Reciprocal Peer-Teaching for Japanese Students of Science and Technology

YU Yan
University of Electro-Communications Tokyo

SHI Jie
University of Electro-Communications Tokyo

Introduction

Peer-teaching has long been considered to be one of the effective methods of education regardless of subjects or disciplines world-wise (Topping 1996).

- It has been supported by collaborative learning theory which regards learning as a social activity (Bruffee 1984).
- According to Whitman (1988), the 1st published research about peer-teaching was in in the 1960s.
- Peer-teaching typically includes the techniques of peer-instruction, group-teaching, peer-tutoring, etc., in a class.
- This method is receiving more attention in EFL contexts as a means to improve students' motivation, critical thinking and presentation skills at universities in Japan.

Research Purpose

In order to achieve active learning (Bonwell & Eison 1991), based on some of the common practices of peer-teaching, such as peer-instruction, peer-tutoring, peer-sharing, and peer-evaluation (Biggs, 1999), the researchers of this study designed a group-based peer-instruction model to enhance cooperative learning, discussion and presentation skills using English in an EST (English for Science and Technology) course, "Technical English", at UEC Tokyo.

Research Method

A survey was conducted by applying a peer-feedback form right after the peer-teaching project was completed.

Survey on the "Peer Teaching" Project (BTE, 2014)

Your Class: _____ Your name (optional) _____

1. Do you think peer teaching is beneficial or not? Please circle your answer.
   Yes   No
2. If you think peer teaching is beneficial, how do you rate it? Please circle your answer.
   (1=a little beneficial; 5=very beneficial)
   1   2   3   4   5
3. What did you learn as a "teacher" in this project?

4. What did you learn as a "student" in this project?

5. What are some of the problems with this project?

6. Do you want to conduct this project again in the fall semester (ITE)? Why or why not?

7. Other comments, if any. Feel free to continue to write on the back of this sheet.

Thank you very much for your cooperation!

Results

The following tables show the students' feedbacks and opinions toward peer-teaching.

No. of classes participated: 4

No. of students: 109

No. of feedbacks received: 77

Table 1 Responses to Q1 (*N*=77)

Answer	Yes	No
No. of Students	59 (76.6%)	18 (23.4%)

Table 2 Responses to Q2 (1=a little beneficial; 5=very beneficial) (N=77)

Class	Rate	No. of Students	Percentage
Class A N=12	1	0	0%
	2	1	9.1%
	3	2	18.2%
	4	8	72.7%
	5	0	0%
Class B N=19	1	0	0%
	2	1	10%
	3	4	40%
	4	5	50%
	5	0	0%
Class C N=25	1	2	9.1%
	2	1	4.5%
	3	12	54.6%
	4	5	22.7%
	5	2	9.1%
Class D N=21	1	0	0%
	2	4	25%
	3	7	43.7%
	4	4	25%
	5	1	6.3%

Table 3 Some examples of students' feedback on Q3

1	I learned the importance of preparations. And, I can think standing the situation of the student.
2	I learned the way to tell what I want to tell.
3	Teaching is hard.
4	I learned speaking English and communicating in English. As I have never taught English in English. I felt that it is difficult and important to communicate in English.
5	The peer teaching made me think how to give an understandable lecture.

Table 4 Some examples of students' feedback on Q4

1	I can ask things which I don't know or understand.
2	I learned presenter's skill to give a lecture and how to organize the lecture.
3	the importance of cooperation
4	I learn a good method to convey information. I want to master the method.
5	I have little English words ability and I have to study them harder.

Table 5 Some examples of students' feedback on Q5

1	It takes much time.
2	Motivation differences by students
3	It is difficult for me to express my idea in English.
4	The students not listening but sleeping are more.
5	"Student" part is too long.

Table 6 Some examples of students' feedback on Q6

1	Most of the "teachers" are not good. So I didn't learn as a student. I don't want to conduct.
2	No. I had my spirit broken this time.
3	Yes. Because I will be able to understand contents by preparing.
4	Yes, because I could learn and make some new findings.
5	Yes, I do. I think this project is simple, but teaching is difficult and beneficial.

Table 7 Some examples of students' feedback on Q7

1	When I do peer teaching, I want to be lectured on teaching to do better peer teaching and improve my English.
2	Every people should have opportunity to speak English, therefore, a debate whose content is related to textbook, is a good idea to make students speak English a lot.
3	I think that it is good project.

Conclusion

- Peer-teaching is beneficial to students. It is an effective technique to motivate students, to initiate active learning, and to train students' presenting skills.
- Students understand the content better by preparing lessons and teaching.
- Peer-teaching is time-consuming, which is one of the reasons why some students do not want to conduct it again. → A future task for the researchers
- Motivation and abilities of the 'student teachers' differ → A future task for the researchers

References

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