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Picture Stories in Japanese Elementary School English Classrooms

(3) A Comparison of the Effect of Two Types of After-Reading Activities on the Quantity and Quality of Learner Oral Outcomes

Tomoko Kaneko

Abstract

This paper, Section 3 of the series 'Picture Stories in Japanese Elementary School English Classrooms', compares the effect of two types of activities, task-based group work and notional-functional individual work, on the quantity and quality of learner oral outcomes through experiments.

The two types of activities were administered following the same interactive reading aloud session using the same picture story. The results appear to show that there is a tendency for the task-based language learning activity to produce better outcomes than a more traditional notional-functional language teaching method.

1. Introduction

Section 2 of the series 'Picture Stories in Japanese Elementary School English Classrooms (2) Role of Narrative Picture Stories in the New Course Guidelines' (Kaneko, 2018) explains the new course guidelines for elementary school English activities and classes by the Ministry of Education, Culture, Sports, Science and Technology, which newly requires English classes to introduce interactive speaking skills in addition to the traditional four skills, listening, speaking, reading and writing. The article also suggests that interactive speaking practice using picture stories should effectively elicit learners' outcomes. It exemplifies two different types of teaching, one which follows a notional-functional individual work approach and the other which follows a task-based group work approach.

The purpose of the present paper is to administer a small size experimental study to find out which type of teaching is more effective for young learners to elicit utterances in English classes.

2. Literature Review

In Section 2 of this series, some literature on the types of syllabi based on Robinson's (2009) categories were reviewed. He categorizes syllabus designs into traditional and contemporary approaches. Another way to classify teaching methods is whether they are synthetic or analytical. Johnson (1996) favors a synthetic syllabus because she says that it leads to good transitions from procedural to declarative knowledge and vice versa. A third point on which to

compare teaching methods is whether it calls for deliberate learning or incidental learning. Deliberate learning is planned and direct while incidental learning is accidental, indirect, unplanned and always happens in the context of another activity or experience. In addition, deliberate learning takes place usually in individual work and incidental learning occurs in group work. Chart 1 summarizes the features of the opposing language teaching approaches:

Chart 1. Notional-functional vs. Task-based Teaching

	Notional-functional	Task-based
Syllabus	Traditional	Contemporary
Method	Analytical	Synthetic
Learning	Deliberate	Incidental
Learning Style	Individual	Group

Since notional-functional teaching and task-based teaching approaches are clearly opposing sides in how to teach and learn languages as shown in Chart 1, these two types of teaching will be compared in this paper.

Thus, the purpose of the present study is to find out which after-reading activities, those based on notional-functional individual work or on task-based group work, result in better aural outcomes in quantity and quality.

The research questions are:

1. Are there any differences in the quantity and quality of the children's learning outcomes in the two different types of work, the task-based group work and the notional-functional individual work?
2. If there are differences, how do they relate to the two different activities?

3. Method

3-1. Participants

The participants of the present study are seven after-school elementary school 4th graders (10 years old), three males and four females. All of them have already had experience in learning introductory level English in one of the private elementary schools in Tokyo. The experiment took place at so-called "after-school," where the children stay after school until their parents come to pick them up after work.

3-2. Procedure

The experiment started with introductory activities which lead to a pre-interview test. The test measured the participants' English proficiency as well as their knowledge of English vocabulary (Appendix 1-1). The children were divided into two groups, A and B, with participants in both groups at a similar English proficiency level. At the end of the experiment,

all the participants took a post-interview test (Appendix 1–2). Both pre- and post-interviews were recorded and transcribed so that the number of words used was counted and the appropriateness of the answers from each participant was rated by the researcher.

The purpose of the first step of the experiment was to elicit non-spontaneous utterances from the participants. Here, "non-spontaneous utterance" means the words or phrases elicited by the instructor, for example, repetitions or answers to questions. The participants and the researcher wore an audio-recorder during the pre- and post-interviews and through the sessions so that the researcher is able to track and study individual utterances. The first 20-minute activity administered in Step 1 to both groups together was a story-reading session using an original children's story, "My Dog, Toby," written by the researcher (Appendix 2–1). This was followed by a 30-minute interactive after-reading activity administered to the same participants (Appendix 2–2).

