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2017　2022

Rethinking the 4/3/2 activity for fluency and accuracy development

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The results of this study can be applied to language teaching classes using activities such as the 4/3/2 to build fluency, while minimizing problems with reinforcing errors. This study also showed that fluency gains made through the 4/3/2 can persist beyond the duration of one class.

The " 4/3/2 activity" is an effective classroom activity for developing spoken fluency in a foreign language. In this activity, learners give a timed spontaneous talk three times, usually with increasing time pressure. This activity has been shown to improve measures of fluency over the course of the activity, but has been criticized for reinforcing errors in students' speech. This study examined the effectiveness of inserting a self-awareness component on the fluency and accuracy of the following iterations of the learners' speech. In one case, the self-awareness activity had learners transcribe their own speech and correct grammatical errors they noticed. In another case, they listened to their recorded speech for any grammatical errors. Both versions resulted in increases in fluency, however, only the self-transcription version was effective at decreasing errors.

applied linguistics

fluency　accuracy　second language

Second language spoken fluency has become a trending topic in recent years in the field of Applied Linguistics. In Japan, it has also become clear that spoken fluency in English is an area that needs more attention in English education. The University of Tokyo added a course for first-year students focusing on spoken English in 2015, in order to address the gap between speaking/listening skills and reading/writing skills of their students. There is also a trend toward adding speaking and listening skills to entrance exams and school curricula in Japan.

Central to the development of spoken fluency in English language learners is the development of automaticity in language production, and the efficient storage of formulaic language in memory (Segalowitz, 2010). This is facilitated by classroom activities that involve repetition, where learners are given the opportunity to reuse learned phrases in meaningful, communicative contexts (Gatbonton & Segalowitz, 2005). One example of this kind of activity is the 4/3/2 activity (Nation, 1989; Nation & Newton, 2009). In this activity, learners give a spontaneous speech 3 times to different classmates, often under increasing time pressure (4 minutes, 3 minutes, and 2 minutes).

This activity has been shown to result in positive effects on learners' fluency, as measured by speech rate and number of hesitations, for example (Nation, 1989; Arevart & Nation, 1991). Additionally, de Jong and Perfetti (2011) found that incorporating the 4/3/2 activity into an ESL course produced not only improvements in fluency over the course of the activity, but also had long-term benefits. However, Boers (2014) criticized this activity after finding that the majority of errors made by learners in their speeches were repeated over the course of the activity. This has the danger of facilitating the automatization of idiosyncratic errors in the speech of the learners.

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84–94. https://doi.org/10.1177/003368829102200106
Boers, F. (2014). A reappraisal of the 4/3/2 activity. RELC Journal, 45(3), 221–235.
https://doi.org/10.1177/0033688214546964
De Jong, N., & Perfetti, C. A. (2011). Fluency training in the ESL classroom: An experimental study of
fluency development and proceduralization. Language Learning, 61(2), 533–568.
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Gatbonton, E., & Segalowitz, N. (2005). Rethinking communicative language teaching: A focus on
access to fluency. Canadian Modern Language Review, 61(3), 325–353.
Nation, I. S. P. (1989). Improving speaking fluency. System, 17(3), 377–384.
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Segalowitz, N. (2010). Cognitive bases of second language fluency. New York: Routledge.

The present study aims to address the issue of accuracy in repetitive speaking activities (in particular, the 4/3/2 activity), by examining the effect of giving learners the opportunity to reflect on their own speech and errors. In order to be maximally applicable to realistic language learning contexts, the activities were done as actual classroom activities, and were carried out in a way that language teachers could realistically employ (as opposed to a tightly controlled experimental setting).

The present study consisted of two independent self-awareness activities, as outlined below.

(1) The first self-awareness activity was a self-transcription homework assignment. Subjects were 15 university students at a Japanese university. The levels of the students were approximately B1 to C1 on the CEFR scale.

In one class, students did two repetitions of a two-minute spontaneous speech on a topic related to the class content. For a homework assignment, they were given a recording of the second repetition of the speech to transcribe. After transcribing their speech, they corrected any grammatical errors they noticed to produce an "improved" version of the speech. In the subsequent class, they reviewed their improved version script before repeating the speech another two times.

