A Study of the Development of Courseware and Students' Learning Effectiveness in Primary Education: Using Three Teaching Techniques as an Example

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Abstract. As Taiwan has carried on its educational reform, many problems have emerged over the past ten years. These issues have to be solved as soon as feasible. Specifically, primary education is facing severity in competition and stern challenges in a fast globalizing world. This study aims to explore Taiwan's English education so as to find out new approaches to revision and innovation. In Taiwan, most students have to learn English since elementary school. English teachers usually adopt different methods to teach students so as to achieve teaching excellence. Three groups of primary school students participated in a study with three teaching methods involved for learning English as a foreign language (EFL). TPR (Total Physical Response) was employed with the first group, giving instruction and then students responding with body movement. CLT (Communicative Language Teaching) was adopted with the second group, which emphasized interaction and communication genuinely. Conventional teaching method was used with the third group, in which students learned from what teachers taught in class. The pre- and post-test were carried out to investigate which teaching method was the most significant. The present study indicates under controlled conditions that TPR & CLT, proven beneficial in TPR & CLT context, can yield a positive outcome. In contrast, the traditional teaching method has the least progress among the three teaching methods. In addition, the findings of the study support that the participants enhanced in the vocabulary and picture matching of the posttest. The result of this study could be a good demonstration for teachers to provide more options in English learning. Through the

curriculum, teachers could promote the ability to devise a flexible variety of activities in order to stimulate pupils' learning as well as make them better interested in English. This study has set up a great value for other similar researches and should be replicated with students at various English proficiency levels.

Keywords: TPR (Total physical response), CLT (Communicative language teaching), Conventional teaching method, EFL (English as a foreign language).

Introduction

English is one of the indispensable languages in modern society, which can be employed to do a great deal of trades between countries as well as spoken to interact with foreigners. It is also an essential bridge that connects people from variety of events. In response to the requirement of international society, strengthening English ability has become an important issue of education. Moreover, with English learning, learners can blend into social and cultural activities in English-speaking countries in good time. Language learners should understand and respect multiculturalism in order to be cosmopolite.

Nowadays, being capable of speaking English fluently has become one of the basic requirements in the global village. The purpose of English teaching and learning is to build up learners' ability of communication, increase the motivation and interest of English learning, and develop a global perspective. Additionally, language learners are expected to enhance the ability of handling international matters and conflicts.

It has been a quite normal phenomenon cultivating English capability since a very young age, particularly in Taiwan. In line with the government policy to improve international competitiveness, MOE (Minister of Education) stipulates English teaching and learning should be implemented in Grade1-9 Curriculum. According to MOE, the teaching methods should be active and interactive. The content of teaching material should be related to daily life, practical and interesting. By means of diverse teaching materials and activities participation, the four skills including reading, listening, speaking, and writing can be built up gradually, and then be put into practice.

In order to break the myth of grades, the aims of 12-year compulsory education are leading students toward creative learning on the initiative, having knowledge from the learning process, experiencing pleasure, cultivating their own characteristics, and communicating with English. However, the major problem of English education is teaching too much and too difficult. Teachers usually make students remember vocabularies and grammars compulsorily. Therefore, the mechanical drills kill students' learning motivation toward English. As a consequence, the policies of 12-year compulsory education are set up to teach efficiently, blend information technology into teaching, and encourage students to think and express creatively. In light of this, English ability and practicality are more important than they used to. Additionally, in 2010, Attar and Chopra pinpoint the teaching methodology and approach should keep changing in order to meet the needs of language learning. Namely, how to design effective teaching modes and cultivate students' communicative competence have become the major concerns in English teaching and research.

Tracking back to the early period, English teaching mostly put emphasis on Grammar Translation Method and Audio-Lingual Method. The traditional teaching method is drill-oriented, which introduces and practices language knowledge and skills in details. Worse still, students tend to be bored and punctilious gradually. Until 1994, Ministry of Education started highlighting Communication Language Teaching, which aims at meaningful interactions, language skills, genuine material, language ability development, and English communication under different social situations properly. As a consequence, designing diverse teaching techniques as well as appealing activities and courseware should be taken into consideration so as to benefit students by increasing achievement and learning outcomes.

