

# The Effects of Total Physical Response on English Functional Vocabulary Learning for Resource Classroom Students in the Elementary School

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## Abstract

Although Total Physical Response ( TPR ) has been approved worldly as an effective teaching method for both adults and children in language learning for more than 40 years, it's the first research that TPR was used in English instruction in Taiwan not only in general education but also in special education. The purpose of this study was to investigate the effects of TPR on English functional vocabulary learning for resource classroom students.

A multiple probe design across subjects of single-subject experimental design was used to evaluate the effects. Each student involved in the study took a set of English courses for 12 times, 40 minutes per time. The data collected from the students during the baseline, intervention, maintenance phases were analyzed by using visual inspection techniques, time-series C statistic. Other observation data, as well as the social validity of the interview data were also analyzed.

The results of this study are as follows,

1. The immediate effects of TPR on listening comprehension were found in this study.
2. Student B and student C learned the expressing abilities of English functional vocabulary immediately through TPR, while student A didn't.
3. The maintaining effects of TPR on listening comprehension and expressing abilities were found in this study.
4. It's recommended that blends and words with letter "r" and sentences that are complex or similar should not be taught at first for the students.
5. Students' motivation and interests in learning English were enhanced through TPR.

Recommendations for special education teachers, English teachers and further study were discussed based on the results. According to the results of this study, the English learning abilities of resource classroom students are doubtless and should be emphasized. Educators should learn how to utilize a variety of approaches like TPR in order to address the needs of the students and help them learn more effectively.

Key Words: Total Physical Response ( TPR ) , resource classroom students , functional vocabulary.

## Introduction

### Motivations of the Study

There have been more and more studies on the effects of teaching English to students with special needs through certain approaches or methods in recent years, for examples, Direct Method, Communicative Language Teaching, Natural Approach. Total Physical Response (TPR) is one of the important teaching methods; it is reported as a suitable English teaching method for elementary school students and students with special needs. Although some professors and English teachers have regarded TPR as a good teaching method, and it has been approved worldly as an effective teaching method for both adults and children in language learning, there wasn't any research on the effects of learning English through TPR for regular or special education students in Taiwan.

With the development of inclusion education, resource classroom has become a major placement for students with special needs. One of the responsibilities of a resource classroom educator is to learn how to utilize a variety of approaches to address the needs of the students and help them learn more effectively and be adapted well in the regular classroom.

### Purposes of the Study

The research purposes of this study are as follows,

1. To investigate the immediate effects of TPR on listening comprehension and expressing abilities of English functional vocabulary learning for resource classroom students.
2. To investigate the maintaining effects of TPR on listening comprehension and expressing abilities of English functional vocabulary learning for resource classroom students.
3. To yield the implication for teaching English to resource classroom students from other observations and analysis.

4. To investigate the influences of applying TPR on students' motivation and interests in English learning by interviewing with students and their parents.
5. To discuss recommendations for special education teachers, English teachers and future research based on the results.

### **Research Questions of the Study**

According to the research purposes of the study, here are the questions,

- 1-1 How are the immediate effects of TPR on listening comprehension of English learning for resource classroom students?
- 1-2 How are the immediate effects of TPR on expressing abilities of English learning for resource classroom students?
- 2-1 How are the maintaining effects of TPR on listening comprehension of English learning for resource classroom students?
- 2-2 How are the maintaining effects of TPR on expressing abilities of English learning for resource classroom students?
- 3-1 What are the implications from the results of observations and error analysis for instruction designs for teaching English to the resource classroom students?
- 4-1 Were students' motivations and interests in learning English enhanced through TPR?
- 4-2 Did parents of the students believe that students' motivations and interests in learning English were encouraged through TPR?
- 5-1 What are the pedagogical implications from the results of this study for teaching English to the resource classroom students?
- 5-2 What are the suggestions for further studies on TPR or language learning for resource classroom students?

### **Definitions of Terms**

#### **Total Physical Response**

TPR is a method of teaching language developed by James Asher of San Jose State University in California. It is based on the premise that the human brain has a biological program for acquiring any natural language on earth - including the sign language of the deaf. The process is visible when we observe how infants internalize their first language (Asher, 2001; Asher, 2002). It has been used successfully with students who are learning a second language (Asher, 1966). When TPR is used at an English class, the teacher gestures, models, and says the commands to the students, and the students respond by imitating the teacher.

In this study, body movements were emphasized in the sequences of the instruction which was designed under the principles of TPR. The researcher used body language; gestures, modeling, pictures and realia, and the students understood the meanings of the target language by watching, touching, listening and imitating.

