinions are held in other studies. Wells (2006), for example, suggests that although native speakers of English tend to make allowances for errors related to the sounds of English spoken by learners of the language, they are not, however, so forgiving on problems related to intonation, the point of language being focused upon in this study of a silent listening test. Likewise, Frazier, Carlson and Clifton (2006) argue that words must be joined together into phrases, almost musically, in order for language to be comprehensible. Frazier et al. (2006) continue, adding that this is not only essential in spoken communication, but is also apparent in silent reading, the method of testing listening

proficiency in the present study. Such importance laid upon IPs from a theoretical viewpoint give weight to comments from participants in this study, both NS and NNS, that the passage presented without pauses was too fast to comprehend and caused the readers to feel dizzy.

From a pedagogical perspective, the inclusion of intonation markers allows teachers to demonstrate intonation patterns that are fitting for certain situations (Kelly, 2006), encouraging learners to realize that, as mentioned by the third participant's comments in Table 5.2, speech with IPs seems to be softer and friendlier, whereas utterances without breaks in speech appear to be full of anger and the listener feels he or she is being yelled at.

In sum, both the quantitative and qualitative data obtained in Study 1 suggest that a passage presented in IPs is indeed easier to understand than one presented without breaks. Furthermore, participants in the study commented on the difficulty of the passage without breaks, due to its seemingly high speed. This was true for both native and non-native speakers of English.

5.4.2 Study 2

The second RQ seeks an understanding of whether a passage presented in IPs results in lower anxiety in deaf and hard-of-hearing (DHH) students than a passage presented visually without pauses.

5.4.2.1 Participants

Table 5.3

A description of the participants in the present study

			Hearing ability	
Participant	Gender	Age	Left ear	Right ear
Participant 1	Male	21	68dB	58dB
Participant 2	Male	24	90dB	110dB
Participant 3	Female	20	70dB	100dB
Participant 4	Female	19	81dB	82dB
Participant 5	Female	20	80dB	>130dB

Note. dB: decibel.

Five DHH students attending a university in northeast Japan voluntarily participated in the present study. There were two males and three females and their ages ranged from 19 to 24 (M = 20.80). Four participants were undergraduate students and one was studying in graduate school. The level of students' ability to hear varied from having moderate hearing loss at 58 decibels (dB) to having no hearing at all at more than 130dB.[2] Table 5.3 shows a description of the participants in this study.

5.4.2.2 Procedure

In order to gain an understanding of the degree of anxiety participants felt while reading the passages, the researcher conducted interviews in the participants' native language (i.e., Japanese), in which the participants were required to read English passages either displayed in IPs or without pauses. Before the interview began, all participants agreed to be video recorded during the interview and to wear a Polar RCX5 Heart Rate Monitor. This heart rate monitor was chosen, as it would provide second-by-second idiodynamic patterns in participants' heart rate during the interview. In recent research in second language learning motivation (e.g., Dörnyei, 2009; Dörnyei, MacIntryre & Henry, 2014), there has been a call for more dynamic approaches, even considering changes in a subject's levels of motivation

and anxiety second-by-second. The method of using a heart rate monitor has proven to be an accurate indication of physiological reactions to being frightened or surprised (MacGill, 2014) and a constantly changing anxious state (e.g., Gregerson, MacIntyre & Meza, 2014) and thus was used in this study.

The participants were given a choice of either the interviewer speaking directly to them, or using a speech-to-text application preinstalled in an iMac® computer, which would convert language spoken by the interviewer into text and read by the interviewee. All participants declined the speech-to-text option and were able to converse with little difficultly by a combination of sounds and lip reading. The interview began with participants being asked a few random questions in order to help them feel relaxed. Using a Keynote® presentation on a 27-inch iMac® computer, the participants were presented with six different colored spheres, each of which had a page link to one of three passages, which were displayed either in a scrolling no-pause style, or in appearing and disappearing IPs. All passages, regardless of the style they were presented in, took 24 seconds to complete. This time was chosen, as it was the average time for three native speakers to read each of the three passages at natural speed. Between each passage, participants were given approximately 20 seconds to prepare for the consequent passage. After the sixth passage, participants removed

the heart rate monitor, which was immediately synchronized to the Polar Personal Trainer website, (see https://www.polarpersonaltrainer.com for further details). The website provided a line graph displaying changes in the participants' heart rate throughout the interview. Any spikes in the heart rate (i.e., a sudden increase of more than 10 beats per minute) were discussed with the participant while watching the recorded video of the interview to gain an understanding of the reason for the sudden increases. The increase of 10 beats was considered performance inhibiting, as a slight increase in nerves may not necessarily be detrimental for students (Xiao & Wong, 2014). The entire interview lasted approximately 25 minutes.

