

Implementing Speaking Fluency Activities

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Reference Data:

Doe, T., & Hurling, S. (2015). Implementing speaking fluency activities. In P. Clements, A. Krause, & H. Brown (Eds.), *JALT 2014 Conference Proceedings*. Tokyo: JALT.

Studies have shown that fluency activities that require students to repeat previously used language forms and items have positive effects on speaking skills in both the short- and long-term. However, there have been few studies that have examined the use of similar activities in EFL settings. This study compared two groups of 1st-year Japanese university students, who completed weekly fluency development activities for a semester at either the outset or the conclusion of the lesson. Students who completed the activity at the conclusion of the lesson had more opportunities to repeat previously used utterances. Therefore, the study sought to investigate whether the timing of the fluency activity in the lesson affected student performance. The findings of this study showed that while both groups were able to speed up their performance, this increase was related to repetition only for the group who completed the activity at the conclusion of the lesson.

他研究では、以前に使用した言語形式や言葉を繰り返し用いることを学生に求める「流暢さのアクティビティー」において、短期間及び長期間でスピーキングスキルに好ましい効果が得られることを示している。しかし、このアクティビティーの研究はEFLではほとんど行われていない。本研究では1学期間に渡り各週の流暢さ促進アクティビティーを完了させた日本の大学一年生のふたつのグループの比較をした。片方のグループは授業開始時に、他方は授業の最後にこのアクティビティーを行った。授業の最後に行った学生達はそれ以前に使用した言葉を繰り返す機会がより多くあることから、どのタイミングで行うかでの活動に影響がどうかを掘り下げて調査した。その結果、この研究では、両グループとも発話のスピードアップは見られるものの、反復によるスピードアップについては授業最後にこのアクティビティーを行ったグループにしか見られなかったことがわかった。

FOR MANY EFL students, developing the ability to speak more fluently is an important goal. Because speaking occurs in real time, L2 speakers face the challenge of expressing their ideas quickly, while having to monitor their language accuracy. However, speaking fluency has been a difficult concept to define, although most researchers of speech production agree that it is a multidimensional construct (Segalowitz, 2010). Lennon (1990) noted that while definitions of fluency abound, most fit into two categories. First, the *broad* sense of fluency refers to a speaker's overall proficiency level and ability to communicate using the language. Second, the *narrow* sense of fluency refers to the flow of a speaker's speech, in contrast to other constructs such as grammatical accuracy and clarity of pronunciation. Segalowitz outlined three broad categories that are useful for considering methods of operationalizing this narrow sense of fluency: cognitive fluency, utterance fluency, and perceived fluency. Cognitive fluency refers to the degree of speed and efficiency with which a speaker can mobilize his or her cognitive resources to produce speech. Cognitive fluency

can be measured by the use of time reaction software to determine the speed of language processing. Utterance fluency refers to the speech rate, pausing, and repair characteristics of a particular speech sample. These variables can be observed in samples of a learner's speech. Finally, perceived fluency is the listener's impression of a speech sample, for example, a rater giving a speaker a rating on a fluency scale based on performance in a speaking test. One of the main goals of researchers interested in speaking fluency is to determine which of these many measures are the most reliable indicators of a speaker's fluency (see Kahng, 2014, for a recent summary of these issues).

In terms of how to develop L2 speaking fluency, there has not been a great deal of research into the effectiveness of speaking activities that can be used in the classroom. However, based on theories related to skill acquisition and automatization, Nation and Newton (2009) offered the following three principles. First, fluency activities need to be meaning focused, so that a learner is subject to the constraints and pressures of authentic communication. Second, the items necessary to complete the activity need to be within the learner's proficiency level, as learners will not be able to use items with speed and ease if they have not experienced them before. Finally, the activity needs to have some kind of pressure built into its design so that the learner is encouraged to perform at a higher than usual level. One activity that meets all of these criteria is the 4/3/2 speaking activity developed by Maurice (1983). In this activity, speakers must repeat a speech three times to three different listeners. For each delivery, the time given to complete the speech is reduced by one minute. The activity is meaning focused because learners are able to express their ideas to a different listener in each turn. Furthermore, because the learner has control over which language items to use, they are able to complete the task using language that they have previously learned. Finally, there is pressure for learners to perform at a higher than usual level, as the reductions in speaking time require the speaker to speed up or restructure their talk, or both.