#### **Resource classroom students**

Resource classroom students are students with special needs who are educated in regular as well as special education classes. In the study, two students are mentally retarded and another one is a student with learning disabilities. They study in an elementary school in Changhua County in Taiwan.

#### **Functional vocabulary**

The meaning of functional vocabulary is words that are helpful for independent living for students with special needs and important in the present of future circumstances.

Functional vocabulary in this study is determined by the students, their parents, teachers in the regular classes and the researcher through an ecological survey. Students' interests and practicality of the words were all taken into considerations. Each student learned a set of individualized English functional vocabulary course.

### **Review of the Literatures**

#### **Benefits of TPR**

TPR is the world's most thoroughly researched approach in second language acquisition (Benefits of TPR, n. d.) What are the benefits of TPR? First, it's successful with children and adults learning any language. Second, it has the following three strong features, 1.High-speed understanding of any target language. 2. Long-term retention. 3. Zero stress! Besides, it's enjoyable for teachers as well as students!

#### **Theory foundations of TPR**

TPR developed out of the "trace theory" of memory in psychology dating to 1940, it's based on the premise that if students are allowed to learn a second language in a non-threatening manner, the learning will come much easier and will be much more enjoyable. It is also based on the theory that the acquisition of a second language is

made easier with a speech-sensory-kinesthetic approach. The teaching strategies used in TPR reflect a model of the way children learn their primary language (Marlatt, 1995)

Asher suggests that the three key ideas in the instructional format for children or adults learning a second language are (Asher, 2003):

1. Understanding the spoken language should be developed in advanced of speaking.
2. Understanding should be developed through movements of the student's body. The imperative is a powerful aid.
3. When the target language is internalized, there will be a point of readiness to speak.

### **Researches that TPR was effective when working with students with special needs**

There are few studies that applied TPR to teach students with disabilities in language learning. Here are three examples reported by Duran (1992) that TPR were successful with students with disabilities:

Juana, whose native language is Spanish, was a 14-year-old Mexican with severe retardation. She knew a few words and phrases in Spanish and was somewhat verbal in Spanish. She arrived in California with her family and started to learn English. Within a month Juana learned six functional commands relating to the classroom through TPR, and felt happier about going to school, because she understood more and more English words and commands. Her teacher continued to use TPR as well as computer, and she made progress both in Spanish and English.

Duran's (1992) study concentrated upon several language minority students with severe disabilities who were unable to speak or receptively receive information in English. Teachers in the study used a variety of methods, when TPR was used, the students started to say more words in English.

The third example is about a 17-year-old Down Syndrome Vietnamese student. Using TPR and adding items from the student's culture to the various language lessons, Duran and Shunk were able to motivate the student and teach him approximately fifty words and commands in five months.

Conroy (1999) used TPR to facilitate second-language learning for students with visual impairments. The modified procedural steps, slower pace of the lesson, use of visual aids and fewer vocabulary words were to encourage the students' movements. The result of the study was exciting because the activities and topics help them develop orientation and mobility (O&M) skills that are necessary for independent travel as well as language development. Thus, the development of body-image awareness and mapping skills can be facilitated.

Marlatt (1995) reported that a wide variety of TPR-based classroom activities are appropriate for deaf students. The deaf students developed understanding of the target language demonstrated by actions before speech or signing, then they learned more new words gradually by the use of commands and other verbs.

In summary, the effects of TPR on the application in teaching students with disabilities English were proved in the studies above.

### **The relation between TPR and the learning characteristics of resource classroom students**

#### **Disorders of attention**

Short attention span, poorer selective attention, distractibility, and hyperactivity are some representative problems of resource classroom students. These disorders may inhibit the development of new skills, learning strategies, and learning new information (Smith, Polloway, Patton & Dowdy, 2001). Tsai-ling, Lian (2004) suggested that a teacher must make the instruction interest, and active to make the students' attention span longer. From the view of sensory input, TPR or role play help to stimulate children's sense and encourage them participate.

#### **Lack of Learning Motivation**

The most usual reason that children are referred for assessment regarding mental retardation or learning disabilities is poor academic progress. These academic achievement problems result in their expectancy of failure or learned helplessness (Hallanhan & Kauffman, 2003). Asher (1966) reported that acting-out in training has intense motivational power which sustains student interest and effort. Principles of TPR such as correction in an unobtrusive manner, tolerance of errors also reduce the stress of learners and facilitate learning (Larson-Freeman, 1986).