In Step 2, for about 30 minutes, the participants were divided into two groups. Group A selected picture-cards illustrating key words which could form new stories for the instructor to make up and tell aloud various stories following the pattern in "My Dog, Toby". The participants in this group focused on making stories in their heads. Group B more passively listened to the stories the instructor made up using the picture-cards again and again. The participants in this group focused on listening Yes/No and WH questions and answering these questions in their heads. At the end of this step, the participants in both groups had about 10 minutes to prepare for the final story-telling, Group A in group work, and Group B by individual work.

In Step 3, the participants were asked to audio-record their own story individually for as long as possible. The audio-recorded data were transcribed and analyzed to find out 1) the quantity of words used by each participant and 2) the quality of words, whether the words were in English or Japanese in this study. Chart 2 below shows the procedures of the experiment.

Chart 2. The Procedure of the Experiment

<table>
<tr><td rowspan="2">Steps</td><td rowspan="2">Pre-Step
(2–3 mins each)</td><td>Step 1</td><td>Step 2</td><td>Step 3</td><td rowspan="2">Post-Step
(2–3 mins each)</td></tr>
<tr><td>(50 mins)</td><td>(40 mins)</td><td>(approx. 2–3 mins each)</td></tr>
<tr><td>Group A</td><td rowspan="2">Pre-Interview</td><td rowspan="2">Story-reading & Interactive After-reading Session</td><td>Task-based Activities</td><td rowspan="2">Recordings of Self-made Stories</td><td rowspan="2">Post-Interview</td></tr>
<tr><td>Group B</td><td>Notional-functional Activities</td></tr>
</table>

Thus, the present study collected 3 different sets of data: (1) the pre- and post-activity interviews, (2) the audio-recorded children's utterances during Step 1 and 2, and (3) the final self-made stories. In addition, questionnaires in Japanese, to ascertain the participants' former English learning experience and also to check what the participants themselves think they have learned in the lessons, were administered before and after the experiment respectively (Appendix 3).

4. Results

This section contains the results of the pre- and post-interview test comparisons for both Groups A and B relevant to Research question 1. It also compares the quantity and quality of the participants' utterances during Steps 1 and 2 with those recorded in Step 2 relevant to Research question 2.

4-1. Research question 1

The first research question is: Are there any differences in the quantity and quality of the children's learning outcomes in the two different types of work, the notional-functional individual work and the task-based group work?

The format of the interview questions was the same in the two interviews, as shown in Appendix 1. In the post-interview questions, a new word and a phrase learned in the activities, "cook" and "study English," were used instead of the easy words the children are expected to know.

Chart 3 shows the results of the pre- and post-interview tests. Although the grouping was organized based on the result of the pre-interview so that the average scores of the two groups were as equal as possible, one child (S2) in Group A, who speaks English at home, answered all of the interview questions perfectly. Because of this, his scores were excluded from the original data for the present research. The numbers shown in Chart 3 are the total frequency of appropriate words and phrases spoken by all the members of each group, 3 children in Group A and 3 children in Group B.

Chart 3. Interview Tests Results: Comparison of Outcome Frequency between the Two Groups

Groups	Single Words		Phrases & Sentences	
	Pre-Interview	Post-Interview	Pre-Interview	Post-Interview
A (S4, S5, S7) Task-based group work	9	13	0	1
Mean	3.00	4.33	0.00	0.33
B (S1, S3, S6) Notional-functional Individual work	10	13	2	1
Mean	3.33	4.33	0.67	0.33

Chart 3 shows that children in both groups used more words in post-interview tests. A comparison of the use of single words as well as phrases and sentences in the two groups reveals that although Group B out-scored Group A in the pre-interview, there was no difference between the two groups in the post-interview.

Chart 4 shows the comparison of the scores of pre- and post-interviews.