Several studies have shown that learner speech improves during this activity. Nation (1989) found that the speeches of six advanced adult learners of English improved the complexity, accuracy, and fluency in their speaking in several aspects. In a follow-up study with a larger sample size of 20 adult learners, Arevart and Nation (1991) found similar results, especially in utterance fluency measures such as the percentage change in words per minute over three deliveries as well as the percentage decrease in hesitations per 100 words in each delivery. While these studies showed that it was possible for learners to make improvements in their speaking fluency in the short term, that is, over three deliveries of a speech within a lesson, De Jong and Perfetti (2011) pointed out that the potential long-term benefits of the 4/3/2 speaking activity had yet to be investigated. In their study, 24 high-intermediate-level learners were given pre- and posttests to determine whether completing the 4/3/2 activity three times over 3 weeks resulted in gains in utterance fluency measures. This study was unique in that students were grouped into two experimental conditions. In the first condition, students repeated their speeches in each delivery, while in the second, the speakers changed topics. While both groups of students made short-term fluency gains over the three deliveries, the students in the repetition condition also made modest but significant long-term fluency gains in the posttest. A further analysis showed that the students in the repetition condition who repeated higher quantities of the same words in each delivery made the strongest gains between the pre- and posttest. Based on these findings, De Jong and Perfetti concluded that lexical repetition may be the key feature of the 4/3/2 activity that helps students to develop long-term speaking fluency.

While research in the 4/3/2 speaking activity has shown that there are many potential benefits for higher level learners in ESL settings, to date there appear to have been no studies of the activity with lower level learners studying EFL. While giving a 4-minute monologue may be a reasonable task for many ESL students, this may not be a realistic goal in some EFL settings, due to the chal-

lenge for learners of continuing speaking for an extended length of time. One practical way to address this concern is to reduce the amount of time for each delivery, for example, reducing the 4/3/2 activity to a 3/2/1 activity. However, there has been little research into the potential benefits of a reduced 4/3/2 speaking activity for EFL students.

The current study investigated whether a 3/2/1 speaking activity might enable learners to improve their short-term speaking fluency as seen in the prior studies. In addition, the study investigated whether completing other speaking tasks prior to the 4/3/2 speaking activity could help lower level students to continue speaking throughout the activity. Prior tasks could possibly help lower level students because such activities could provide opportunities for practice and lexical repetition. Furthermore, speakers in prior tasks could also provide potential input that other learners interacting with them could incorporate into their own speeches. The aim of this study, therefore, was to investigate the following research questions:

1. Does participation in a reduced 4/3/2 speaking activity (i.e., 3/2/1) enable students to increase their short-term speaking fluency from the first to the third delivery?
2. Do students who complete the 3/2/1 speaking activity at the end of the lesson generate more content than those who do so at the beginning of the lesson?
3. Do students who complete the activity at the end of the lesson repeat more vocabulary than those who do so at the beginning of the lesson?
4. Is there any relationship between the number of lexical repetitions in each delivery and the increase in short-term fluency?

Method

Participants

The participants in this study were 32 first-year Japanese university students studying at a private university in Tokyo. The students majored in a variety of subjects, however, none of the students were majoring in English. These students were enrolled in four English discussion skills classes, with eight members in each class. This class was a 1-year course that was compulsory for all 1st-year students in the university. In addition to the discussion class, students also took two other compulsory English classes during the semester the study was carried out (a presentation class and an e-learning course). The classes were of two proficiency levels, determined by learners' scores on the listening section of the TOEIC test. To be included in the study, students had to be present for all four classes in which the data was collected. As 12 students were absent for at least one of these classes, data from only 20 students could be used in the study. This resulted in data from 10 students in two higher intermediate classes (with an average score of 382 on the listening section of the TOEIC test), and 10 students in two intermediate classes (with an average score of 236 on the listening section of the TOEIC test). One class from each level completed the fluency activity at the beginning of class ($n = 10$), and one class from each level completed the fluency activity at the end of the class ($n = 10$).

The Discussion Class

The discussion skills classes in which this study was conducted met once a week over two 14-week semesters. The course is organized by a set curriculum based around the goals of improving students' spoken interaction skills and speaking fluency. The course had a textbook and teacher's manual developed by the program managers of the course. In every class there was a minimum of 50 minutes of student-to-student interaction including a 10-minute discussion, a 16-minute discussion, and the 3/2/1 speaking activity. Topics

changed once every two lessons and were based around social issues (such as fashion, the media, globalization, and gender issues). All activities were designed so that 1st-year university students could discuss the questions and topics without reference to other sources. This criterion was chosen to enable students to be able to interact with each other without recourse to dictionaries and other aids, with the intention of developing their abilities to communicate in real time. The methodology used for the course was based around the direct approach to teaching conversational skills (Dörnyei & Thurrell, 1994), in addition to the Access model of speaking fluency (Gatbonton & Segalowitz, 2005). Although the course was compulsory, in general, students reacted positively to both the activities and their classmates, perhaps because lessons had been carefully designed to be of an appropriate level for their proficiency levels and the small class size of eight students fostered a degree of group cohesion. Furthermore, as students were assessed on their performance each week, participation and effort were of a high quality for most activities.