All 4 repetitions of the speech were audio-recorded with IC recorders and transcribed for analysis. The speech rate in words per minute, mean length of run of speech, and mean pause duration were calculated for each repetition of the speech for analysis of fluency improvements. For analysis of accuracy, the number of errors corrected by each subject was counted, and whether or not each correction was maintained in the following repetitions of the speech was noted.

(2) The second self-awareness activity was designed to be less time-intensive for students and teachers. Subjects were students at a Japanese university, with 27 subjects in the treatment group, and 24 subjects in the control group. The levels of the students were approximately A1 to B2 on the CEFR scale.

In this version, students did two repetitions of a two-minute speech. After the first repetition, students in the treatment group immediately listened to a recording of their speech, paying attention to any grammatical errors they noticed.

Both repetitions of the speech were audio-recorded with IC recorders and transcribed for analysis. The speech rate in words per minute, mean length of run of speech, and mean pause duration were calculated for each repetition of the speech for analysis of fluency improvements. For analysis of accuracy, the transcripts of the two speeches were compared, and any corrected errors were noted. However, it was not possible to determine whether these errors were actually aware of their corrections.

(1) Figure 1 shows the average speech rate for the four repetitions of the speech. Speech rate increased over the course of the activity, $F(3,42) = 18.6$, $p < 0.001$. There was a significant increase in speech rate between the first and second speeches, and between the third and fourth speeches, as well as a significant increase between the first and third speeches. There was no significant difference between the second and third speeches. This implies that speech rate improved over the course of the activity, as expected. Importantly, the gain in speech rate from the first day of the activity was maintained one week later when the activity was resumed.

In terms of accuracy, an average of 14 corrections (min 5, max 22) were made by the students in the self-transcription homework assignment. Between 30% and 100% of these corrections were maintained in the following speeches, with no correlation between the number of corrections made and the number of corrections maintained. There was also no correlation between the gains in speech rate and the number of errors corrected. Therefore, the ability to self-correct seems to depend on the individual differences, however, overall the activity resulted in some degree of error correction, while maintaining gains in fluency. In conclusion, this version of the activity can be useful to language teachers for addressing both accuracy and fluency, however, it is also sometime time-intensive for the students.

(2) Figure 2 shows the average speech rate for the two repetitions of the speech for the treatment group and control group. Analysis of a mixed linear model with condition, repetition, and the interaction of condition and repetition showed a significant effect for repetition only, $X^2(1) = 17.1$, $p < 0.001$. Therfore, subjects had significantly higher speech rate in the second repetition of the speech. The lack of interaction effect implies that the self-awareness activity had no effect (positive or negative) on these fluency gains. There was no difference in the number of corrections made between the control group and the treatment

group, t(47) = 0.26, p = 0.797. In conclusion, listening to their own speech for grammatical errors did not result in any more or fewer corrections in the subsequent speech, but also did not hinder the fluency benefits of the activity. Therefore, this version of the activity is probably a waste of class time.