5.4.2.3 Results and discussion

Three main patterns emerged from the interviews with participants in the present study. First, Participants 1, 4 and 5 all displayed anxiety reading passages without pauses, both in an increase in heart rate when the passages were displaying on the computer screen and in the following questions, when they commented that they felt anxious about not being able to understand the content. Similar to the subjects in Sugito's (1999) study, participants explained that the text scrolling across the screen without pauses was too fast to comprehend. Figure 5.1 displays an example of this with the heart rate of Participant 1 increasing from 58

beats per minute (bpm) to 82bpm when faced with the first passage scrolling across the screen, two minutes into the interview. Although such a rise in bpm was not observed during the second scrolling passage at three minutes, a second spike was noticeable with the participant's heart rate increasing from 69bpm, to 88bpm at four minutes into the interview when Participant 1 was once again faced with a scrolling passage. Although some minor spikes were observed when passages appeared on the screen in IPs, such as at the 06:00 point in the heart rate graph of Participant 1 (Figure 5.1), the rise was not abrupt enough to be considered a substantial increase in the participant's anxiety.

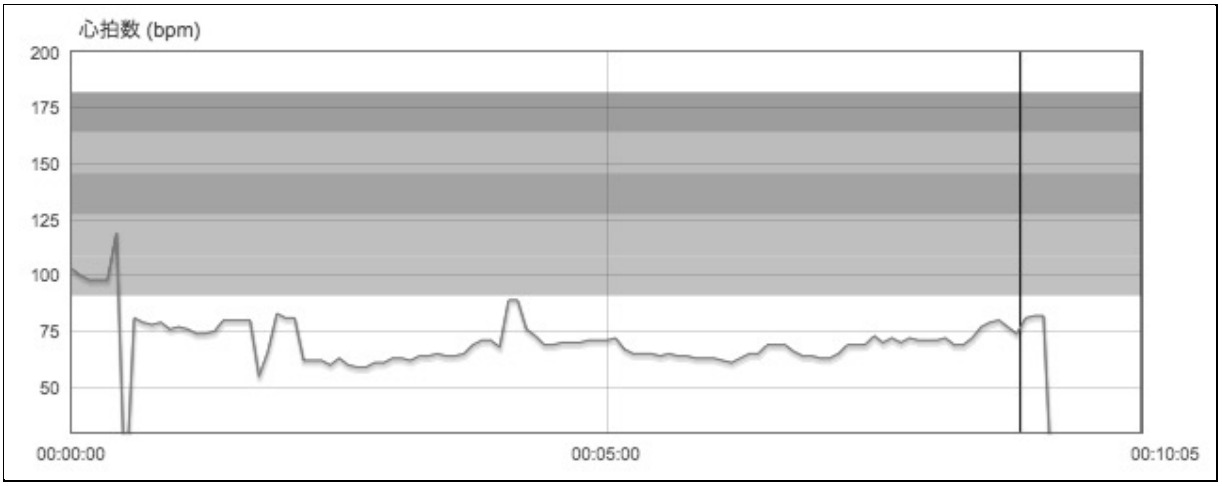


Figure 5.1. Changes in heart rate during the reading test with Participant 1. The vertical y-axis displays the average heart beats per minute. The horizontal x-axis shows the movement of time during the reading test. Participant 1 was presented with scrolling passages without pauses at the 02:00, 03:00, and 4:00 points in the reading test, and with passages

presented in IPs at the 05:00, 06:00, and 07:00 points during the reading test. The reading test concluded at around 08:00, after which the heart rate monitor was removed.

In order to confirm the rise in heart rate bpm was due to the participant's anxiety rather than some other emotion, immediately after the reading tests concluded, the heart rate monitor was synchronized to a computer and the participants were asked to speculate on reasons for the spikes in their heart rate while also watching the video of the completed readings tests. Once again, a common theme of concerns with pace and inability to comprehend the content appeared in participants' explanations for increases in their heart rate: *I felt really anxious, because I could not work out the answer* (Participant 1); *I found it difficult, almost impossible, to put the information in my mind* (Participant 4); *I had no idea from the beginning, so just gave up* (Participant 5). Physical signs of anxiety were also visible when, for example, Participant 4 leaned forward and squinted her eyes when faced with a scrolling text. On the other hand, when presented with a text in IPs, she leaned back in her chair, with a more relaxed expression on her face.