Procedures

Two of the four classes were assigned to the *fluency start* condition in which students performed the 3/2/1 speaking activity approximately 5 minutes into the class, following the conclusion of a short multiple-choice test based on a homework reading. In this condition, as a warm-up activity for the topics to be discussed in the lesson, the instructor provided two open questions that were considered to be appropriate for the students' English proficiency levels and background knowledge. The two remaining classes were assigned to the *fluency end* condition in which the students performed the 3/2/1 speaking activity approximately 70 minutes into the class, at the conclusion of all speaking activities. Students in this condition answered the same question each week: What did you discuss in class today? Although a more direct comparison could be made if students in both conditions had answered the same questions,

the question was chosen for the students in the second condition in order to draw their attention toward repeating the lexical items they had used in previous activities earlier in the class.

One researcher taught the fluency start condition and the other researcher taught the fluency end condition. Student speech was recorded with portable IC recorders into which students spoke into while completing the 3/2/1 speaking activity. For each round of the 3/2/1 speaking activity, speakers were paired with a different partner in order to give the task meaning. Furthermore, students in the second condition were paired with partners from different discussion groups so that speakers would be addressing listeners who were yet to hear their opinions. Although the data in this study are taken from lessons 4, 6, 10, and 12, the students used the recorders each week and appeared accustomed to their presence by the fourth lesson.

Analyses

To analyze the student data, all speeches were transcribed by the researchers and saved into text files that could be analyzed by CLAN software (<http://childes.psy.cmu.edu/>). To measure the amount of speech that students produced, the syllables were counted by the researchers. The researchers then checked 10% of each other's syllable counts and found no discrepancies. To measure the number of words that were repeated over the three speeches, frequency analyses were run using CLAN software, the results of which were transferred to pivot tables in Excel (for an explanation of how this procedure was performed, see Verspoor, Lowie, Van Geert, Van Dijk, and Schmid, 2011).

Results

The first research question investigated whether the reduced 3/2/1 speaking activity could lead to similar gains in speaking fluency as had been seen in the previous studies. Among the high-intermediate

learners, both groups improved across the three deliveries. While the group that completed the fluency activity at the end of class had higher means than the group that completed the activity at the beginning of class, overlapping confidence intervals indicated that there were no significant differences between the levels of improvement (see Table 1). Confidence intervals show a range into which 95% of the population would fall. If confidence intervals overlap (as they do in Table 1), it indicates that the subjects in both conditions could plausibly belong to the same population, thus showing no significant differences between the groups (Field, 2009).

Table 1. Percentage Increase of Syllables per Minute (High-Intermediate Students; N = 10)

Lesson	Condition	Mean (SE)	SD	95% CI
4	Fluency Start	9.68 (2.55)	5.70	[2.59, 16.76]
	Fluency End	12.80 (2.02)	4.51	[7.19, 18.41]
6	Fluency Start	12.67 (2.09)	4.67	[6.88, 18.47]
	Fluency End	17.12 (3.18)	7.10	[8.31, 18.41]
10	Fluency Start	9.53 (2.48)	5.56	[2.63, 16.43]
	Fluency End	21.51 (2.35)	5.25	[14.99, 28.02]
12	Fluency Start	10.75 (1.83)	4.10	[5.66, 15.85]
	Fluency End	15.33 (2.71)	6.01	[7.80, 22.87]

Both groups of intermediate learners also improved across the three deliveries. Although the group that completed the fluency activity at the start of class had higher means than the group that completed the activity at the end of class, overlapping confidence intervals indicate that there were no significant differences between the levels of improvement (see Table 2).

