

# Fluency awareness as a way to increase speaking ability in a first-year college level English class

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## Abstract

This study reports on using fluency awareness to develop speaking ability for Japanese students over a one-year course in communicative English. Past studies on fluency and speaking rate are reviewed and classroom practices designed to promote fluency are explained. A simple test with scores that are easily calculated and understood by students for generating fluency scores is described. This test can be used by speaking teachers for a rough estimate of fluency in low-stakes classroom assessments. The statistical analyses done for this study found that students showed substantial progress in their fluency in terms of words per minute over the course of a year.

Keywords: Fluency, fluency awareness, speaking ability, speaking rate

In the decade that I have spent teaching Japanese college students English as a second language, I have consistently found that students at the college level lack fluency in speaking English. Many times when I have read these same students' writing samples I have understood that their proficiency in English is not nearly as bad as their speaking ability made it seem; students do gain an intermediate-level facility with reading and writing English from their studies in secondary school. In teaching first-year English at the university level, therefore, one of my goals has been to improve students' ability to feel confident in using the knowledge they already possess in order to speak more fluently. This paper will report on tasks that I implemented at Fukuoka Jo Gakuin University in the 2015 school year that appear to have helped students push themselves to speak more quickly and thus sound more fluent in English. The students who are described in this study are freshman majoring in English who should have an inherently high level of motivation, but I would characterize their speaking ability as beginner or low-intermediate.

In this study I will be focusing on fluency as a measurable quality of the speech sample, which Lennon (1990) called fluency in the *narrow sense* and which Segalowitz (2010) called *utterance fluency*. Being more fluent in this sense means speaking quickly but also having fewer pauses and false starts, and having pauses in appropriate places (Al-Sibai, 2004; Chambers, 1997).

## How can fluency be increased?

One influential idea in the field of Second Language Acquisition (SLA) is that because of humans' cognitive abilities, there must be a trade-off between the fluency, accuracy, and complexity of utterances of non-native speakers of languages (Skehan & Foster, 2008; Wang & Skehan, 2009). For example, if the speaker is bringing attention to the task of speaking without making any grammatical mistakes (thus focusing on accuracy), their fluency may decrease as they attempt to consciously monitor their utterances. Of course, this trade-off is not always necessary; for example, for speakers for whom most grammatical structures have become proceduralized and automatic, the trade-off between accuracy and fluency would not need to occur (DeKeyser, 2007). Another way to increase the attentional resources would be to repeat a task. Research on the interaction of fluency, accuracy and complexity has found that if language learners have time to plan what they are going to say (Yuan & Ellis, 2003) or are repeating a task (Bygate, 2001) this can free up more attentional resources and fluency on the task improves.

Improved fluency, of course, is a desirable characteristic. A number of studies have found that students are perceived as more fluent speakers in general when they use a faster speech rate and have fewer pauses

(Bosker, Pinget, Quene, Sanders & de Jong, 2013; Cucchiarini, Strik, & Boves, 2002). Derwing, Rossiter, Munro and Thomson (2004) found that in their Mandarin L1 speakers' naturalistic productions that fluency was more strongly positively correlated with comprehensibility than with accentedness, even among these low-level English L2 users. In other words, judges who listened to the speech samples judged it easier to understand the speakers who they also rated as more fluent more than the speakers they rated as having better pronunciation.

One question in my mind is how fast students should be able to become in speaking. Wood (2001) reports that native speakers produce conversational English at an average speed of 270-300 syllables per minute (spm). McGuire (2009), who tested 19 English learners from a variety of first language (L1) backgrounds in a university English program, found that his control group spoke at an average of 148 spm before the experimental treatment, and his experimental group spoke at an average of 130 spm. After the treatment, which lasted for 5 weeks with three 30-minute sessions per week, the control group remained essentially unchanged (147 spm) while the experimental group increased their fluency (151 spm). Towell, Hawkins and Bazergui (1996) looked at twelve English L1 college students studying French. These students' average fluency increased over a year, from their second to third year of study of French which included a 6-month stay in a French-speaking country, from 137 spm to 157 spm. De Jong and Perfetti (2011) looked at 47 students studying English in the US at the university level over 2 weeks who performed a repetition (4/3/2) task (or not) and found that their initial speed ranged from 194-209 spm and their speed on a delayed posttest ranged from 204-232 spm.