At the end of the reading test, when asked whether participants would rather the scrolling text without pauses or the passage presented in IPs in a classroom or proficiency test,

both Participant 1 and Participant 5 expressed a preference for the latter, explaining: *It seemed slower and easier to understand* (Participant 1) and *The scrolling method is too quick* (Participant 5). Participant 4, on the other hand, indicated a preference for the scrolling method despite both outer and inner displays of anxiety (i.e., physical expressions of confusion, inability to comprehend the text and increases in heart rate during the scrolling passages). She did, however explain her preference as one due to experience with the scrolling method: *I am used to this way, so I think I like it better. However, if I got used to the appearing disappearing way, I may come to prefer it.*

An interesting comment from Participant 5 came when she suggested that *having chunks of language is better, but if they become too short, like one or two words, the passage can become a little difficult to follow*. This reflects the advice of Wells (2006), who remarked, "IPs tend to be longer, and have more accents, in scripted material and in material read aloud. In spontaneous conversation they tend to be shorter, with fewer accents" (p. 192). Therefore, in passages similar to those presented in this study, longer IPs of language may be ideal. On the other hand, when testing students' listening abilities using methods being discussed in this paper on conversations between two interlocutors, shorter IPs may reflect the more authentic language spoken by native speakers of English.

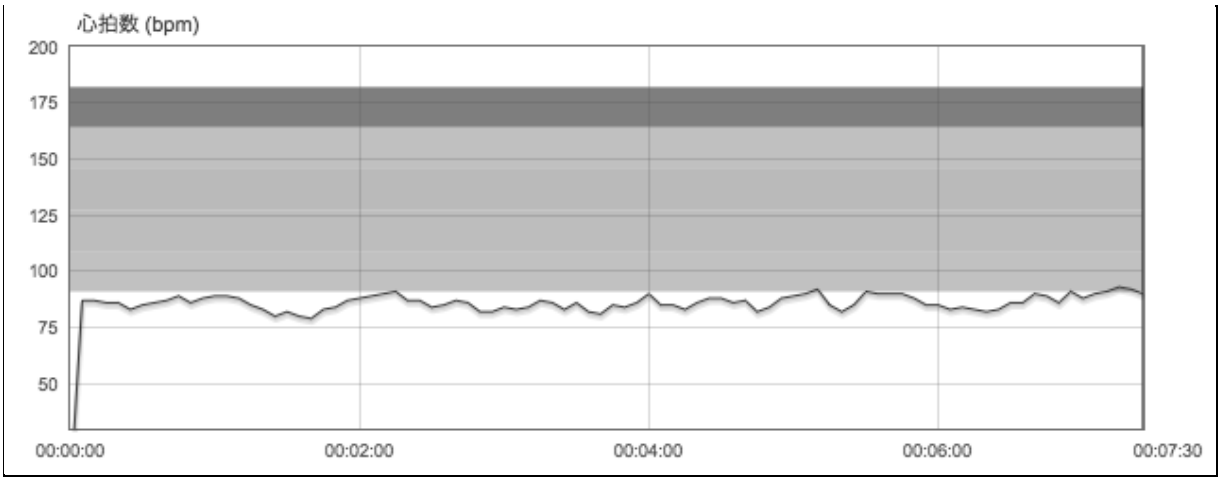


Figure 5.2. Changes in heart rate during the reading test with Participant 2. Participant 2 was presented with scrolling passages without pauses at the 01:30, 03:30, and 05:30 points in the reading test, and with passages presented in IPs at the 02:30, 04:30, and 06:30 points during the reading test. The reading test concluded at around 07:30, after which the heart rate monitor was removed.

A second pattern observed in the interview was one that was relatively static (see Figure 5.2). This steady state, without any significant spikes or dips in heart rate bpm, was also observed in a study measuring participants' levels of anxiety in an interview situation (MacIntyre & Serroul, 2014). This may have been due to a number of reasons, such as his being more mature than other participants, or simply he may have had a calm personality. Another possibility is that the participant arrived approximately 10 minutes late for the

interview. When he arrived at the interview room, he was quite out of breath. Despite efforts by the interviewer to help the participant to relax (e.g., drinking tea and having a casual conversation), the average heart rate bpm remained relatively high (i.e., 87bpm) throughout the entire interview. In a more relaxed state, spikes and dips in the participant's heart rate bpm may have been more salient. The deeper reasons for the relatively calm reaction of the participant are, however, beyond the scope of this study.

During two passages without IPs, a gradual rise lasting 45 seconds from 77bpm to 90bpm at the 01:40 stage of the interview and a sudden dip and spike from 91bpm to 82bpm and back to 90bpm starting at the 05:10 stage were observable. However, according to the regulations designated by the author prior to the interviews, these were not large enough to be considered significant shifts in the participant's anxiety levels. It is worth mentioning, however, that both of these increases in heart rate bpm were during the same scrolling passages causing rises in participants' anxiety in the previous section of this paper: one about Australian football, and the other about the *katakuri* flower (i.e., Fawn Lily). The passage that did not result in any statistically measurable changes in anxiety included the word *Japan* early, which may have made the interviewee feel more comfortable about the passage he or she was about to read.