Table 2. Percentage Increase of Syllables per Minute (Intermediate Students; N = 10)

Lesson	Condition	Mean (SE)	SD	95% CI
4	Fluency Start	17.51 (2.92)	6.53	[9.39, 25.62]
	Fluency End	7.80 (1.62)	3.63	[3.29, 12.31]
6	Fluency Start	16.51 (2.36)	5.27	[9.96, 23.05]
	Fluency End	13.92 (3.75)	8.38	[3.51, 24.32]
10	Fluency Start	19.75 (3.66)	8.18	[9.58, 29.90]
	Fluency End	9.85 (1.50)	3.35	[5.69, 14.01]
12	Fluency Start	19.55 (2.28)	5.10	[13.21, 25.88]
	Fluency End	7.86 (3.36)	7.51	[-1.46, 17.18]

The second research question concerned whether students who completed the 3/2/1 fluency activity at the end of class were able to generate more content than those who did so at the beginning of class. This was measured by examining the number of syllables that each student spoke in the final 1-minute delivery. For the high-intermediate learners, the overlapping confidence intervals indicated no significant differences in the amount of syllables given in the final 1-minute delivery (see Table 3).

Table 3. Number of Syllables Spoken in the Third Delivery (High-Intermediate Students, $N = 10$)

Lesson	Condition	Mean (<i>SE</i>)	<i>SD</i>	95% <i>CI</i>
4	Fluency Start	143.00 (3.56)	7.97	[133.11, 152.89]
	Fluency End	143.00 (15.22)	34.04	[100.73, 185.27]
6	Fluency Start	159.40 (6.70)	15.65	[139.97, 178.83]
	Fluency End	119.40 (7.81)	17.46	[97.72, 141.08]
10	Fluency Start	154.40 (10.36)	23.17	[125.63, 183.17]
	Fluency End	143.60 (13.04)	29.15	[107.48, 143.78]
12	Fluency Start	147.00 (10.23)	22.88	[118.59, 175.41]
	Fluency End	122.20 (9.33)	20.86	[96.29, 148.10]

For the intermediate learners, the overlapping confidence intervals also indicated no significant differences in the amount of syllables given in the final 1-minute delivery (see Table 4).

Table 4. Number of Syllables Spoken in the Third Delivery (Intermediate Students, $N = 10$)

Lesson	Condition	Mean (<i>SE</i>)	<i>SD</i>	95% <i>CI</i>
4	Fluency Start	110.80 (8.73)	19.51	[86.57, 135.03]
	Fluency End	122.00 (7.56)	16.90	[101.02, 142.98]
6	Fluency Start	126.00 (10.63)	23.77	[96.49, 155.51]
	Fluency End	118.80 (10.76)	24.07	[88.92, 148.68]
10	Fluency Start	111.00 (10.08)	24.75	[80.27, 141.73]
	Fluency End	111.60 (8.09)	18.09	[89.14, 134.06]
12	Fluency Start	118.40 (8.92)	19.94	[93.64, 143.16]
	Fluency End	114.00 (12.87)	28.77	[78.27, 149.73]

In the third research question we asked whether students who completed the 3/2/1 fluency activity at the beginning of class were

able to repeat more of the same vocabulary than those who did so at the end of class. This was measured by counting the number of words used in all three deliveries. For the high-intermediate learners, the overlapping confidence intervals indicated no significant differences in the amount of word types repeated across all deliveries (see Table 5).

Table 5. Percentage of Total Word Types Repeated in All Three Deliveries (High-Intermediate Students, $N = 10$)

Lesson	Condition	Mean (<i>SE</i>)	<i>SD</i>	95% <i>CI</i>
4	Fluency Start	42.46 (3.81)	8.51	[31.89, 53.03]
	Fluency End	39.82 (3.36)	7.52	[30.48, 49.16]
6	Fluency Start	36.04 (1.42)	3.18	[32.09, 39.99]
	Fluency End	42.58 (4.38)	9.79	[30.42, 54.74]
10	Fluency Start	37.85 (2.37)	5.29	[31.28, 44.43]
	Fluency End	42.37 (4.26)	9.53	[30.54, 54.20]
12	Fluency Start	34.44 (2.41)	5.38	[27.75, 41.12]
	Fluency End	45.22 (3.06)	6.83	[36.74, 53.70]

Similarly, for the intermediate learners, the overlapping confidence intervals indicated no significant differences in the amount of word types repeated across all deliveries (see Table 6), however, toward the end of the course, some students in the fluency end condition appeared to be repeating fewer words than at the outset of the course.