In order to help language students become fluent in an L2, one important component is to make sure students are speaking, for skill in speaking will surely not improve unless practice in speaking is undertaken (DeKeyser, 2007). Another component is repetition. Early on in the history of SLA, Nation (1989) showed that asking students to repeat their spontaneous utterances was one way to increase fluency. He asked learners to think of ideas for a talk that they gave first for 4 minutes, then gave again but with the time reduced to 3 minutes, and finally 2 minutes (the 4/3/2 technique). In this experiment, fluency was measured by words per minute, which ranged in the eight participants from 84-196 words per minute in their final (2 minute) speech sample. Seven of the participants increased their fluency from their first version to their third.

Nation's study and others (Bygate, 2001; Lynch & Maclean, 2000) showed that asking participants to repeat their utterances allowed them to increase their fluency on that particular task. Moreover, Gatbonton and Segalowitz (2005) say that theoretically repetition of tasks which are communicative should help improve automaticity. However, there have been very few studies which have longitudinally looked at whether asking students to repeat tasks can help them to increase their fluency.

Kluge and Taylor (2000) is a report of Japanese students whose homework included taping 23-minute conversations with partners once a week over the course of an academic year (presumably 30 weeks in total). The authors report that the students are themselves surprised by their increase in fluency from the beginning to the end of the year but give no concrete numbers for their fluency.

De Jong and Perfetti (2011) is basically the only study I have been able to find which examines fluency benefits from a repeated task longitudinally, but the treatment only lasted for 2 weeks. In this study participants completed a pretest and both an immediate and delayed posttest; these were 2-min. speeches. The participants were randomly assigned to a condition, which included repeating the same speech in shorter time frames (the 4/3/2 task) or giving speeches on different topics in the progressively shorter time frames. The study did not find any increase in the articulation rate (syllables per minute) from the pretest to immediate posttest for either group (Repetition or No Repetition). For the delayed posttest there was an increase numerically but it was modest and both groups increased (Repetition group: 194 spm → 195 → 204; No Repetition group: 194 → 190 → 204). The authors speculated that the increase may have been

due to their situation since they were studying English full-time at a U.S. university and were probably increasing their English ability continuously.

The current report looks at whether my Japanese students studying English in a communicative classroom over the course of a year improved their fluency in that time period when the focus of the class was on fluency improvement and there were many repetitive tasks used in the classroom. The results of De Jong and Perfetti (2011) would seem to indicate that repetition with time reduction (the 4/3/2 task) is not necessary and that simply practicing giving speeches can lead to some increases in fluency.

However, a number of caveats are in order. First, experimental research in this area typically measures not only speech rate in syllables per minute but mean length of runs, mean length of pauses, filled pauses, dysfluencies, and so on (Wood, 2001). I did not do any of this sophisticated analysis. This classroom action report simply details the very basic measure I used for fluency, which was words per minute. I opted for a measure which the students themselves would be able to easily undertake; one of the aims of my teaching during the year was to make students aware of their own fluency and to have them focus on improving speed and not worry about their accuracy. Thus, this study is not actually one that should be compared to current experimental work on fluency in the SLA field, but instead is a report of a teaching technique that might help other teachers who want to improve their students' fluency.

The second caveat is that since there was no control group for this study I have no evidence that it was actually the repetition, or even the speaking we did in class which helped most students improve in their speaking fluency over the course of the year. It may have been that students would have improved their fluency over the year in any case, since they were studying English in college. Nevertheless, transcripts of the students' pretest and posttest speeches do show that in the main the biggest improvement was in fluency, not in accuracy (although many students also seem to exhibit gains in complexity, but that is an argument for a different paper). Another logical argument is that the time spent in class during the year (a mere 88 hours of contact) should not be enough to push students to increase their fluency without any specific emphasis on this topic.