Despite there being no significant spikes or dips in Participant 2's heart rate bpm, after the interview, the researcher did ask his opinion related to the two styles of presenting a passage. Similar to the feedback presented by the participants previously discussed in this paper, Participant 2 also showed a preference for passages with IPs: *The scrolling way was too fast and difficult to understand*; *The short pauses helped to make those passages easier to understand.*

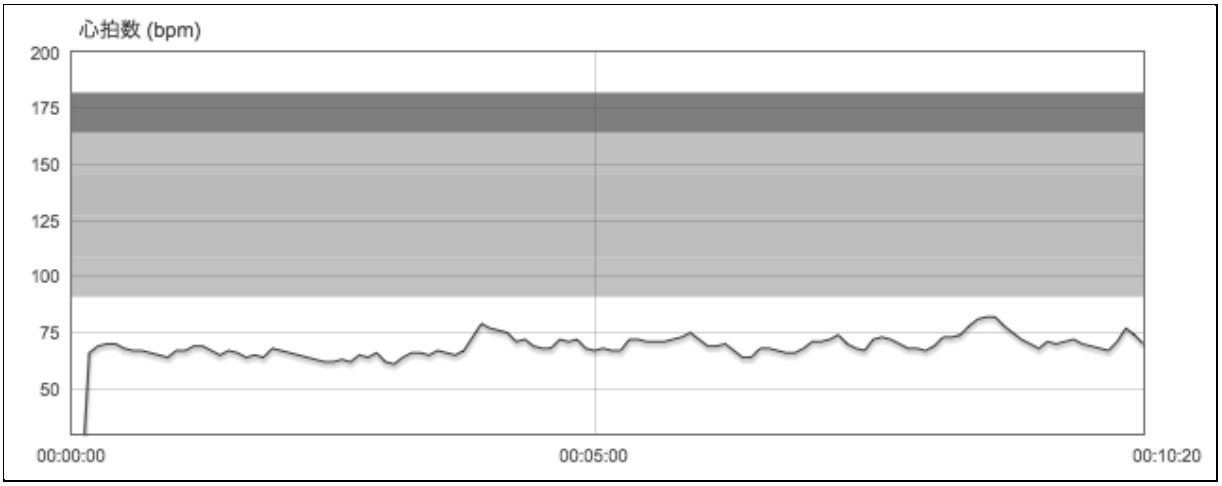


Figure 5.3. Changes in heart rate during the reading test with Participant 3. Participant 3 was presented with scrolling passages without pauses at the 03:40, 05:45, and 06:50 points in the reading test, and with passages presented in IPs at the 02:30, 04:40, and 08:00 points during the reading test. The reading test concluded at around 09:00, after which the heart rate monitor was removed.

The final pattern observed in this study presents a rather roller-coaster-type of heart rate bpm with several dips and spikes appearing throughout the interview (see Figure 5.3). The most salient spikes are from 65bpm to 79bpm at the 03:45 mark, when the participant is asked to read a passage about the *katakuri* flower presented in a scrolling fashion and again from 67bpm to 81bpm at the 08:10 mark when she is presented with the same passage in IPs.

The inconsistency of heart rate bpm that had not been seen in the other patterns make it difficult for any conclusions to be met based simply on these figures. When asked to compare the passages presented in IPs and those without pauses, especially the *katakuri* passage, Participant 3 showed a preference for the scrolling style, saying *the passages without pauses are easier to read*, and *it is hard to understand the appearing and disappearing style because it is difficult to join the meaning of the short phrases*. Again, as mentioned by Participant 5 and commented on earlier in this paper, due to the scripted-style of passage used in this study, it may have been a better reflection of the natural rhythm of English if IPs had been presented in longer chunks, rather than the shorter ones used. Participant 3 did add, however, *the passages without pauses are still difficult to read. If you miss one word, you cannot catch up and guess what the story is about*.