Chart 4. Interview Tests Results: Comparison of Scores of the Two Groups

Groups		Pre-Interview						Post-Interview						Growth
		Q1	Q2	Q3	Q4	Q5	Sum	Q1	Q2	Q3	Q4	Q5	Sum	
A: Task-based Group Work	S4	2	0	1	0	0	3	2	2	1	2	1	8	5
	S5	2	1	0	1	0	4	2	2	1	2	0	7	3
	S7	2	2	0	0	1	5	2	2	2	2	0	8	2
	Total	6	4	2	2	0	12	6	6	3	6	3	23	10
Mean		2.00	1.33	0.67	0.67	0.00	4.00	2.00	2.00	1.00	2.00	1.25	7.67	3.33
B: Notional -functional Individual Work	S1	2	2	1	0	1	6	2	1	1	1	1	6	0
	S3	2	2	1	2	0	7	2	2	1	2	0	7	0
	S6	2	2	0	1	1	6	2	2	1	2	0	7	1
	Total	6	6	2	3	2	19	6	5	3	5	2	21	2
Mean		2.00	2.00	0.67	1.00	0.67	6.33	2.00	1.67	1.00	1.67	0.67	6.67	0.67

The statistical results are listed in Tables 1-1 and 1-2.

Table 1-1. Results for a *t*-test for Pre- and Post-Interviews in Group A

	Mean (*out of 10*)	*SD*	*N*	*p-value*	*t-statistic*	*df*
Pre-interview	4.00	1.00	3	0.032*	5.50	2
Post-interview	7.67	0.58	3			

Table 1-2. Results for a *t*-test for Pre- and Post-Interviews in Group B

	Mean (*out of 10*)	*SD*	*N*	*p-value*	*t-statistic*	*df*
Pre-interview	6.33	0.58	3	0.423	1.00	2
Post-interview	6.67	0.58	3			

The paired-samples *t*-test indicated that Group A's scores were statistically higher for the post-interview (M=7.67) than for the pre-interview (M=4.00), t (2)=5.50, p=.032, while the *t*-test for Group B's post-interview (M=6.67) was not shown to be higher for the pre-interview (M=6.33), t (2)=1.00, p=.423. That means that only Group A showed an improvement of the scores at the post-interview.

4-2. Research question 2

The second research question is: If there are differences, how do they relate to the two different activities?

In Chart 5, in the Step 1 column, the number of words used by the participants during the story reading and the after-reading activities are shown. The frequency of words used in this step was counted by the analysis tool, WordSmith, based on the self-made corpus. During this step, there was no spontaneous utterance from the children.

During Step 2, the children were divided into two groups. Group A was involved in task-based group work while Group B was involved in notional-functional individual work. Both groups were taught almost the same content for about 30 minutes, except that Group A was repeatedly reminded that they would compose their own story at the end of the session. The instructor told many example stories, using the words and phrases expressed by the picture-cards which the participants selected for her. By contrast, Group B just listened to many questions and answers from the instructor who then made many example stories herself showing the picture-cards. Then, the children in both groups had about 10 minutes' preparation time, with Group A discussing in the group, and Group B working individually, before they presented their own final stories in Step 3.

Chart 5. Frequency of Outcomes Comparison during the Three Steps

Groups and Students		Step 1 Story-reading (20 mins) and After-reading Activities (30 mins)		Step 2 Separate Activities (30 mins) and Preparation Time (10 mins)			Step 3 Story Telling (approx. 2–3 mins each)		
		Non-spontaneous		Task-based and Notional-functional Learning			Self-made Story Telling		
		Non-spontaneous		Spontaneous					
		Words		Words Total	Included Phrases & Sentences Total	Japanese Words & Sentences Total	Words Total	Included Phrases & Sentences Total	Japanese Words & Sentences Total
		Total	Variety						
Group A	S4	233	48	21	1	29	21	7	1
	S5	197	44	18	2	32	18	5	3
	S7	237	50	24	9	24	23	6	2
Total		667	142	63	12	85	62	18	6
Average		222.3	47.33	21	4	28.33	20.67	6	2
Group B	S1	176	43	0	0	0	0	0	1
	S3	303	58	20	7	8	31	12	3
	S6	215	44	0	0	2	0	0	0
Total		694	145	20	7	10	31	12	4
Average		231.3	48.33	6.67	2.33	3.33	10.33	4	1.33

Although some utterances in the self-made stories consisted of English phrases and sentences, there were many utterances in Japanese, all of them being spontaneous.

