

Investigating the Efficacy of One-minute Impromptu Speaking: Using the Audio Editing Software, *Audacity*

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This research explores the effects of a series of seven one-minute impromptu speaking sessions, utilizing Audacity recording software, on university students' speaking ability and attitude toward speaking English. Audacity can be used in the CALL classroom to monitor, record, and play back an entire speaking session; data can be collected simultaneously from all students. The software enabled students to reflect on their English performance after each practice session and prepare for the next impromptu speech. A questionnaire survey was conducted after each session to obtain data on speaking performance and affectivity. After recording their speeches and transcribing them on a worksheet, students responded to questionnaire items and noted their feelings on the same sheet.

It was found that the repeated impromptu speaking practice using the software brought about an improvement both in the students' speaking ability and their attitude toward speaking English. Specifically, the whole learner awareness of grammatical ability, fluency and content was enhanced. Likewise, the students' self-confidence and speaking performance in the last speech were found to have improved, with students becoming less nervous about their speaking performance by being given more speaking practice opportunities. Also, the number of words and clauses produced increased significantly between the first and last speeches. Furthermore, students tended to reflect on their speaking performance more objectively after the last speech, particularly in terms of weakness in grammar and vocabulary.

BACKGROUND

Of the research that has been done into the four skills (speaking, listening, reading and writing), speaking research has lagged behind the others, primarily because of evaluation difficulty. However, in recent years there have been numerous practical studies on methodology, evaluation and skills development.

In Japan, English teachers have been struggling to develop their students' productive English ability both inside and outside the classroom. More attention has been paid to productive ability, especially speaking, than receptive ability. The Ministry of Education, Culture, Sports, Science and Technology (hereafter, MEXT) has conducted various educational reforms on English language education at the primary as well as the tertiary level. For instance, based upon the new course of study, owing to the fact that Japanese students have poorer speaking ability than those in neighboring countries, 'foreign language activity' at fifth and sixth grades has been implemented once a week since 2011. Regarding early English education in Japan, mainly English has been taught in class under the label of 'foreign language activity'. However, in Asian countries such as China and Korea, early English education has been introduced, and primary school students in those countries are now learning English as a formal subject at the third grade to improve their communication ability.

Taking this situation into account, MEXT announced that a committee would be set up to discuss English as a formal subject at primary school and the full-fledged implementation of English language teaching from the third grade (see, e.g., Ishii & Ohiro, 2013). This process has already started in secondary education, and at high school English has been taught primarily in the target language since the academic year of 2013. In addition, plans are underway to discuss funding a certain number of schools and universities to nurture students who have ‘English ability that can be used’ by designating certain high schools as ‘Super global high schools’ and universities as ‘Global colleges’. Under the current circumstances it has become essential to improve Japanese students’ speaking ability. As seen in the past English education in Japan, however, it is not easy to achieve this overnight (Okuno, 2009).

In order to develop English speaking ability, research on speeches, presentations, shadowing, and reading aloud, for example, has been conducted at junior and senior high schools and universities. For instance, with a view to enhancing student presentation skills, Kano (2012) reported on the ‘no-tech visual aid’ method, in which the students do not use a personal computer, but make effective use of charts and pictures.

Also, in Matsuda et al. (2011) students studied English speaking at home using an IC recorder, with teachers instructing them to read aloud conversational dialogues, followed by a task such as shadowing and record their reading based on the content. The recording data collected from two groups (experimental and controlled) were analyzed and discussed. It was found that the method was effective for motivating students toward speaking improvement and the formation of good learning habits.

In this research, in order to help students improve their speaking ability, impromptu speaking practice sessions were conducted, and students were given the opportunity to reflect on their own speaking performance in preparation for future speeches.

THE STUDY

Research Objectives

This research focused on the following questions:

- (1) How do students evaluate their speaking using the software, *Audacity*?
- (2) Does this method enable them to improve speaking ability?
- (3) To what extent does one-minute impromptu speaking affect learner attitude toward speaking English?
- (4) What can be learned from students’ comments on the speaking practice?

Method

The research subjects were 56 freshmen at Science and Engineering faculties. However, the subjects who did not complete questionnaires or record their speaking sufficiently well were excluded, and the final number of subjects totalled 50. Also, students were classified into several classes by the university’s track system, and the average TOEIC scores of the classes (Science and Engineering faculties) were approximately 400 and 530, respectively. This means they can be considered to be at low-intermediate and intermediate levels of English.