#### **Memory Deficits**

Mental retarded students' short-term memory appears to be considerably poorer than that of their normal peers. Some students with learning disabilities may have difficulty recalling information shortly after having seen or heard it (Gearheart, Gearheart & Mullen, 1993; Hallanhan & Kauffman, 2003). From the results of Asher's researches, it was reported that the experimental group, who used the strategy of TPR, had significantly better retention than each control group. TPR constructs the linkage between the sounds and meanings of words through the interaction among visual and auditory senses and body movements. It is helpful to the processing of information management, and may extend the memory span.

### **Cognitive Deficits and Below-Average Abilities to Generalize**

Students with mental retardation and learning disabilities often exhibit disorganized thinking and have difficulty in generalizing with respect to both academic oriented topics and personal or social skills (Gearheart, Gearheart & Mullen, 1993; Hallanhan & Kauffman, 2003; Smith, Polloway, Patton & Dowdy, 2001). Most teaching materials of TPR are commands related to daily life, for example, Asher (2002) suggested that set short-term goals that are of keen interest to students such as buying a bus ticket, calling a hotel to book a room, ordering breakfast or directing a taxi driver to a location. Thus, it will be easier for students to generalize.

### **Below-Average Language Abilities**

Most students with mental retardation have a limited breadth and depth of vocabulary, an inability to use more complex syntax, or a limited understanding of the nuances of meaning (Gearheart, Gearheart & Mullen, 1993). Many students with learning disabilities have problems with the mechanical and social use of language (Hallanhan & Kauffman, 2003). Yu-Shan, Ke (2001) reported that TPR is interesting; it's suitable for students with special needs with regard to their language development. Lian-Wun, Mao (1999) suggested that instruction in a real-life setting or with real materials is important for teaching language to students with below-average language abilities. Teacher's modeling is better than teaching grammar rules. The characteristics of TPR are compatible with the educational considerations for students with mental retardation and learning disabilities.

The brief introduction about the relation between TPR and the learning characteristics of resource classroom students above is the reason why TPR was chosen to be the teaching method in this study.

### **Methodology**

#### **Research Frame of the Study**

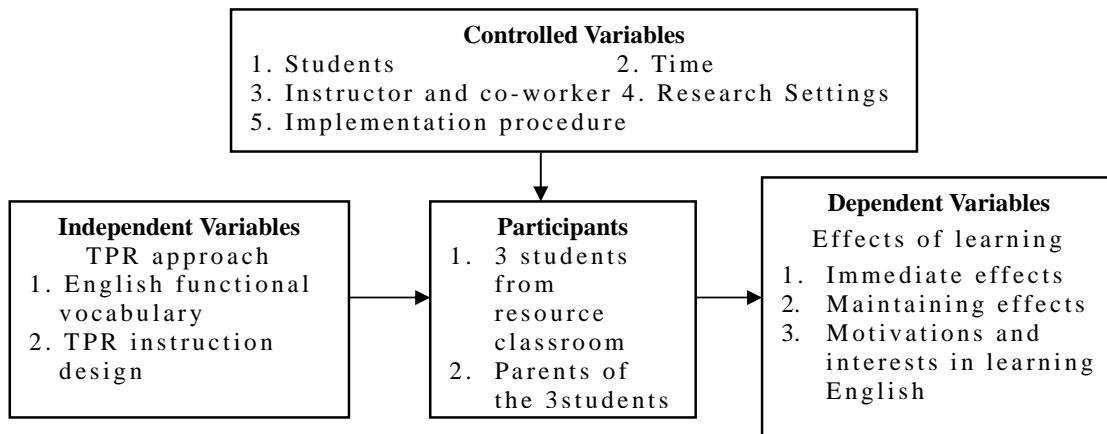


Figure 1 Research Frame of the Study

#### **Model of research design**

Multiple probe design across subjects was used in this research.