Finally, another component to increasing fluency is motivation to do so. Common sense dictates that students who feel that increasing their fluency will produce good results will be more willing to work toward that goal. Traditionally motivation has been described as either intrinsic or extrinsic, with intrinsic motivation being that which comes from within and is spurred by a person's own desires while extrinsic motivation is external rewards for behavior that others want a person to complete (Deci & Ryan, 1985). There are newer conceptions of motivation recently (Dörnyei, 2009; Segalowitz, 2010) including one psychologist who argues that the intrinsic/extrinsic dichotomy is too limiting and that in fact motivation is much more multi-faceted (Reiss, 2012). My goal is not to explore this question here so I will just note that I did give my students several possible types of motivation.

I explained to students that native speakers would be more willing to speak with them if they increased their speech rate, emphasizing that increasing their fluency would result in a higher prestige for them. I also linked 15% of their grade to an increase in speaking rate over the semester/year. To get the full points, students were told that they needed to increase their initial number of words per minute by 10 words or more. Notice that students were not competing against a fixed fluency level that they had to reach, but rather, asked to simply improve on their own level.

## Procedure

51 female students from Fukuoka Jo Gakuin participated in this action research. All of the students were first-year university students. They were required to take "First-Year English" at Fukuoka Jo Gakuin University, which consisted of four 1-hour classes every week for 11 weeks in each semester. Each

semester half of those 44 contact hours were with myself, and half were with another native speaker teacher. This resulted in a total of 88 total contact hours over the year, starting in April, 2015 and ending in December, 2015.

On the first day of the year, I asked the students to introduce themselves to me for one minute. Students did not rehearse their introduction before speaking. The introduction was done simultaneously by the whole class, who recorded themselves on their cell phones. This resulted in a very noisy minute while every student spoke into her cell phone at the same time, but no students reported that they could not hear themselves in their own recordings. Students were then asked to listen to and transcribe their recording at home, count the number of words they had said, and hand in this transcription to me at the next class period. The result of this first introduction is the baseline fluency score.

On the same day students also did two other speaking pre-tests. One was about a specific topic that we would study during the semester and about which the students would talk for one minute. For example, one topic was "List one good thing and one bad thing about the Japanese educational system." For most of these topics it would be difficult to speak fluently about the topic without some rehearsal and consideration of the topic, which was my intention. I wanted a measure of the students' fluency when talking about something very familiar to them (the self-introduction) and a floor level of fluency that they should exhibit when asked to speak in an impromptu way about an unfamiliar topic.

During the first semester we covered five topics: Educational systems, Travel, Jobs, Cultural Differences, and Fashion & Shopping. During the second semester we covered five more topics: Dating, Food & Drink, Holidays, Reading Books, and Religion. For each topic we spent 3 days covering the topic and practicing listening and speaking activities. The students were informed in their syllabus what would be their question from that topic for the speaking test so that they knew from the beginning of each unit what they would need to talk about for that topic. An example from Jobs was to imagine that they were being interviewed for a job as secretary for the Fukuoka Jo Gakuin English center and they should tell why they wanted the job and describe their fit for the job in detail.

Before speaking, students listened to utterances or speeches from native speakers which were relevant to the topic. For the second semester I had had a chance to gather unrehearsed answers from real native speakers on all of the same questions that students would talk on, but for the first semester listening activities were sometimes simply activities from the internet that pertained to the topic. Whichever type of activity that students listened to, they were asked to perform some kind of task during their first and second listening, with perhaps a third listening included if students were having a hard time answering the task questions. Finally, students were handed a transcript of what they had listened to and listened again and could follow along with the transcript. Recordings used for listening activities rarely exceeded 2 minutes.

After doing listening activities students were given time to practice speaking on the question at hand. They most often practiced this by using a speaking line where they faced a partner and spoke to their partner for 1 minute on the topic, then changed partners several more times so they could rehearse saying the same information multiple times but each time they would speak to someone who had not heard them before. This is similar to Nation's (1989) 4/3/2 technique in that the students say the same unrehearsed information multiple times, but different in that they were not asked to speak more fluently in that time.

