

A. Study of the Use of “Isochrony” in Teaching English: With Respect to Sentence Memorization

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1. Introduction

It seems that when we think of teaching English sounds, an unprecedented spotlight hits suprasegmental features including rhythm. However, phonological sophistication in this area promoting the memory of sentences has not been well tested so far. That is, nearly all the arguments featuring rhythm or intonation have converged on improving students' “language activity” instead of “learning activity,” which is, from an educational point of view, too important to ignore.

This is a continuation of the series of studies done in the previous year the titles of which are “Toujisei(isochrony) wo Mochiita Bunpou Shidou” (Mikuma 1992) and “Isochrony in Language Teaching”(Mikuma 1993). Both of these studies were made under the assumption that “isochrony,” the phonological state of allowing stressed syllables to come on the regular beat, would facilitate the learners' retention of English sentences after reading them orally.

2. A Recap of This Series of Studies

This series of studies originate in an oral presentation I made, as a public high school teacher, at the 1986 Fukuyama Convention of the English Teachers' Association of Hiroshima Prefecture. This was a demonstration of what I tried in everyday teaching practice, which is to make use of isochrony inherent in target sentences. A drum-beat producing device was used to get an 8 or 16 beat rhythm. The drum sound thus produced accompanied the students' oral reading in class. This was a simplistic and empirical based approach to the assumption that came along later, the assumption that rhythm helps students' memory, but the student's response was quite favorable. By now this method has been used for 8 years.

Then came “Isochrony in Language Teaching”(Mikuma 1993), where I tried to see if this memory-facilitating power of isochrony really exists. The subjects were 77 high school students and they were tested to examine whether the presence of rhythm accompaniment made a difference. The result was that although they showed a trace of separation between the control and experiment groups, because of what is called floor effect of the outcome, the difference was not proved significant.

In the next attempt along these lines, the change in the learner-consciousness was examined after 4 months' use of this drum-beat method. The 70 freshmen at Hiroshima Bunkyo Women's College were asked by a questionnaire how they evaluate use of rhythm and their improvements. The data obtained were put through a factor analytical procedure and I found out that they think they improved due to this isochronous method and their feeling of good effects can be classified into 4 categories: Sound, Vocabulary/Writing, Choice of Expressions, and Learning Attitude factors.

So far, it has been discovered that while the degree of students' satisfaction after trying this method is rather high, solid statistical evidence has not been compiled.

3. Study

3.1 Method

Under the same hypothesis as the previous study, this experiment was proceeded, this time with 93 college English major students, who are freshmen. Exactly the same steps were taken in the experiment, except this time, the ten sentences used were divided into two sections, the first five(1~5) of which have no rhythm accompaniment for both control and experiment groups, and the second five(6~10) of which allowed the use of rhythm only for the experiment group. After the students repeated each sentence ten times with or without the drum-beat accompaniment, they were given a random number and were told to count backward from that number by 3's, which was meant to be a distracting activity. We counted the number of syllables the subjects could manage to reproduce. The average score of the first half for each group has been converted into the reproduction ratio and used as the base against which the improvements resulting from the use of rhythm have been measured. For the experiment group, I gave a short explanation of how English isochronous rhythm generally works between the sessions 1 and 2 while for the control group I merely gave a short recess. The results are as follows.

3.2 Result

Group	N	Mean	SD	df	Outcome
Control group	45	0.0300	0.1734	90	t=0.2905(N.S.)
Experimental group	47	0.0199	0.1614		

Table 1 Sentence 6

Group	N	Mean	SD	df	Outcome
Control group	45	0.0169	0.2219	90	t=1.3008(N.S.)
Experimental group	47	-0.0459	0.2401		

Table 2 Sentence 7

Group	N	Mean	SD	df	Outcome
Control group	45	0.0569	0.1236	90	** t=4.6311
Experimental group	47	-0.1485	0.2766		
Table 3 Sentence 8					** p<0.0001

Group	N	Mean	SD	df	Outcome
Control group	45	0.0365	0.1685	90	* t=2.5731
Experimental group	47	-0.0793	0.2561		
Table 4 Sentence 9					* p<0.01

Group	N	Mean	SD	df	Outcome
Control group	45	0.0110	0.1515	90	t=1.2752(N.S.)
Experimental group	47	-0.0417	0.2373		
Table 5 Sentence 10					

	1	2	3	4	5	6	7	8	9	10
t	4.024	-2.077	4.915	4.696	4.604	4.957	5.001	6.497	-0.734	5.743
prob.	****	**	****	****	****	****	****	****	N.S.	****
	11	12	13	14	15	16	17	18	19	20
t	4.898	3.501	2.987	4.545	4.519	-1.804	-5.054	0.950	-3.453	-2.391
prob.	****	***	****	****	****	N.S.	****	N.S.	****	*

Table 6	****	p<0.0001
	****	p<0.001
	***	p<0.01
	**	p<0.05
	*	p<0.1

3.3 Discussion

Contrary to our expectation, the results show that there are no remarkable differences between the performances of those taught with the help of explicit musical device and those without. Moreover, as far as sentences 8 and 9 are concerned, the control group outperformed the experiment group, meaning that the explicit resort to a drum beat apparently backfired.

One thing that could have caused this is that the sentences used for this experiment were so easy for college students majoring in English that they resulted in "ceiling effects." With the

base too high, potential difference could have been crushed into something approaching “non-existent.” The students knew many of the sentences and all they had to do was to use their own pronunciation already stored in them. Thus they felt the activity less demanding than had been presumed.

Another thing is that the students may have been overconscious of rhythm. That is, they felt they had to force themselves to fit into the rhythm, thus becoming too conscious about how they were doing the task, falling into a lapse. Meanwhile, I wanted to find out about how the students see this activity. Table 6 indicates the comparison of the t-test scores for the questions inquiring about the students’ evaluation on the activity. The questionnaire is reproduced in Appendix II. According to this table, with all the items bar 9, 16 and 18, the two groups displayed a wide gap. The t-test results from this questionnaire declare the difference to be significant. They show a positive reaction to the said method. Interestingly enough, this excitement led to the aforementioned overconsciousness.

4. Conclusion

What can be said now is that through this particular study, rhythm involvement hasn’t thus far proven effective, probably because of “ceiling effect.” Looking back on the previous study, the subjects were freshmen at high school and the experiment suffered from “floor effects,” as opposed to this study. This suggests that the rhythm consciousness will have no impact on the sentence memorization both when the items are too difficult and when they are too easy. A future study is expected to examine high school students again, this time with some proper modification on the selection of the test sentences.

I am still confident that this method is effective under certain circumstances. When I was teaching at high school the students there were saying that the sentences they were studying came out of their mouths automatically on their way to and from school, when they were pedalling a bicycle, for example. Probably, the rhythmical strokes of pedalling had a lot to do with this. They were generally happy about this method. So were the students I taught last year as was shown in one of the two studies mentioned earlier. And so are the students I am teaching this year as Table 6 indicates. Future research may have to put the learners in long-term perspective.

Notes

- ¹ Igarashi(1979) presents the dualism of “learning-activity” and “language-activity” in the context of TEFL. I believe that this is one well-balanced attitude that ought to be taken on by any in-service English teachers in Japan, where it is said the learners naturally take very different strategies in acquiring English than those in English speaking countries.

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Appendix I

The sentences used for the taped material:

Example:

I go to school.
I go to school by bus.

1. He was red in the face.
2. She tried to write the letter in French.
3. I must remember to do my homework.
4. If he were here, we could begin the meeting.
5. She was kind enough to show me around the school.