5.5 Conclusion

Creating an EFL environment that reflects the nature of language produced by native speakers of English in a natural setting is a constant challenge for instructors. When it comes to testing, in particular providing listening tests for those who have hearing impairments, it can be especially difficult. However, authenticity in listening context, notably in testing, is at the core of success or failure to improve the language ability of students, and there have been calls for more than half a century when Carroll (1961) called for "less attention paid to specific structure-points or lexicon than to the total communicative effect of an utterance" (p. 37). Bachman (1990) appeals for language tests to be created that "mirror the 'reality' of non-language use" (p. 301). McKay (2006) even goes as far as to suggest listening tests should include background noise or music and hesitation in speech in order to create a more purely authentic indication of students' listening ability. In the present paper, I have argued that in listening tests prepared for DHH students, it is essential that the script presented to these students be done so using IPs (i.e., chunks of language that reflect the natural way of native-speaker utterances) not in a scrolling way without any pauses, to allow the student to organize the information in his or her mind. The IP method proved to be significantly easier to comprehend than the scrolling method both in a quantitative study for those without

hearing impairments (both native speakers of English and learners of English) and in anxiety levels and qualitative opinions of DHH students.

An increase in anxiety observed in DHH students while reading the scrolling method of listening tests, despite the test takers being more used to this method, gives further strength to the argument of presenting the scripts of listening tests in IPs. Anxiety surrounding learning and using foreign languages has proven to an Achilles heel for many students, causing them to freeze or their minds to go blank despite their knowing the answers to items they are being tested on (MacIntyre & Gardner, 1994). Several studies (e.g., Horwitz, 1988; Onwuegbuzie, Bailey, & Daley, 1999; and Gregersen & Horwitz, 2002) discuss the hardships and resulting poor performance that students experience when their anxiety levels increase. In the present study, a trend was observable in which the heart rate, a previously proven reliable indication of anxiety, of students reading a listening test script presented in IPs only rose significantly enough to be considered a sign of anxiety once in fifteen passages (i.e., three IP passages presented to five students), whereas passages without pauses scrolling across the screen saw significant increases almost half of the time (i.e., seven times out of 15 passages). These dynamic patterns of anxiety observed during the interviews conducted and reported upon in this study reveal the possibilities of underperformance that may occur in DHH

students due to a listening test script being presented in a scrolling fashion without cognitively required pauses.

The results of the present study also provide guidelines for how closed captions used in flipped classroom videos can be presented to improve comprehension of content not only for DHH students, but for students with full hearing as well. The flipped classroom, a method in which lesson content usually explained to students in the classroom is instead presented in video format via media-sharing websites such as YouTube allowing classroom time to be used to provide more individual instruction has been suggested by the author as a more effective way of increasing students' efforts to study as well as their language proficiency (Leis, forthcoming). When this method was used in an English composition class for university students studying English as a foreign language, which included DHH students, all students expressed satisfaction with this approach to teaching (Leis, 2014c). Further research is required to deepen the understanding of this method and its benefits for DHH students, especially those studying in an EFL environment.

With a stronger call for equal opportunities in education to be given to all students, regardless of any disability they may have, it is imperative for language instructors to search for teaching methods that will create a classroom environment in which every student is

provided with the same, or as similar as possible, standards of teaching. In the case of DHH students, it may be, admittedly, difficult to conduct the same listening tests as those for students without hearing impairments. However, with the use of technology, presenting passages in IPs, timing longer chunks of language for speech-style material and shorter chunks for conversations to reflect the speed and rhythm of the natural speech of native speakers of English, makes it possible for such students to experience the same kind of listening tests and practice as his or her peers. The use of IPs in closed captions not only reflects the natural way English is uttered by native speakers, but also reduces the anxiety DHH students feel when taking listening tests, enabling them to perform to their full potential. It is essential, therefore, to make use of such IP-presented passages for DHH students, in order for language instructors in an EFL environment to create authentic materials, thus enabling every student under their wing to fly high in their language learning experience.

5.6 Notes

1. An Intonation Phrase is designated by Nespor and Vogel (1986) and others as one the prosodic categories.

2. The degree of a human's hearing loss can be described in decibels (dB). According to the American Speech-Language-Hearing Association, hearing from -10dB to 15dB is described as normal, hearing loss from 16dB to 25dB as slight, 25dB to 40dB as mild, 41dB to 55dB as moderate, 56dB to 70dB as moderately severe, 71dB to 90dB as severe and more than 91dB as profound (2014). Similar classifications are also presented in Japan, with 25dB to 50dB being described as slight, 50dB to 70dB as moderate, 70dB to 100dB as severe and more than 100dB as profound (Miyagi University of Education Disability Support Center, 2014). Further details regarding hearing impairments can also be found at the PEPNet-Japan website: http://www.a.tsukuba-tech.ac.jp/ce/xoops/.