Students would usually get a small amount of feedback on vocabulary after such activities, and I as the teacher always asked if they had any questions after the first round of speaking, trying to get them to tell me what words they had said in Japanese in their speech and needed to learn in English. I should note that this approach was not very useful as students seemed reluctant to ask for help in front of others. A technique I used once in the second semester seemed more useful: I asked the students to record

themselves doing the speaking cold at the beginning of the unit before they did any listening practice, then they transcribed that first speech. I looked at the transcriptions and after the students did the listening activities, I offered them some ways of improving on the phrases they had said. For example, when talking about what kinds of books they liked to read, I suggested that rather than say "Fantasy makes me fun" they should say "Fantasy is fun and exciting" and rather than say "This story moves my heart" they should say "It was a moving story".

At the end of the 3 class days studying a topic students would record the answers to the one or two questions in that particular topic. Usually I would have them practice their answers two or three times with a partner before recording, just to make sure they were feeling limbered up and ready to speak. Recording was done simultaneously for all students.

In both a midterm and final exam at the end of each semester students had a speaking test where I as the teacher listened to their actual speech and graded them on fluency and vocabulary. Students' speaking rate for the initial introduction fluency test was recorded on their grading sheet and they were expected to be able to speak about the topic at hand as quickly as they had been able to introduce themselves at the beginning of the semester. For vocabulary, students were expected to use some words or phrases that we had studied in the transcripts in order to sound natural in their speaking about a particular topic. Students were graded down if it seemed that they could only say whatever they would have been able to say about the topic before studying it. In most cases I didn't actually know, however, what each student was capable of for the topic before studying it; however, for the second semester topic of Reading I had their transcription of what they had said before any listening or speaking activities, and it was clear that some students were simply repeating the same things they had said before they began to study the topic. For the future in such a class I would like to work more on having students transcribe what they are naturally capable of at first and then having them notice useful phrases in listening activities and adding these to improve or change their own speaking abilities.

On the last day of class before the final listening and speaking exams, I asked students to introduce themselves once again, without any prior rehearsal. In the course of the year students had not worked specifically on improving this personal introduction. They then transcribed this and counted the number of words that they had used. This score is called here the final fluency score.

One issue that may have affected the improvement of scores from the initial to final fluency tests is that midway through the second semester I suspected that students may not have been transcribing what they said as accurately as I had hoped. In all of the spoken transcripts which I gave students I transcribed everything that the speakers said, including repetitions of the same words or false starts, but for one question in the Food & Drink section where students described how to make a particular food, I asked students to send me their speech samples and compared these to their transcripts. Most students were smoothing out their speech by not transcribing false starts or repeated words. An example of a student who had done this is shown below.

Student's transcription:

I'd like to tell you how to make "omuraisu". You chop some vegetable and chicken. And you fry them on the frypan and season with pepper and salt. And add to rice and ketchup. Make hill and make egg crepe. (40 words)

Jenifer's transcription:

I'd like to tell you how to make "omuraisu". You chop some vegetable and chicken. They . . uh. . . you fry them on the frypan and sea- season with pepper and salt. And add add to rice and ketchup. Mix. (laugh) Uh, make, *nandake*, make a hill? make a hill, *de*, uh, egg, egg, you make

egg, egg crepe *yatake* . . . *kazusemasu*. (64 words minus four Japanese words shown in italics = 60 words)

I showed this example to my students and asked them to transcribe all words in the future, including pause fillers such as ‘uh’. I asked students to count these words because they are part of meaningful speech. I also wanted to encourage the students to use English fillers such as ‘uh’ and ‘um’, although I noted that they should only count one filler per sentence (otherwise they might easily reach an increase of 10 words by just saying ‘uh’ 10 times).

Clearly this change in the manner of counting words could artificially inflate the difference between the initial and final fluency tests. Out of the 51 students, only 18 wrote down any false starts, repeated words or pause fillers on their final fluency test. Among these students, the number of words added to their total score ranged from 1-7, with an average of 2.8 words. I thus conclude that although this change in approach may have resulted in a slight increase in words for the students who did it, this change was not much of a factor in their fluency increase.

Another issue in the way that I conducted this experiment is that I asked the students to transcribe their own speeches. It is possible that some students were not accurate in their transcription or even artificially inflated their number of words. Given my time with the students and the one time where I asked for sound files and checked them against what students had turned in to me I think this is unlikely, but I reiterate that this study does not claim to be an empirically unassailable report on the fluency of my students, but documents a teaching method that I used that I do think helped my students increase their fluency. I think that some students did artificially increase the number of words in their initial fluency test, in order to look better. Remember that they did this task before they knew they would have to *beat* that number. I did tell them to say as much as they could but that when they transcribed it was important not to add anything that they didn’t say, but I have a few students who did not improve much over the year and from looking at their initial fluency task I suspect it was because they wrote down what they would like to have said instead of what they actually did say.