Chart 5 shows that the children in Group B used a higher number and variety of non-spontaneous words including phrases and sentences as well as Japanese words during Step 1. However, in Step 2, the total number of English words they used became much fewer than the number used by the children in Group A. It is also interesting to note that, unlike Group B, the children in Group A used about three times more Japanese words. And in Step 3, in the final story-telling time, the children in Group A used many more English words and phrases than those in Group B.

The results for a *t*-test are listed in Tables 2-1 and 2-2, which compare the words used in Step 1 and 3. In this way, it is possible to see the effect of the two different styles of teaching, task-based group work and notional-functional individual work.

The paired-samples *t*-test indicated that the difference between the Step 1 (M＝222.33) and Step 3 (M＝20.67) for Group A is considered to be very statistically significant, t (2)＝17.7711, p ＝.0032. At the same time, the paired-sample *t*-test indicated that the difference between Step 1 (M＝231.33) and Step 3 (M＝10.33) for Group B is also considered to be statistically significant, t (2)＝7.928, p＝.0155. Although the *t*-tests indicated that both groups showed some improvement of the scores at Step 3, Group A's improvement was much higher than Group B's.

Table 2-1. Results for a *t*-test for the Final Story-telling in Group A

	Mean (*out of 10*)	*SD*	*N*	*p-value*	*t-statistic*	*df*
Step 1 (After-reading)	222.33	22.03	3	0.0032**	17.7711	2
Step 3 (Story-telling)	20.67	2.52	3			

Table 2-2. Results for a *t*-test for the Final Story-telling in Group B

	Mean (*out of 10*)	*SD*	*N*	*p-value*	*t-statistic*	*df*
Step 1 (After-reading)	231.33	65.06	3	0.0155*	7.928	2
Step 3 (Story-telling)	10.33	17.90	3			

5. Discussion

In relation to Research question 1 on differences in the quantity and quality of the children's learning outcomes in the task-based group work and the notional-functional individual work, only Group A, who were involved in task-based group work, showed an improvement in scores at the post-interview. There are some differences in the quantity and quality of the children's learning outcomes depending on the two different approaches. Having said that, some of the questions asked at the interviews were easily answered; for example, just saying "Yes" or "No" received full points for two questions among the five. One reason for this

was that it was not easy to decide what level of English questions was suitable, because the participants were all young and at the beginner level. More importantly, the very small size of the cohort limited the usefulness of the findings.

With regard to Research question 2, "If there are differences, how do they relate to the two different activities?" was that, although both activities lead to some improvement of the quantity and quality of English at the final story-telling, Group A, using task-based activities, gained a much higher statistical result. Again, it is true that a higher number of participants are needed. One of the questions in the Japanese questionnaire administered after the experiment (Appendix 3–2) was "What do you think you have learned in the class?" The answers to this question clearly show that the participants in Group A focused their attention on making stories of their own during the class, while those in Group B focused more on the individual words, for example, "walk", "run", or "dance". One Group B participant, who must have simply repeated what the teacher said without thinking, answered the same question by saying, "I don't remember."

During the experiment, only 30 minutes was allotted for each of the two different types of learning, which proved to be too short. In addition, although all the utterances from the participants were recorded through the experiment, Group A participants often moved around freely while Group B participants muttered very quietly during Step 2 and it was not sure whether they spoke in English or Japanese or even what they said. Thus, a detailed analysis of Step 2 and that between Step 2 and 3 was not possible. Additional similar experiments are required.