CHAPTER 6 - CONCLUSIONS

6.1 Introduction

As was discussed in the introductory chapter of this dissertation, various issues have been proposed by several researchers as reasons for Japanese learners of English as a Foreign Language (EFL) to be hesitant in producing language in either the spoken or written form. Concerns related to a lack of linguistic self-confidence (Donahue, 1998), face-saving acts (Harumi, 2011), protection of self-worth (Leis & Wilson, 2015), shifting patterns in motivation (Tachibana, Matsukawa, & Zhong, 1996; Matsukawa & Tachibana, 1996), a lack of authentic language (Osterman, 2014; Kikuchi & Browne, 2009), and a need for an increased number of opportunities for interaction among students (Sasaki, 2008; Forsythe, 2015), have all been discussed as possible reasons for silence in the Japanese EFL classroom.

It was proposed that the flipped learning method might be ideal to help Japanese students overcome the above concerns related to their EFL learning environment. It was thought that flipped learning would be successful due to the ease with which students can view video explanations of the textbook, the accessibility of closed captions, and the increased number of opportunities for interaction during class time as was reported in

Mehring's (2015) dissertation on the effects of flipped learning in the Japanese EFL context. The findings of the effects of flipped learning as investigated in the present dissertation can be summarized in three main points: increasing linguistic self-confidence; increasing language production; and increasing authentic language.

6.2 Increasing Linguistic Self-Confidence

The lack of linguistic self-confidence observed in Japanese students might be put down to their attempt to save themselves from the embarrassment of making mistakes. In her highly respected cultural anthropology, The Chrysanthemum and the Sword, Ruth Benedict discusses the culture of Japan as one that may cause its people to be overly anxious about suffering from embarrassment, stating that Japanese people "may be exceedingly chagrined about not dressing appropriately for the occasion or about a slip of the tongue" (Benedict, 2005, p. 222).

Several authors have discussed face-saving acts in the Japanese EFL environment in the past. Harumi (2011), for example, argued that one of the principal reasons for the lack of output by students in the Japanese EFL environment is low self-confidence. In Harumi's study, participants expressed psychological reasons for lack of confidence in their language

ability, mentioning “nervousness,” “shyness,” and “lack of confidence in my own mind” as reasons for their silence in the classroom. Harumi continues to report that although Japanese teachers of English considered this silence acceptable, native speakers saw it as a sign of being uninterested in the lesson and laziness. It is, therefore, necessary to consider pedagogical approaches that encourage students to have the confidence to produce language through either the spoken or written form. In this dissertation, the flipped method was considered to be an effective approach for achieving this.

The studies presented in this dissertation suggest that with the guided preparation for class that is offered in a flipped learning environment, students are able to attend class with confidence. They will be more aware of the issues related to the topic of the textbook, and thus prepared to answer and ask questions related to the class content. This linguistic self-confidence exhibited by students in these studies was especially apparent in self-perceived listening, speaking, and writing proficiencies. However, this may have been because the courses described in this dissertation tended to directly concentrate on the skills of speaking and listening, which had an indirect effect on students’ writing skills. Thus, it could be hypothesized that in courses concentrating on reading, presentation skills, or language form and forms (i.e., grammatical accuracy) the use of the flipped learning

approach would result in similar increases in the assurance participants had in their language abilities when they first entered the classroom. The study presented in Chapter 2 of this dissertation did indeed provide evidence that in comparison to a regular teaching environment, one which employs flipped learning appears to result in higher levels of performance among the students. Similar results would be expected in future studies.

6.3 Increasing Language Production

Several studies have discussed the effects of a lack of linguistic self-confidence among Japanese students of English in regards to their learning. Anderson (1986), for example, argues that lack of confidence results in extended periods of silence in the classroom, leading to frustrated teachers. Anderson, however, also sympathizes with students, as their teachers tend not to regard the silence as signs of low confidence, but as low learning motivation and low levels of interest in the class.

The introduction of a flipped learning approach, however, appears to have been successful in removing the silence and passiveness often observed in Japanese EFL classrooms, increasing the amount of production in writing. Considering the closeness of the descriptors of writing and speaking for communication in the CEFR-J Can-do List (Negishi,

2011; Negishi, 2012; Tono & Negishi, 2012; and Negishi, Takada, & Tono, 2013) this seems to also result in increased confidence and language production through speaking. This may have been due to the focus of the class (i.e., structure of English compositions) and links to articles related to classroom topics to build schemata being presented before the class through the videos used in flipped classrooms.

In classrooms in which the flipped approach has been implemented, greater amounts of interaction between students were observed, both in discussion classes and English composition classes. With discussion topics being introduced beforehand, students were able to prepare and be ready to share their ideas and opinions with their classmates. In English composition classes, because the instructor had already provided explanations of composition structures via flipped classroom videos, students were prepared for class and thus able to construct their compositions during the class time while receiving immediate feedback from the instructor. There was also sufficient time to allow peer coaching, which promoted metalinguistic discussions among students. The flipped learning approach also appears to have had similar results with it bringing about higher English composition proficiency for its students than a traditional classroom approach.