## Results

Summary statistics in Table 1 for the Fluency measure show that there was a considerable increase in the students’ fluency score from the beginning of the year to the end. The lowest mean score was for the topic pretest, which was in line with my assumptions. For this activity students were asked to give an impromptu speech on an unfamiliar topic, so this can be considered the students’ floor level of fluency. Students were able to speak almost 15 more words per minute in their self-introduction at the beginning of year than they were for an unknown topic at the beginning of the year. For the change from the beginning to the end of the year in the self-introduction, the mean increase in words spoken per minute was about 25 words per minute, quite a large increase. The standard deviation did increase slightly from the pretest to the posttest.

Table 1

*Fluency scores measured in words per minute for three tests*

	Topic Pretest	Self-intro Pretest	Self-intro Posttest
Mean score	31.5	44.6	70.9
Standard deviation	15.9	19.1	23.3
<i>N</i>	51	51	51

Pearson’s *r* correlations between fluency scores and proficiency scores found effect sizes of the correlations were large. The correlation found for the pretests of fluency scores on the Self-intro Pretest

and beginning-of-the year TOEIC Bridge proficiency scores measured by the school for all students found the effect size of the correlation was large (95% CI: .28, .70;  $r = .52, p < .001, N = 50, R^2 = .27$ ). Similarly for the posttests, fluency scores on the Self-intro Posttest and end-of-the year TOEIC Bridge proficiency scores found the effect size of the correlation was large (95% CI: .31, .71;  $r = .54, p < .001, N = 50, R^2 = .29$ ). This shows that there is a strong relationship between the fluency scores and proficiency scores.

Figure 1 shows a boxplot of fluency scores (measured in words per minute) from the one-minute introduction at the beginning of the first semester (Pretest) and end of the second semester of study (Posttest). Individual data points are overlaid on the boxplot.

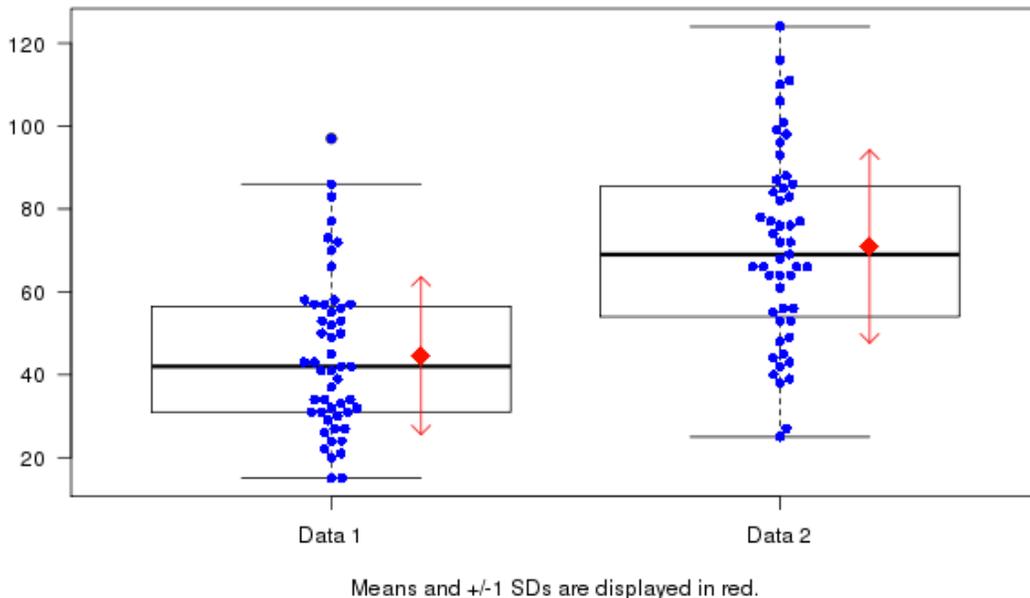


Figure 1. Scores in words per minute from pretest and posttest

Figure 2 shows the same data using parallel coordinate plots which show individual changes from pretest to posttest. This graphic shows that most students did show an upward trend, some quite steep, in their fluency scores from the beginning to the end of the semester. Only a few lines show a downward trend from the pretest to posttest. The average score is shown with the thick black line.