Table 6. Percentage of Total Word Types Repeated in All Three Deliveries (Intermediate Students, $N = 10$)

Lesson	Condition	Mean (<i>SE</i>)	<i>SD</i>	95% <i>CI</i>
4	Fluency Start	43.05 (0.80)	1.80	[40.82, 45.28]
	Fluency End	39.49 (3.63)	8.12	[29.42, 49.55]
6	Fluency Start	39.63 (3.72)	8.32	[29.30, 49.95]
	Fluency End	37.67 (2.79)	6.24	[29.92, 45.42]
10	Fluency Start	42.83 (2.68)	5.99	[35.40, 50.27]
	Fluency End	33.06 (3.55)	7.94	[23.20, 42.92]
12	Fluency Start	44.88 (2.92)	6.53	[36.77, 52.00]
	Fluency End	33.32 (4.38)	9.80	[21.16, 45.49]

In the final research question we asked whether there was any relationship between the number of words repeated in all three deliveries with the level of increase in short-term fluency, measured in terms of the percentage increase in syllables per minute. While there was no significant relationship for the fluency start groups, for both the high-intermediate and intermediate level fluency end groups, there was a moderate correlation that was significant (see Table 7).

Table 7. Correlations Between the Percentage of Words Repeated and the Percentage Increase of Syllables Per Minute

Level	Condition	<i>r</i>	<i>p</i>
High-Intermediate ($N = 10$)	Fluency Start	.15	.52
	Fluency End	.59	.01
Intermediate ($N = 10$)	Fluency Start	.14	.55
	Fluency End	.51	.02

Discussion

The results for the first three research questions show that there were few differences in performance between the students who completed their fluency activity at the beginning of class compared with those who did so at the end of class. All students were able to increase the speed with which they spoke and produced equivalent amounts of language for the 3/2/1 activity. Such results suggest that the 3/2/1 activity can be used effectively with EFL students, as these results are consistent with studies of the 4/3/2 activity in ESL settings (Averart & Nation, 1991; De Jong & Perfetti, 2011). Furthermore, they suggest that the activity can be useful for students either at the beginning of class as a warm-up activity, or alternatively, at the end of class as a concluding activity to review material covered previously in the lesson and/or course.

The major difference between the groups, however, was in the relationship between the percentage of words repeated and the percentage increase in syllables per minute. For the beginning fluency group, the amount of repetition students engaged in was not related to their increase in speed, however, there was a statistically significant moderate correlation for those students who completed the fluency activity at the end of the lesson. While it has been shown that the amount of speech repetition that learners engage in during fluency activities may transfer to long-term fluency development (De Jong & Perfetti, 2011), this study has shown that the timing of fluency activities may increase the effectiveness of speech repetition. As the students who performed the activity at the end of class were repeating vocabulary that they had been exposed to and had used for the previous 70 minutes, their increase may have been the result of automatization of their use of this language. This increase could be because these students needed fewer attentional resources to generate content for their speech. In contrast, the speed-up for the starting fluency students may simply have been due to a reduction in the time needed to generate content, rather than an actual speed-up of their language use. While learners who completed the

fluency activity at the beginning of class were able to generate numbers of syllables similar to those who completed the fluency activity at the end of class, this may have been the result of their complete control of the content of their speeches, which allowed them to use familiar vocabulary to talk about topics their instructor felt would be relatively easy for them to discuss. The students who completed the activity at the end of class were constrained by the topics that they had discussed in class, therefore, this may have been a more challenging task for them. Although further investigation is necessary to confirm this interpretation, this result could suggest that fluency activities could be more beneficial for students if they are completed at the end of the class, rather than at the beginning.

Conclusion

While there are several limitations to the findings in this study, perhaps most important is that only one measure of utterance fluency (number of syllables per minute) was used for the analysis. A follow-up analysis will be conducted to determine if other factors of utterance fluency, such as the length and distribution of pauses, differed between the groups. These analyses may reveal further differences between the starting and ending fluency groups. Furthermore, while student levels of fluency improved in terms of the number of syllables spoken per minute, it is unknown what effect the activity might have in terms of speaking accuracy and complexity. A follow-up study will also look at these potential differences. Finally, this study was conducted in a relatively unique educational environment for a Japanese university setting, as there were only eight students per class. Whether students in larger classes would invest effort into developing their fluency in a 3/2/1 activity remains to be seen.

However, the findings of this study do suggest that the reduced 3/2/1 activity can be beneficial for EFL learners, and furthermore, that students who engage in language production before completing the activity could be speeding up their language production through the use of repetition, which has been argued to be a key factor in

automatizing language use. Therefore, similar to the findings in research of the 4/3/2 activity with ESL students, the reduced 3/2/1 activity appears to be an effective method of helping EFL students to develop their speaking fluency.

Bio Data

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