Research Questions
1. Does the intervention in the use of teaching methods help improve elementary school students' English proficiency?
2. Which type of question (vocabulary, picture matching, and reading comprehension) was influenced most after exposed to these three teaching methods?

Literature Review

The advantages of Communicative Language Teaching have been proved and employed successfully in ESL/EFL (English as a Second Language/ English as a Foreign Language) classrooms around the world (Kelch, 2011). Chang (2011) explores to compare the feasibility of Grammar Translation Method and Communicative Language Teaching in English grammar teaching as well as tries to find out which on is more appropriate in Taiwan. In his study, the result shows students benefit more from grammar instruction with Grammar Translation Method (GTM) adoption. With contrast to GTM, Communicative Approach focuses on fluency rather than accuracy. The teacher corrects errors immediately if the scope of the classroom activity is accuracy, but if the scope of the activity is fluency the errors will be corrected later on. As a result, combining both methods might be the best way to improve circumstances in English grammar teaching. Wei (2010) reviews the advantages of Communicative Language Teaching method and analyzes the obstacles of implementation in EFL classroom context. In his study, it provides guidelines for compromising CLT with the conventional teaching approach. Additionally, it recommends some techniques and principles for English teaching implementation in EFL environment.

Teacher Training

The main purpose of language education is to enhance the quality of teachers as well as the quality of education. The English teachers should possess professional knowledge related to ELT (English Language Teaching) and be capable of employing varieties of teaching methods. Regarding mid- and long-term teacher training (MOE, 1999), MOE encourages normal universities to establish departments of English education. Besides, school should provide English subgroups, English minors or second specialty students a twenty-credit course of ELT.

Teaching Methods

TPR (Total Physical Response) was originally developed by James Asher. In the 1960s, TPR makes good use of physical movements and associates with the theoretical framework of mother tongue. Most importantly, teachers can check young learners' comprehension through their reactions linked to body movements, which reinforce their comprehension ability.

CLT (Communicative Language Teaching) emphasizes interaction and communication in classrooms. In fact, it was a response to Chomsky's theory (Chomsky, 1965). Chomsky showed linguistic competence is not the mastery of structures, but communication competence in real situation. Teachers should create a wide variety of authentic situations for students to interact with their classmates. Then students have the opportunity to share their individual experience in target language. Most importantly, students gain more self-confidence through practices and keep enthusiastic toward language learning.

Methodology
Subjects
The target subjects were an unselected convenience sample. Thirty 5th and 6th elementary school students voluntarily participated in this study. They were asked to take the identical pre- and post-test to evaluate the appropriateness of three different teaching techniques (TPR, CLT, conventional teaching) in different classroom settings.

Course Material
The researchers created an innovative story that students have never read before. In addition, ten sentences and vocabulary cards were made to emphasize grammar instructions and practices.

Instruction and Testing Procedure
Three groups of subjects were administered the pretest to obtain initial scores of the students' English proficiency. There are three parts in the test. Part one is multiple-choice questions of vocabularies, part two is matching correct pictures according to the story, and the last part is reading comprehension. The actual instruction lasted three hours with three different teaching methods adopted in three different classroom settings, respectively. After the instruction, a posttest was implemented to investigate the differences among the three different teaching methods. The students completed both the pre- and posttest as the requirement. All subjects were given the same test used in pre-test as a post-test.

Results
Analyses
The test contains twenty questions. Among these twenty questions, ten are

vocabulary, five are picture matching, and the remaining five are reading comprehension. The result of the test focuses on which teaching technique was the most suitable for primary school students.

Table 1 (Test Question Distribution)

Question Categories	Numbers	Percentage
Vocabulary	10	50 %
Picture matching	5	25 %
Reading comprehension	5	25 %

Results

The means and standard deviations of the pre-test and post-test scores for the conventional teaching method were presented in Table 2.