Next, a questionnaire survey was carried out after each speaking practice session (Appendix 1). After students record their speeches in each speaking session, they play back the recording and reflect on their

speaking performance while transcribing their speech under ‘Your speaking’ on a worksheet. Then, students respond to questionnaire items on a six-point Likert scale. After that, they describe freely their speaking performance under ‘Your feelings and thoughts’ on the same sheet. In this research the data collected after the first and last sessions were analyzed. Also, regarding affective alteration of learner attitude toward speaking, an additional questionnaire survey was implemented after the first and the last speaking practice sessions (Appendix 2), and the data were analyzed using the *t* test in *Excel Statistics 2012*. Furthermore, not only the results of significant differences but also effect sizes¹ (*r*), which have been utilized in recent research papers (Mizumoto & Takeuchi, 2008, 2011), are shown.

The procedure of the speaking practice was as follows:

- (1) Students think about the content of their speech for 30 seconds based on a given topic.
- (2) They take turns to give their speech for one minute to a partner, and the pairs answer each other’s questions.
- (3) They record their speech for one minute using *Audacity*.
- (4) They play back their recording and transcribe it.
- (5) They reflect on their own speaking performance and evaluate it (with free description).

Below are the topics offered for impromptu speaking practice, which was conducted using themes related to daily life.

TABLE 1. Topics for students’ one-minute speech

1	Shopping
2	My favorite food
3	My hometown
4	My favorite sport(s)
5	How I spent last weekend
6	My favorite singer/song
7	My campus life

RESULTS AND DISCUSSION

Research Objective (1)

In this section, the way in which students self-evaluate their speaking using the audio editing software, *Audacity*, is explored. Specifically, grammatical correctness, fluency and content are discussed. *Audacity* is recording software which is easy for students to use for recording and playing back on the computer. Also, the software allows the teacher to collect all the speaking data simultaneously and to see each student’s speaking performance visually on the computer screen.

First, as Table 2 shows, it was found that, overall, the average numerical values of all the items were quite low. It is surmised that the students had very little experience of speaking activities of this type before entering university. In the first speaking practice session the average numerical values of grammatical correctness and fluency were 2.20 and 1.78, respectively. After the last speaking practice session the values were approximately 2.9, lower than the mean score (3.5 on the six-point scale). Despite this fact, compared to the data of the first speaking session, the data values for the last session were higher. In addition, looking at individual data, the

TABLE 2. Self-evaluation of one-minute speaking

Item	Time	df	M	SD	t	p	r
Grammatical correctness	First	49	2.200	.926	4.610	.000	.55
	Last	49	2.900	.974			
Fluency	First	49	1.780	.708	9.165	.000	.80
	Last	49	2.980	.958			
Content	First	49	1.920	.775	9.800	.000	.81
	Last	49	3.320	1.050			

average numerical value of grammatical correctness increased for 27 students, and the numerical value went down for only four students. However, in the last speaking practice session, there were no more than 14 students who answered in the affirmative in terms of the grammatical accuracy of their speech.

With regard to fluency, for the majority of students the numerical value was found to have increased compared to the first speaking practice session (39 students), and the remaining students gave their speaking the same evaluation. What concerned this writer, in addition to the students' poor evaluation of grammatical correctness, was that only 12 students answered that they had become able to speak fluently by the last speaking practice session. This implies that the rest of them thought they still could not speak fluently. The results show that when compared with the first speech, their English fluency had increased, but at the same time they tended to be dissatisfied with their fluency in English. Needless to say, it is impossible to learn to speak English fluently overnight, but it is the students' lack of confidence in speaking that is considered to have led to these results. Therefore, better methods which take learners' self-confidence into consideration should be devised in the future.

Statistically, regarding itemized self-evaluation of one-minute impromptu speaking, as Table 2 shows, the effect of the practice sessions on student awareness of speaking is clarified. First, regarding the three items, Grammatical correctness, Fluency in English and Content, significant differences were found between the first and last speaking sessions ($p < .001$) and the data presented a large effect size. Namely, it is shown that the speaking sessions enhanced student awareness of their ability to speak English more fluently and correctly in the last speech than in the first one.