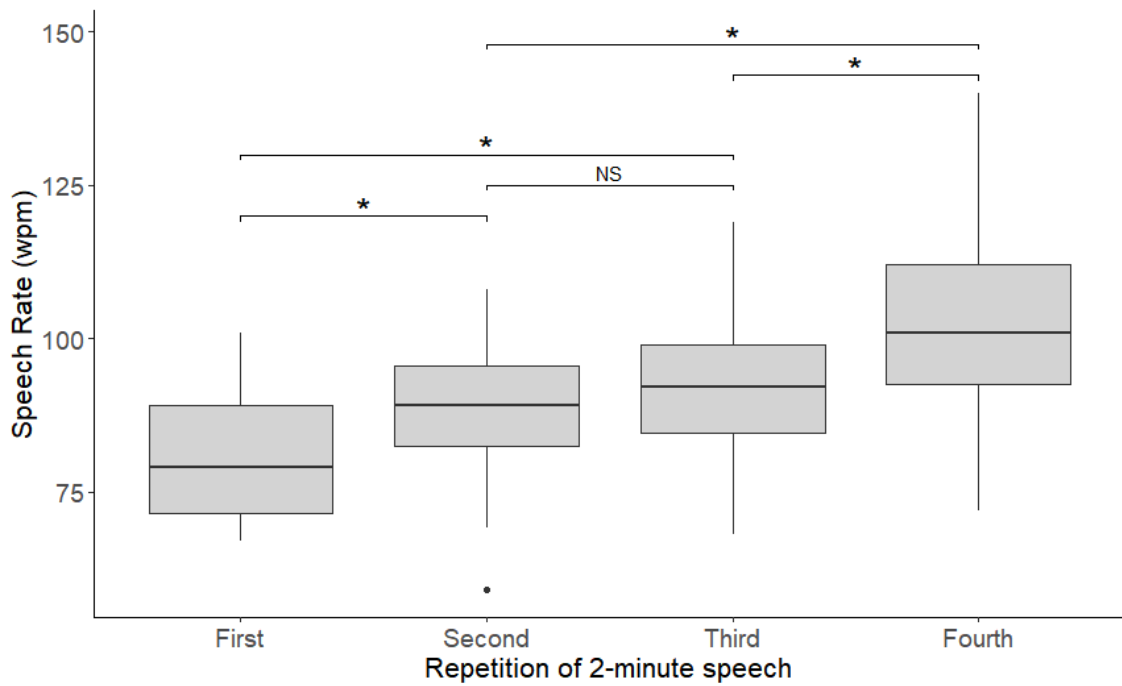Figure 1 Speech Rate increases over repetitions $F(3,42) = 18.6, p < 0.$
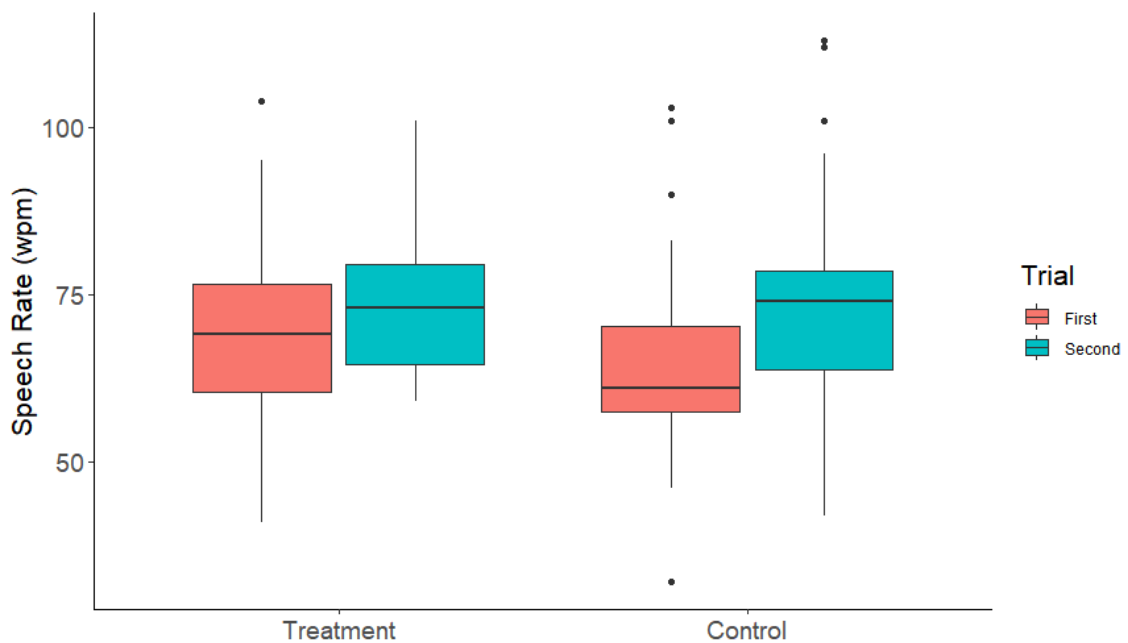
Figure 2 Speech Rate over trials $\chi^2(1) = 17.9, p < 0.001$

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Addressing Accuracy Issues In Fluency Activities

Hong Kong Continuing Professional Development International Conference

2021

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Hawaii International Conference on English Language and Literature Studies

2020

Steven Kirk

The function of rhythmand interactive alignment in creating confluence in conversation

British Association of Applied Linguistics

2017

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