Table 2 Descriptive Statistics of Pretest and Posttest (Conventional)

N=20		
Conventional	M	SD
Pretest	25	11.055
Posttest	57	6.770

A paired-samples T test was conducted to evaluate whether the conventional teaching method increases students' scores. The results indicated the mean scores for posttest (M= 57, SD= 6.770) was not significantly greater than the mean scores for pretest (M= 25, SD= 11.055), t(9) = -8.677, p= .12 (Table 3). The results revealed there is no effect of the conventional teaching method adoption.

Table 3 Results of Paired Samples T Test

Pair 1 Conventional	Mean	Std. Deviation	t	df	Sig.
Pretest-posttest	-32.50	11.844	-8.677	9	.12

The means and standard deviations of the pre-test and post-test scores for Total Physical Response method were presented in Table 4.

Table 4 Descriptive Statistics of Pretest and Posttest (TPR)

	N=20	
TPR	M	SD
Pretest	25	7.45356
Posttest	76	10.28753

A paired-samples T test was conducted to evaluate whether TPR increases students' scores. The results indicated the mean scores of posttest (M= 76, SD= 10.28753) was significantly greater than the mean scores of pretest (M= 25, SD= 7.45356), t(9) = -11.057, p= .000 (Table 5). The results confirmed the effectiveness and appropriateness of the total physical response adoption.

Table 5 Results of Paired Samples T Test

Pair 2 TPR	Mean	Std. Deviation	t	df	Sig.
Pretest-posttest	-51.50	14.72903	-11.057	9	.000

The means and standard deviations of the pre- and post-test scores of the communicative language teaching method were presented in Table 6.

Table 6 Descriptive Statistics of Pretest and Posttest (CLT)

	N=20	
CLT	M	SD
Pretest	32	15.12907
Posttest	90	5.77350

A paired-samples T test was conducted to evaluate whether the communicative language teaching increases students' scores. The results indicated the mean scores for posttest (M= 90, SD= 5.77350) was significantly greater than the mean scores for pretest (M= 32, SD= 15.12907), t(9) = -16.900, p= .000 (Table 7). The results confirmed the effect and appropriateness of the communicative language teaching adoption.

Table 7 Results of Paired Samples T Test

Pair 3 CLT	Mean	Std. Deviation	t	df	Sig.
Pretest-posttest	-58.00	10.85255	-16.900	9	.000

The second question of the present study was the following "Which type of question (vocabulary, matching, and reading comprehension) was influenced most after exposed to these three teaching techniques?" A multivariate analysis of variance (ANOVA) was performed on the data with the three scores (scores of vocabulary questions, matching questions, and comprehension questions) used as dependent variables and Group as the independent variable. The three dependent variable scores were calculated by subtracting test scores of each question type obtained at the beginning of the instruction (pre-test scores) from

those obtained at the completion of the instruction (post-test scores).

The ANOVA for the Group main effect was found to be significant, F (6,50)= 25.515 (Wilks' Λ = .061), p < .001. As a result, the univariate ANOVAs on each dependent variable were conducted as follow-up tests to the MANOVA. Using Bonferroni method, each ANOVA was tested at the .0167 level (.05/3). There was a significance in the vocabulary question scores, F (2, 27) = 63.224, p < .001, eta squared = .824. The difference in the picture matching questions scores was significant as well, F (2, 27) = 8.113, p = < .001, eta squared = .375. The difference in the reading comprehension questions scores was nonsignificant, F (2, 27) = 25.317, p= .159, eta squared = .652. (Table 8)

Table 8 Results of Comprehension Difference Scores by Question Types

Conventional Vs. TPR & CLT	df	Sum of squares	Mean Squares	F	Sig.
Group					
Vocabulary	2	2821.67	1410.83	63.22	.000
Picture Matching	2	915.0	457.5	8.113	.000
Reading Comprehension	2	1805.0	902.5	25.32	.159
Error					
Vocabulary	27	602.5	22.312		
Picture Matching	27	1522.5	56.39		
Reading Comprehension	27	962.5	35.65		

Note: adjusted Alpha = 0.0167

Findings

The first important finding of this study suggests that the teaching methods, TPR and CLT do enhance elementary students' English proficiency. The present study demonstrates under controlled conditions that TPR& CLT, proven beneficial in TPR & CLT context, can yield a positive outcome. In contrast, traditional teaching method has the least progress among the three teaching methods.