Research Objective (2)

This section focuses on whether or not actual student speaking ability improved after practice using *Audacity*. For that purpose, the number of their uttered words and clauses is compared and discussed. To measure practical English conversation ability, Soresi and Suzuki (2007) created a contextualized scoring system, in which clauses and sentences can be counted by students using SPM (sentences per minute). In the present research the number of clauses as well as words was considered, because in the case of English sentences, even though a longer or complicated sentence contains conjunctions or relative pronouns/adverbs, it is still only one sentence. In addition, this research was done using the data from short-time practice sessions (one-minute impromptu speaking). Therefore, it is reasoned that student utterances can be more objectively evaluated by counting the number of clauses. For this reason the above scoring system was adopted in this research and the data from the first and last speeches were collected and analyzed (Table 3).

TABLE 3. Number of words/clauses in one-minute speaking

Item	Time	<i>df</i>	M	SD	<i>t</i>	<i>p</i>	<i>r</i>
Number of words	First	49	35.640	15.149	5.156	.000	.59
	Last	49	48.760	13.336			
Number of clauses	First	49	5.420	2.223	5.436	.000	.61
	Last	49	7.260	1.936			

It was found that the number of words uttered by students in the last speech had increased greatly. Statistically, the *t* test showed a significant difference between the two sessions ($p < .001$), and the data presented a large effect size. Moreover, the number of clauses uttered in the first and last speeches was compared and discussed using the *t* test. The number of clauses as well as words increased, with the results showing a significant difference between the first and last speeches ($p < .001$) and presenting a sizable effect size (Table 3). All in all, it can be said that this speaking practice had a large effect on promoting speaking improvement.

Research Objective (3)

In this section, the extent to which impromptu speaking affects student attitude toward speaking is discussed.

First, the results with significant differences are discussed (Table 4). Regarding the item, 'Nervousness in class', it is to be expected that students would be nervous when being asked to make a speech in English. In the last speech, however, the average numerical value was found to have decreased. This implies that nervousness about speaking in English was lessened by more chances to speak in the target language in speaking practice. Furthermore, with regard to both the items, 'Being able to speak in an easy-to-understand way' and 'Being able to speak with specific examples', there was a significant difference between the first and last speeches ($p < .05$) and a medium effect size. This means that as students continue to do the speaking practice, they become more able to speak in an easy-to-understand way, using more examples. Even so, since both the average values were low, it seems that numerous students still did not feel that way. Concerning the item, 'Being able to speak with confidence', the effect size was small.

TABLE 4. Effect on learners' attitudes (1)

Item	Time	<i>df</i>	M	SD	<i>t</i>	<i>p</i>	<i>r</i>
Nervousness in class	First	49	4.460	1.182	-3.855	.000	.48
	Last	49	3.820	1.395			
Speak in an easy- to- understand way	First	49	2.100	.863	2.474	.017	.33
	Last	49	2.480	1.015			
Speak with specific examples	First	49	2.060	.818	2.514	.015	.34
	Last	49	2.460	.973			
Speak with confidence	First	49	2.160	.889	2.137	.038	.29
	Last	49	2.440	1.033			

TABLE 5. Effect on learners' attitudes (2)

Item	Time	<i>df</i>	M	SD	<i>t</i>	<i>p</i>	<i>r</i>
Self-confidence in pronunciation	First	49	2.160	.912	1.852	.070	.26
	Last	49	2.380	1.048			
Use vocabulary well	First	49	2.180	.873	1.5171	.122	.22
	Last	49	2.420	.928			
Move audience	First	49	1.700	.678	1.995	.052	.28
	Last	49	1.960	.968			
Fun to speak in English	First	49	3.300	1.216	1.669	.102	.23
	Last	49	3.520	1.216			

Next, though there was no significant difference, the items with an effect size ($r > .10$) are discussed (Table 5). The data presented a small effect size regarding the item, 'Self-confidence in pronunciation'. However, since quite a few students had no confidence in pronunciation, a teaching method devised to nurture confidence in pronunciation will be needed. Also, regarding the items, 'Use vocabulary well' and 'Move audience', the data presented a small effect size. However, the average values of the first and last speeches were not high, either.