6.4 Increasing Authentic Language

The Ministry of Education, Culture, Sports, Science, and Technology - Japan (MEXT) encourages EFL teachers in Japan to create classrooms in which English is the only language used (MEXT, 2014). Whether this is truly beneficial for students or not is still up for debate and requires further research. It could be argued that an all-English environment results in misunderstandings and consequently lower motivation to learn the target language. Misunderstandings can easily occur in traditional classrooms as, unlike written language, teachers' spoken messages may cause difficulties for students due to, for example, clustering, redundancy, reduced forms, and rate of delivery. Furthermore, difficulties related to differences in the rhythm of the English and the Japanese languages have been discussed in phonology as reasons for misunderstandings (Reetz & Jongman, 2009).

Issues related to language were also expressed as reasons for silence in Harumi's (2011) study. More than two thirds of participants mentioned concerns related to linguistic problems, with obstacles such as vocabulary, self-expression, comprehension, and grammatical accuracy hindering their willingness to produce language. The challenge in the present dissertation, therefore, was whether the use of flipped learning would increase the opportunities for students to experience authentic language on a regular basis.

The videos used for the flipped learning environments investigated in the present dissertation all included optional closed captions, which could be removed from or displayed on the screen at the discretion of the student. Students were encouraged to watch the videos several times each week, using the closed captions to assist in their understanding of the content, then removing the closed captions to train listening proficiency. Furthermore, it is important to note that the closed captions were timed to appear and disappear on the screen in intonation phrases exactly as the speaker was explaining the content of the textbook. Not only does the use of intonation phrases provide more authentic language for students, it also allows students who are deaf or hard-of-hearing to experience the reality of spoken English in a way that has previously been neglected. With MEXT requiring academic institutions in Japan to provide learning environments in which all students, regardless of any physical demands they have, are able to integrate smoothly with regular students (MEXT, 2012), it is clear that flipped learning, especially in EFL classes, is a valuable approach to achieving such goals.

6.5 Weaknesses and Future Directions

The present dissertation has provided evidence that the flipped learning approach appears to

be one that promotes language production among Japanese learners of English. Due to the relatively sparse research conducted in this area, however, there remains much room for further research based on various limitations of the studies described within.

First, flipped learning appears to bring advantages to the classroom by providing learning opportunities for facets of language that had not been the focus of the lesson. The use of flipped learning in discussion classes, for example, seems to have been effective for increasing the linguistic self-confidence of participants, even in writing ability, which had not been touched upon at all in the course (see Chapter 4). In future studies, it may be beneficial for researchers to investigate whether similar results would be observed in classes other than in English. Various studies have suggested that flipped learning is effective for increasing content understanding in subjects such as mathematics (e.g., Strayer, 2007) and medicine (e.g., McLaughlin, et al., 2014). However very few studies, if any, have been conducted in which non-language subjects are taught using the flipped learning model, with English being used to explain content to students whose mother tongue is Japanese. Findings of such research into content-based learning may bring about a deeper understanding of the benefits of flipped learning in immersion programs.

Second, more investigations concentrating on the effects of flipped learning on

students of various proficiency levels will also be required. In the present dissertation, the flipped learning method seemed to bring more advantages to lower proficiency learners (see Chapter 4). It has, however, also been proven to be successful for higher proficiency learners (e.g., Siegle, 2014). Siegle's study, though, was conducted with gifted children, and in a different environment to those described in the present study. A comparison of the effects flipped learning has on students, depending on their level of proficiency may shed more light on the kinds of students this approach to teaching may benefit. Additionally, due to the subjects of all studies described in this dissertation being university students (i.e., aged 18 and older), there is room for investigations with younger students at high school (i.e., aged 15 to 18), or even beginner level students at junior high school (i.e., aged 12 to 15). A deeper understanding of the benefits flipped learning brings to a variety of students will allow educators to determine whether the flipped learning approach should be introduced to compulsory education, where a wide range of English ability exists, or kept in elective courses, in which there is a solid base of language skill and experience. Therefore, further research is necessary to discover whether linguistic proficiency is a determining factor in the success of the flipped learning approach.

Third, it may be beneficial to consider whether using videos not created by the

instructor still bring about similar benefits to those observed in the studies reported in this dissertation. In the studies described here, the teacher created the videos and audio provided to students. During casual conversations, it was remarked by some students in the studies that because the teacher was obviously expending great effort to make the videos, students felt pressure to make similar efforts in their studies. On video-sharing websites, such as YouTube, there exists an abundance of explanatory videos of almost any subject imaginable. Using such videos would certainly reduce the burden for teachers, but a question remains of whether this would result in similar efforts on students' behalf. Because the teacher being a role-model for students is such an important issue in increasing students' learning motivation (Dörnyei & Csizér, 1998), using videos simply borrowed from the Internet may not bring about the same kind of success as seen in the present studies.