Moreover, the research evidence indicates that explicit, overt physical movements can greatly increase the positive outcome of instruction. To students who just listen to teachers and repeat after them do not possess much comprehension because they do not really understand the context of the course,

nor do they know how to apply them to the real life. The teaching methods, TPR and CLT can help students become more confident and have more involvement in class.

Overall, the findings of the study support that the participants enhanced in the vocabulary part (requiring respondents to select the best word according to the picture) and picture matching (requiring respondents to choose the best sentence describes the pictures) of the posttest. The second important finding of this study deals with the question that which type of test questions was influenced most after the instruction of these three teaching methods. It was found that the participants in this study in fact did tend to use the physical movements to link the meaning of the vocabularies. Besides, the pictures cards do assist them to have better understanding of plots of the story.

Discussion

The first results show students achieve better improvement in TPR and CLT classrooms. The reasons are provided as follow. Firstly, during the instruction of TPR, instructors gave a lesson in target language, and students responded with whole body actions. Students were not forced to speak, and instructors waited until students acquire enough language input through listening comprehension, then they would speak out without any fear. Namely, language learning should not involve any stress and the lively interaction could impress the physical response upon students' mind.

Secondly, during the instruction with CLT teaching method, students were taught the story along with picture cards, and they were asked to communicate with instructors. By means of these, more interactions were expected. As a result, students could keep the story in mind easier and more efficient.

Lastly, during the instruction with the conventional teaching method, instructors taught by simply reading aloud the story lines and made explicit translation. Compared to TPR and CLT, the conventional teaching method was not lively that the students only sat tediously and sometimes did not catch what were taught thoroughly.

The second results indicate that students achieve better toward vocabularies and picture matching than reading comprehension. The reasons are explained in

detail.

Vocabulary

Vocabulary picture cards were created to employ during the instruction. Students saw the picture at the first glance and were encouraged to guess the meaning of the vocabulary. Then, vocabulary card was revealed and students were requested to repeat after the instructors and sounded it out. Moreover, an exciting game was designed for students to play in class. As a consequence, students learned through the action and memorized novel words more easily and efficiently.

Picture Matching

The story picture cards were used to associate and connect the pictures with the content. Through viewing picture cards, students found the key words from story lines, which enhanced their visual-mental correspondence. While having an exam, students were easier to reason the story and match the right pictures.

Reading Comprehension

Instructors invented the story taught in class, and it has never been heard before. Although students learned with the visual aid of picture cards and some exciting games were set up especially for them, most of the students still had difficulties reading as well as comprehending long paragraphs. As a consequence, while having a test, students expressed they guessed instead of answering conscientiously.

When it comes to TPR method, some recommendations are provided as follow. First of all, realia is a good choice. Teachers can make good use of objects from the real life to make the instruction more clearly and attract more attentions. In addition to real objects, picture cards and posters are helpful as well. In fact, students are able to associate the images of picture cards with new vocabularies easily, which makes them have less pressure when memorizing new words. Secondly, physical movement is strongly recommended. In class, the actions demonstrated by instructors make the commands or instructions more meaningful and clear. Moreover, students, especially young children, have more interests in learning when they leave their seats and do some actions around. Thirdly, instead of using a long sentence to direct students' behaviors, teachers can use combinations of commands. For instance, teachers give one command

first, and then do the action spontaneously. Gradually, when students are familiar with the commands, teachers can add more commands at one time. However, do

not add more than three commands at one time because students might get confused while receiving the signals. Most importantly, teachers can observe students' comprehension easily and directly. If students can correctly do the action after the command, then they do really comprehend what teachers teach in class, which makes them feel confident and self-achieved.