Likewise, regarding the item, 'Fun to speak in English', a small effect size was found despite no significant difference between the first and last speeches. Through this practice, the students' pleasure in speaking the target language seems to have increased. In this respect further practice to encourage them to learn practical English in a pleasurable way is considered to be useful. Fundamentally, this aspect is vital in rethinking the meaning of studying the target language. The aim of learning to speak English is to communicate with other people smoothly, or to convey messages appropriately. It will, therefore, be necessary for the teacher to reconsider the class content based on the above aim, and introduce enjoyable activities in class.

Research Objective (4)

In this section, what can be learned from students' comments on the speaking practice is discussed. After the first and last speaking practice sessions, students were asked to write their feelings and thoughts about the speaking sessions. Specifically, they were requested to describe freely good and bad points after both sessions, and their overall feelings about the teaching content only after the last speaking session.

The data results of the first and last speeches were compared and discussed. The results show that students seem to have reflected on and analyzed their own utterances (Tables 6 and 7).

Regarding the good points on students' speaking performance in the first speech, there were 14 students who stated the following, 'I made efforts to speak in English' or 'I managed to speak English'. The description after the last speech showed that 22 students could speak English fluently, and six students could convey their messages well.

With respect to the bad points, as Table 7 shows, 16 students felt that they could not speak English fluently in both the first and last speaking practice sessions; however, the number of students who were aware of a lack of vocabulary and grammatical ability was increasing. It is considered that they were self-analyzing their speaking ability more critically as a result of repeated speaking practice sessions.

TABLE 6. Free description (Good points)

First		Last	
Item	N	Item	N
Make efforts to speak / Manage to talk	14	Speak fluently or more	22
Loud voice	2	Convey the content	6
Clear voice	2	Enjoy talking	2
Conscious of grammar	2	Speak correctly	2

TABLE 7. Free description (Bad points)

First		Last	
Item	N	Item	N
Unable to speak fluently	16	Lack of grammatical ability	19
Lack of grammatical ability	11	Unable to speak fluently	16
Unable to organize the speech	5	Restricted vocabulary	9
Unable to express myself	2	Unable to express myself	2

In other words, students judged their own speaking more objectively by listening to recorded utterances, particularly in terms of weakness in grammar and vocabulary, which in turn led them to notice their speaking. This is what might be called self-reflective speaking from various perspectives, such as grammar, vocabulary, fluency and content. Some students reflected on their utterances from the viewpoints of pronunciation and intonation. It can therefore be said that they applied what they noticed at that time to the next speech and used English more carefully from all the above perspectives. Certainly, one of the post questionnaire items, ‘Speaking practice is effective in speaking improvement’, showed a high average value, 4.84 on the six-point scale. This shows that students are aware that the spiral activity of speaking practice, self-reflection, noticing and making further efforts leads to the improvement of their speaking ability.

Students’ overall feelings and thoughts about speaking practice after the last practice are shown in Table 8. Regarding speaking-related description, the top item was ‘Speaking practice is effective in speaking improvement’ (11 students). The next description was ‘Improved speaking ability’ (9 students). Albeit mentioned by a small number of students, other items were ‘Self-confident in speaking’, ‘Had a good experience because of no chance to speak in English’, and ‘Had a good time speaking’.

On the other hand, with regard to reflection-related description, the top description was ‘Understood clearly my own mistakes or problems in speaking English’ (7 students). The second item was ‘Could judge my speaking in an objective way’ (5 students). Others were ‘Felt strongly the lack of speaking ability’ (3 students), ‘Lack of vocabulary’ (1 student), and ‘Need to have better pronunciation’ (1 student). It seems, therefore, that the students feel the speaking practice was effective and their speaking ability had improved. In addition, they think that the method is meaningful because they can clarify their speaking problems and assess their speaking in an objective way.

However, what concerned this writer in regard to the students’ free description was the following

TABLE 8. Overall Feelings and thoughts about speaking practice

Speaking-related			Reflection-related		
	Item	N		Item	N
1	Speaking practice is effective	11	1	Clarify problems / mistakes	7
2	Speaking ability improved	9	2	See speaking ability objectively	5
3	Confidence in speaking	2	3	Feel inability to speak	3
3	Good experience	2	4	Need clear pronunciation	1
3	Enjoyable	2	4	Lack of vocabulary	1

message: ‘I felt speaking practice to be painful because I was very poor in speaking English’. It shows that this practice placed a heavy mental burden on students poor in English speaking. Therefore, one of the important tasks for teachers from now on is to take student English-speaking ability into account when carrying out speaking practice. It is necessary for teachers to understand student ability to the full and to carefully consider their teaching procedures.