The boxplots show that this data is not normally distributed, as there is an outlier in the pretest data, so I performed a bootstrapped 20% means-trimmed paired-samples  $t$ -test on data to answer the question of whether the difference between times was statistical. This test found a 95% confidence interval for the difference between times to be 95% CI: [-30.9, -20.7]. This means that if the test were conducted multiple times, 95% of the time we could expect the true difference in the number of words produced on the pretest versus the posttest to be between 21 to 31 words, which is a large difference. Remember that in the studies examined in the literature review the largest gains were about 20 syllables per minute. Twenty-one words will be equal to at least 21 syllables at least, but usually more than that. The effect size for the difference between the pretest and posttest is  $d = 1.6$ , where I used the average of the two standard deviations as the standardizer and where the size was corrected for dependence between means.

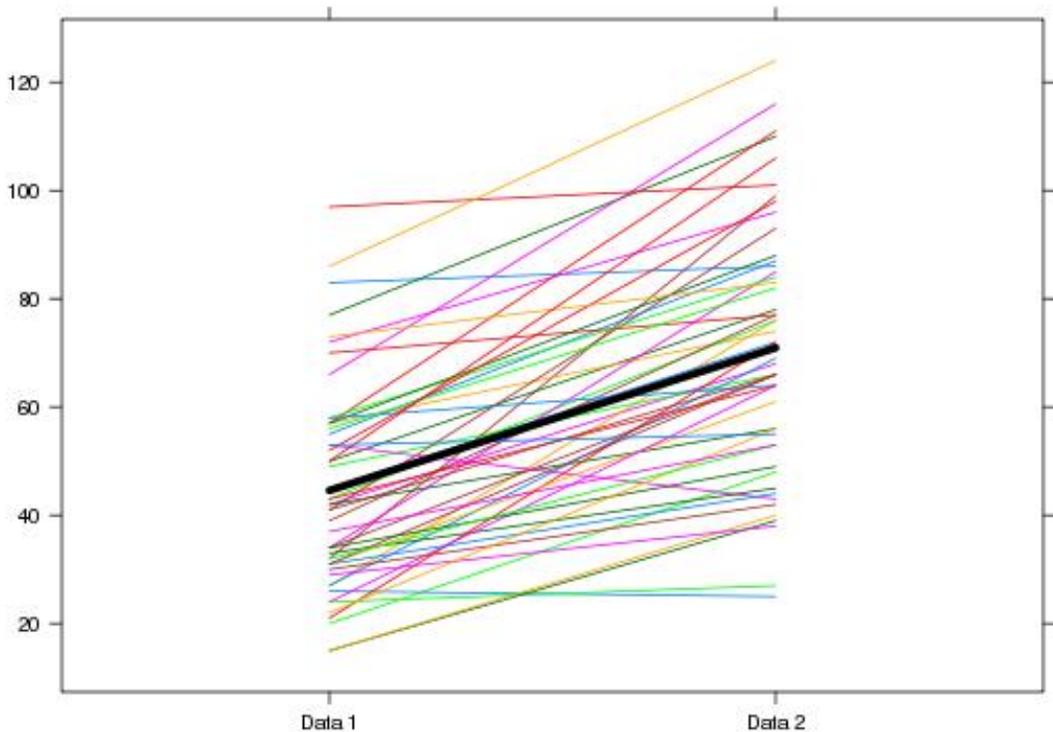


Figure 2. Parallel coordinate plots from pretest to posttest

I would like to provide a few examples of students' transcripts from the initial to the final introduction in Table 2. KI's and HK's examples are very typical of the average student who gained 20-30 words. The topics covered in the pretest are repeated, but the student is able to talk about some additional topics. Grammatical and colloquial infelicities are not corrected (KI: "my old sister") between the versions and in fact are simply repeated across the versions. MT is an additional example of a student who gained 30+ words, even though her initial speaking speed was very slow.