With regard to CLT, there are some suggestions provided as follow. Situational Language Teaching (SLT) can motivate students' interests in learning. When teachers introduce a new target language in words or phrases, instead of translating them into students' native language, teachers can demonstrate the lessons through the use of realia, pictures or pantomime. Teachers may also use intonation, rhythm, and concert pseudo-passiveness to get students' attention and motivate their interests in the lesson. Initially, students are really dependent on their teachers. After teachers' questions, students tend to make themselves understand first, and then they are encouraged to answer in front of the whole class. Gradually, with more practices, they may be more independent and have greater security. Meanwhile, students can also listen to other's opinions, and learn from each other little by little. In fact, the interaction goes both ways, from teachers to students and from students to teachers. Although students might make mistakes, teachers usually employ various techniques to get students to self-correct. Namely, the feeling of security is enhanced by many opportunities of the cooperative interactions with their fellows and teachers. By means of this, teachers evaluate not only students' accuracy, but also their fluency. Teachers act as advisors or co-communicator. Rardin (1988) mentioned language learning is neither student-centered, nor teacher-centered, but rather teacher-student centered. The CLT method makes students feel proud to use the knowledge to express in different languages.

Two reasons are provided to explain why these three teaching methods were chosen in the first place. First, TPR and CLT are the most popular teaching methods adopted in educational institutions. Most instructors consider students' interest in learning foreign languages is the priority. When students feel interested in English, they will feel more comfortable and easy to communicate with others by using a foreign language. Next, the traditional teaching method is

still employed now and then. Under the circumstance, most language learners deem memorizing vocabularies a rather tough task; needless to say, speaking English causes pressure and anxiety. Worse still, it surely lessens learners' motivation toward English learning.

Teacher Training

During the past decade, the communicative language teaching approach has been recommended especially for language teachers because of the essential and emphasis of language use in foreign/second language classrooms (Mangubhai et al., 2005). In addition, Li and Yu (2001) have identified the communicative language teaching method has improved communicative ability of language learners in which the conventional teaching approach has been demonstrated unsuccessfully. However, due to the lack of sufficient teacher training in CLT, teachers usually do not know how to implement CLT as well as do not possess confidence in English speaking capabilities to carry out the communicative approach (Butler, 2011). Specifically, most language teachers lack of this kind of training and they are often afraid of **"losing face"** or feel embarrassed when making errors or when they are not capable of answering students' questions promptly (Park, 2012). In light of the significance, Carrier (2003) points out the different teaching approaches should be demonstrated and highlighted through direct explanation, explicit teacher modeling, and extensive feedback in teacher training programs in terms of the implementation in language classrooms. Specifically, in the environment of English as a foreign language in Taiwan, the supply of language input and practice opportunities are insufficient for the learners to become immersed. Therefore, teachers should value process-oriented instruction more highly than content-oriented or grammar-oriented instruction because it is beneficial for students to become independent learners.

The language teacher should also bear in mind that elementary school children are not mature enough to take full responsibilities for their own language learning. Therefore, children's proficiency levels and their cognitive maturity would determine the types of activities (strictly-controlled ones, semi-guided ones, or free communicative ones) the teacher puts into practice in a communicative classroom.

Limitation

The sample size is small, which causes the effect of the experiments was not statistically significant, so the results cannot be completely generalized to young

EFL learners from other areas. In addition, time duration of each class is two hours. Within this short period of instruction, it was at time difficult for the instructors to circle around the classroom while the activities were conducted since the instruction involved observing the class and providing assistance. Consequently, language learners would benefit from the instruction with sufficient guiding period.

Pedagogical Implication

The result of this study could be a good demonstration for teachers to provide more options in English learning. Through the curriculum, teachers could promote the ability to devise a flexible variety of activities in order to stimulate pupils' learning as well as make them better interested in English. This study has set up a great value for other similar researches and should be replicated with students at various English proficiency levels. For instance, in addition to TPR and CLT, The Direct Method, Community Language Learning, and Reciprocal teaching are strongly recommended as the integrated teaching method to promote the teaching process.

This study explores Taiwan's education to find out new approaches to revision and innovation. According to Jarvis and Atsilarat (2004), new teaching approaches have been addressed so as to diversify the approaches in existence to accomplish global innovation. As for the future investigation, more breakthroughs in curriculum and instruction need to be put into consideration, in order to gain an overall picture of the optimal outcomes of education.

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