One thing that became clear is that although the children in Group A used many Japanese words in Step 2, discussing what they had to do and what the content of the story was, even in Japanese, allowed them to produce a better quality final output in English. The members of this group focused much better on making their own stories than the members in Group B, which I believe affected the results of the quantity and quality of the final story-telling. Children at this age, especially beginners in English, seem to need a certain level of confidence in what they are learning and what they are required to do in the class. When they were asked to speak only in English, most of them preferred to remain silent.

6. Conclusion

The present study shows that there is a tendency that task-based group work brings better English outcomes in quantity and quality than notional-functional individual work. As listed in Chart 1, incidental learning is a feature of a task-based approach and in this study, incidental learning seems to appear even though the learners freely used their native language as well as the target language during the set task.

Considering the results that children engaged in group work using more Japanese did much better in the final story-telling, a study on whether use of the children's mother tongue should be abundant or not is a good question for further study.

References

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Appendices

Appendix 1. Pre-Interview and Post-Interview

1-1. Pre-Interview

Hello. I'm Tomoko.

What's your name? _____. Oh, Hi, (student's name).

I like to sing. Do you like to sing? _____.

What other things do you like to do? _____.

My father likes to walk. Does your father like to walk? _____.

What other things does he like to do? _____.

Thank you very much, (student's name). See you again.

(Children were divided into two groups according to the results of this interview so that the average English ability will be about the same.)

1-2. Post-Interview

Hi. I'm Tomoko and you are _____.

I like to study English. Do you like to study English? _____.

What other things do you like to do? _____.

My mother likes to cook. Does your mother like to cook? _____.

What other things does she like to do? _____.

Thank you very much, (student's name). See you again.

Appendix 2. Examples of the First Step: Interactive After-Reading Activity Session

2-1. The story: "My Dog, Toby"


1 Toby likes to walk. "Good morning, Miss Daisy," he said.

"Good morning, my friend," the daisy said.


2 Toby likes to skip. "Hello, Mr. Grasshopper," he said.


"Hello, my friend," the grasshopper said.

3 Toby likes to jump. "Good afternoon, Mrs. Butterfly," he said.


"Good afternoon, my friend," the butterfly said.

4 I love my dog, Toby.

2-2. Interactive After-reading Session

1 T: What's the name of the dog? What color is it? Yes, white. Toby is a white dog.

T: Does he like to walk? Yes, he does. Toby likes to walk. This is Miss Daisy, a beautiful flower. Toby said "Good morning, Miss Daisy." What did the daisy said? Yes, Miss Daisy said, "Good morning, my friend."

2 T: What does Toby like to do? He likes to skip. Can you skip? Yes. It's fun. Does Toby like to walk? Yes, he likes to walk. Does he like to skip? Yes, he likes to skip, too. Toby said "Hello, Mr. Grasshopper." Do you know grasshoppers? Do you see grasshoppers in your house? NO! How about in your classroom? Maybe, not. Then what did Mr. Grasshopper say? He said, (Students: Hello, my friend.) Yes, he said, "Hello, my friend."

Appendix 3. Results of Questionnaires in Japanese

3-1. Participants' Former English Learning Experience

Participants		English Learning Experience at School	English Learning Experience Outside School
No.	Groups		
1	A	140 hours	None
2	None	140 hours	Since 5 + speak English at home
3	A	140 hours	Since 6, 1 hour a week
4	B	140 hours	Since 4, I hour a week
5	B	140 hours	Since 6, 3 hours a week
6	A	140 hours	Since 3, 1 hour a week
7	B	140 hours	Since 4, 1 hour a week

3-2. What the Participants Think They Have Learned

Participants		Enjoyed?	Difficult?	What They Learned
No.	Groups			
1	A	YES	YES	Speaking in English
2	None	YES	NO	Making stories
3	A	YES	NO	"clean a house" "walk"
4	B	YES	YES	How to tell a story
5	B	YES	YES	"walk" "run" "dance"
6	A	YES	NO	Tell what some characters can do
7	B	YES	YES	Can't remember

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（金子　朝子　　英語コミュニケーション学科）