On the other hand, AY and YE lost words. AY's speed was quite high (well above the average) and she was able to say quite a lot in 1 minute so perhaps it is not unusual that her rate basically stayed the same over the year, and her content was basically the same too. However, looking at Figure 2 it can be seen that most of the students who started at 60 words per minute or more were able to increase their speed somewhat over the year. On the other hand, with YE I suspect that her initial introduction may have been doctored, as it seems much more polished, grammatically correct and complex than her final introduction. I did not notice many examples like YE's however, so I do not think this was a major trend in my corpus.

Table 2  
*Transcripts of self-introductions from the pretest and posttest*

ID	Pretest	Posttest
KI	My name is K. I. I'm from Y. city in Fukuoka. I have four people and one dog in my family. My father and my mother and old sister and me. I like listen to music. My favorite singer is Miriya Kato and Taylor Swift. (45 words)	I'm K.I. I'm from Y. City. I have four people in my family. My father and my mother and old sister and one dog and me. The most favorite food is hamburg steak. It is very delicious. My hobby is shopping and watching movie. My favorite shop is ZARA and Forever21. This shop is very cheap and fashionable, so I like it. I often go to Tenjin and Hakata for shopping. (72 words)
HK	Hi, I'm H. I'm from Fukuoka. I like playing tennis very much. There are five people in my family. I have two younger sisters. I like chocolate. (27 words)	I am H. K. I am college student. There are five people in my family. I have two younger sisters, so I am the oldest children. My friends often say that I am the youngest children but it is false. I was a member of tennis club in my high school. I like playing tennis very much, so I often watch games on TV. I also like eating. My favorite food is squid and chocolate. (75 words)
MT	My name is M. T. [my name means 'green'] because I like vegetable. I like softball. Thank you. (15 words)	My name is M. T. I'm 19. My family father, mother, taller brother, sister and me. My father and mother work. My brother and sister is teacher in high school. And I'm student. I like sports. Softball and lacrosse. (39 words)
AY	Hi! I'm A.Y. I'm from A. O. A. O. is very small island that is located in south of K. There are beautiful sea and mountain. My hobby is dancing. I can dance ballet, jazz, tap, hip-hop, lock and rhythmic gymnastics. I belonged to the rhythmic gymnastics club for three years in high school. Also, I can sign language. I've been learning sign language since I was four years old. My dream is to be a flight attendant. I want to improve my English skill at this college. (88 words)	I'm A.Y. I'm from A. O. This is very small island. That located in south of K. A. is a very beautiful island. I'm really missing my home town. I like dancing. I can dance hip-hop, tap, house, lock, jazz and rhythmic gymnastics. I belonged to the rhythmic gymnastics club for three years in high school. I won the second prize in a participation. I can use sign language. I've been learning it since I was 4 years old. My part time job is Izakaya. (86 words)
YE	My name is Y. E. I'm always very fine and friendly. So I like speaking with my friends. And I like shopping and fashion. I often go to Tenjin Core or Chikushino Aeon [mall]. In the future, I hope to work at the fashion company in foreign company. And I want to be a fashion stylist. So I will study English hard. (61 words)	I'm Y. E. Um . . . I'm Fukuoka JoGakuin University student. Um . . . I come from Saitama. But I'm living Daizenji now. Um . . . I like English very much. So I study it every day. Then, I have studied it since I was elementary school student. Hm. . . In the future, I want to work in foreign countries. (53 words)

## Conclusion

Judging by the summary statistics and inferential statistics, my English class progressed substantially in their fluency over the course of a year. With the average words produced per minute for the initial introduction being 44, an increase of 25 words represents an almost 60% increase in ability over the year. Also, 25 words is nearly equal to the 31 words that students could produce on an unknown topic

spontaneously, meaning that students increased their speaking ability by as much as almost a whole minute of what they were able to say in an impromptu speech on an unrehearsed topic.

This report cannot claim that any specific type of activity promoted the fluency other than practice with speaking over the year, but it is likely my emphasis on fluency, taken together with the time for practice provided in the classroom and possibly the repetition of speeches throughout the year helped lead students to increase the speed of their speech from the beginning to the end of the year.

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