Related to the effects teachers' efforts have on students' learning motivation is the issue of audio used in the videos. With audio and closed captions appearing to be influential in the success of the flipped learning approach, the way speech is presented in the videos is a vital factor to consider for further research. If highly proficient speakers of English are used to provide audio, this will expose students to the rhythm and pronunciation used by those whose first language is English. Because the rhythm used by Japanese speakers of English

and native speakers of English is not the same, this can often cause misunderstandings when Japanese learners of English are communicating with native speakers of English (Nishihara & Leis, 2014). On the other hand, English is widely accepted as lingua franca, and according to some research (e.g., Jenkins, 2000), the difference in rhythm between Japanese speakers of English and native speakers does not affect communication. Thus, it could be argued that if the teacher provides the audio, it may act as a motivator for students to lower their anxiety related to inaccurate pronunciation, and focus upon conveying their message to the other interlocutor.

There still remains a vast area for researchers interested in flipped learning and the benefits it may bring to learners of English. It is hoped that further studies will be conducted, both by this author, and others who are eager to become involved in this field of language learning and teaching. The results of such research will bring about a clearer understanding of the most efficient and effective ways of providing a flipped learning environment for betterment of both students' and teachers' learning experience.

6.6 Conclusion

At the beginning of this dissertation, I used a famous quote: "You can lead a horse to water,

but you can't make it drink." I also added a further clause: "You have to make the water look delicious." The studies described in this dissertation have provided evidence that a flipped learning approach to EFL instruction could be a vital ingredient to improving the flavor of that water, especially in the EFL environment in Japan.

As more efforts are being made by researchers to find effective teaching approaches for language students, not only in the Japanese EFL environment but also in all learning environments, the flipped learning method appears to be one that should be seriously considered by instructors. Flipped learning appears to increase students' linguistic self-confidence, which results in higher second language proficiency, promotes active participation, and centers the learning on the students and their ideas, not the teacher.

It should be made clear, however, that the acronym CALL, a branch of second language acquisition to which flipped learning belongs, refers to Computer-*Assisted* Language Learning; it is not CCLL, meaning Computer-*Centered* Language Learning. The use of computer and mobile technology should not be the center of the class, but used as a teaching aid to allow instructors to spend more time with their students, focusing on providing individual instruction. The flipped learning approach appears to be vital for this as the computer and mobile devices used by teachers and students act as guides to prepare them

for the lesson, in which they are able to use the target language to an optimal quality and quantity. I hope a greater number of language instructors will be encouraged by the results in this dissertation, and employ the flipped approach in their own classrooms.

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Appendix

Rubric used for measuring proficiency in the present study

	Accuracy	Content	Conclusion	Body	Introduction
5	Almost perfect. The few mistakes do not affect understanding at all.	Interesting content, including something new for the reader.	Clear conclusion summarizing and/or giving future directions. 15% of total composition length.	Clear and valid topic sentences in paragraphs. Strong examples and details.	Clear background information and thesis statement. 15% of total composition length.
4	Mistakes on difficult grammatical points that are not indicated by the computer	Interesting content, but lacking something new.	Clear conclusion summarizing and/or giving future directions. 10% of total composition length.	Clear and valid topic sentences in paragraphs. Some examples and details.	Clear background information and thesis statement but only about 10% of total composition length.
3	Many mistakes on difficult grammatical points, including ones indicated by the computer	Discusses basic and common topics, but does add one or two interesting points.	Clear conclusion summarizing and/or giving future directions. 5% of total composition length.	Clear and valid topic sentences in paragraphs, but very few examples and details.	Clear thesis statement but missing background information, or only about 5% of the total composition length.
2	Many mistakes on simple grammatical points such as singular / plural and third person 's'. Could easily be corrected with a simple	Only discusses basic and common topics.	Attempts to summarize the passage or give future directions, but in a very basic way.	Some examples and details, but not topic sentences.	There is some background information, but missing a thesis statement.
1	Many sentences that do not make sense. The composition is hard to understand.	Completely wrong topic. Seems to have not read the topic.	Only about one sentence which gives no real summary related to the content of the passage.	No clear paragraphs in the body.	Only about one sentence which gives no introduction to the composition.
0	Has not written a composition.	Has not written a composition.	No conclusion.	No body or completely wrong topic.	No introduction.