CONCLUSION

In this research, the effects of one-minute impromptu speaking on student affectivity and speaking improvement were explored. It can be said that this practice was effective. Specifically, it was found that the number of student utterances increased after practice, and concerning grammatical correctness, fluency and content, the students had better feelings about speaking English. Likewise, the results showed that they also had more confidence in speaking. It is of importance that learners ‘become conscious of their utterances’ in order to ‘learn to use English’ (Aoki, 2013). For that purpose it is vital to adopt teaching methods designed to make students aware of their utterances. In this research, students were encouraged to self-reflect on their speaking, notice problems with their utterances, and improve their speaking ability. As mentioned above, this speaking practice is considered to have had significant benefits for students. However, there are tasks for further research, and these are discussed below.

First, further specific teacher intervention is necessary. The spiral activity of speaking practice, self-reflection, noticing and making further efforts can be considered to have promoted improvement of student speaking ability. Certainly, although necessary pronunciation and non-verbal elements were taught to students and some practical advice on the speaking practice was given, more careful teaching of the practice should be done in class.

Next, the topics for speaking practice might have to be reconsidered in order to obtain more reliable speaking data. In the present study all the topics were different, although related to daily life. The data obtained based upon different topics were compared and the above-mentioned good results were found. However, since some topics might have been easier for them to speak about, there is the possibility that this is why the results were significant in this research. Therefore, the results might be more reliable if similar topics at all stages of the speaking practice are used and compared.

Finally, in this research the practice of having students notice and analyze their speaking through self-reflection to improve their speaking was carried out, and desirable results were obtained. From now on,

more fruitful research is necessary in order to encourage students to keep a positive attitude toward improving their speaking ability and to take action for speaking improvement.

Note: The effect size is shown to enhance reliability of statistical results, in addition to significance differences. In the case of the *t* test, generally $r > .50$ is a large effect size, $r > .30$ is a medium effect size, and $r > .10$ is a small effect size.

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APPENDIX 1
Self-reflection on speaking (Handout)
 Speaking Practice

Title (_____)
 No (_____) Name (_____)

Item	Content
Question	
Answer	
Your speaking	
Your feelings and thoughts	

<Questionnaire>

Choose the most suitable number in each blank on the 6-point scale: 6 (strongly agree), 5 (agree), 4 (somewhat agree), 3 (somewhat disagree), 2 (disagree) and 1 (strongly disagree). Regarding No.5 to 7, write freely about your comments.

- 1 The content of my one-minute speech was good.
- 2 I could speak English fluently.
- 3 I could speak correctly in terms of grammar.
- 4 My speech this time was good.
- 5 Did you do something to improve your English speaking during this week? Yes No
- 5' If you answered yes, what did you do?
- 6 Describe any good points concerning your speaking.
- 7 Describe any problems concerning your speaking.

要 約

一分間即興スピーキングの効用に関する調査・研究： ソフトウェア Audacity を用いて

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本論文は、ソフトウェア Audacity を使用して、大学生のスピーキング力や英語を話す姿勢に対する一分間即興スピーキングの影響を調査・研究したものである。このソフトウェアを使用することによって、学習者自身がスピーキング実践後に自らの英語力を自省し、次の即興スピーキングパフォーマンスに向けて更なる練習及び準備をしていくことに繋がるのが期待される。リサーチの質問内容は、スピーキング力と情意面に関する内容である。また自由記述によって、その時のパフォーマンスを更に自省して、次回のスピーキングに生かすようにしている。今回の研究では、最初と最後のデータ結果を比較して分析・検討を行った。

その結果、以下の点が明らかになった。まず、Audacity の使用によって、学習者のスピーキング力や英語を話す姿勢に対して改善が見られた。とりわけ、全体的に文法力、流暢さ、内容の点で学習者の意識に改善が見られた。同様に、話すことに対する自信やスピーキング力に対しても学習者の意識は向上している。数量的分析の見地から見ると、語彙数や節数に関しても最初に行ったスピーキングパフォーマンスに比べて両方とも、最後の数値が格段に増加し、どちらも効果量大という結果(1%で有意差有)となっている。今回の研究を見る限り、Audacity を使用したスピーキングパフォーマンスの実践は、学習者の英語スピーキング力向上に大きく貢献していると考えられる。