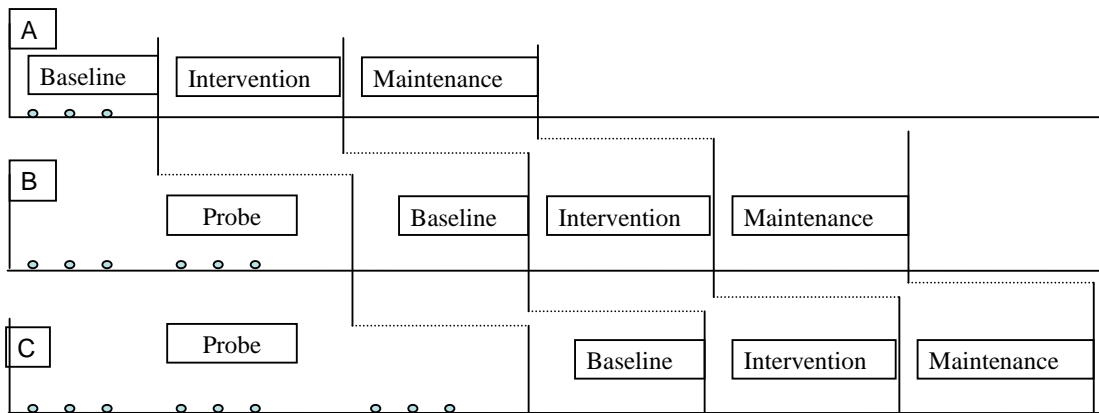


Figure2 Model of research design

Table 1 Content of TPR Instructions

Students	contents date	Vocabulary & Sentences & Chants	Time 40min/class	Assessments	
				Immediate effects	Maintaining effects
A	3/16	Get up.	2 classes	A The researcher spoke out the vocabulary or the sentences, while the students acted.  B The researcher did the movements, while the students uttered.	A The researcher spoke out the vocabulary or the sentences, while the students acted.  B The researcher did the movements, while the students uttered.
	3/17	Brush my teeth. Wash my face.			
	3/18	Get your coat/pants. Put it/them on.	2 classes		
	3/19	Get your socks/shoes. Put them on.			
	3/23	Put on your coat. Put on your pants. Put on your socks. Put on your shoes.	1 class		
	3/24	Go to the table. Sit down.	3 classes		
	3/25	Drink some water/milk/ juice.			
	3/26	Come here.			
3/30	Hands up. Hands down.	2 classes			
3/31	Clap, clap, clap. Now sit down. Hands up. Hands down. Clap, clap, clap. Now stand up.				
4/6	Go to the door. Open the door.		2 classes		
4/7	Close the door. Go back to your seat.				
B	4/13	Turn on the water. Wash your hands.	2 classes		
	4/14	Turn off the water. Dry your hands.			
	4/15	Go to the table. Sit down.	2 classes		
	4/16	Eat some bread. Drink some milk/water.			
	4/20	Put on your shirt/pants.	2 classes		
	4/21	Put on your socks/shoes. Get your bag. Go to school.			
	4/22	Go to the door. Open the door.			
	4/23	Close the door. Go back to your seat	2 classes		
4/28	Go to the board. Write down your name.	2 classes			
4/30	Say it. Erase your name.				
5/6	It's on fire. "Help"	2 classes			
5/7	Make a phone call. Dial 119.				
C	5/12	Brush my teeth. Wash my face.	2 classes		
	5/14	Comb my hair. Get dressed.			
	5/17	Get your bag. Go to school.	4 classes		
	5/18	Red light. ×2 Stop. ×3			
	5/19	Green light. ×2 Walk. ×3			
	5/20	Yellow light. ×2 Look. ×3			
5/21	Go to the blackboard.	2 classes			
5/24	Write down your name. Say it. Go back to your seat.				

5/25	I can draw. I can write. I can clap.	2 classes
5/26	I can paint. I can say hello.	
5/27	Turn on the computer.	2 classes
5/28	Play a game. Draw a picture. Surf the internet.	

Data resource

## Subjects

### Pilot study

In order to ensure the practicality of the study, a small scale study for the thesis was first conducted. Two students with mild mental retardation learned English through TPR in the pilot study.

### Formal study

Student A in the formal study was an 8-year-old boy with mild mental retardation. He learned English forty minutes a week for one year, but could not recognize, write or read the alphabet. Student B was a 12-year-old girl with moderate mental retardation. Student C was a 10-year-old girl with learning disabilities. Student B and C had learned English forty minutes a week for three years, they could recognize, write or read part of the alphabet and understand some commands relating to English classroom.

Subjects in the interviews were the students and their mothers, the purpose of the interviews were to investigate students' motivation and interests in English learning before and after the study.

### Instrumentations

TPR instructions were designed by the researcher after the functional vocabulary was decided. Table1 shows the content of TPR instructions. Teaching aids, for example, flash cards, real objects, worksheets and tapes were used in the intervention phase. Besides, digital video recorder, immediate/maintaining effects record sheets of TPR on listening comprehension and expressing abilities, and semi- structured interview guides were used for data collection.

### Implementation Procedures

At the baseline phase, student A was tested for at least three times to ensure that they didn't master the vocabulary. When the correct rate was below 20.0%, it came to the intervention phase, which student A learn English functional vocabulary for 12 classes, each class ended with an immediate effects test. A week later, student A returned to retention test once a week for three weeks. When 12 classes of student A were ended and baseline of student B was stable, it came to the intervention phase of student B. The conditions of student B and C were exactly the same as those for student A. Figure 3 shows the implementation procedures of TPR instructions.

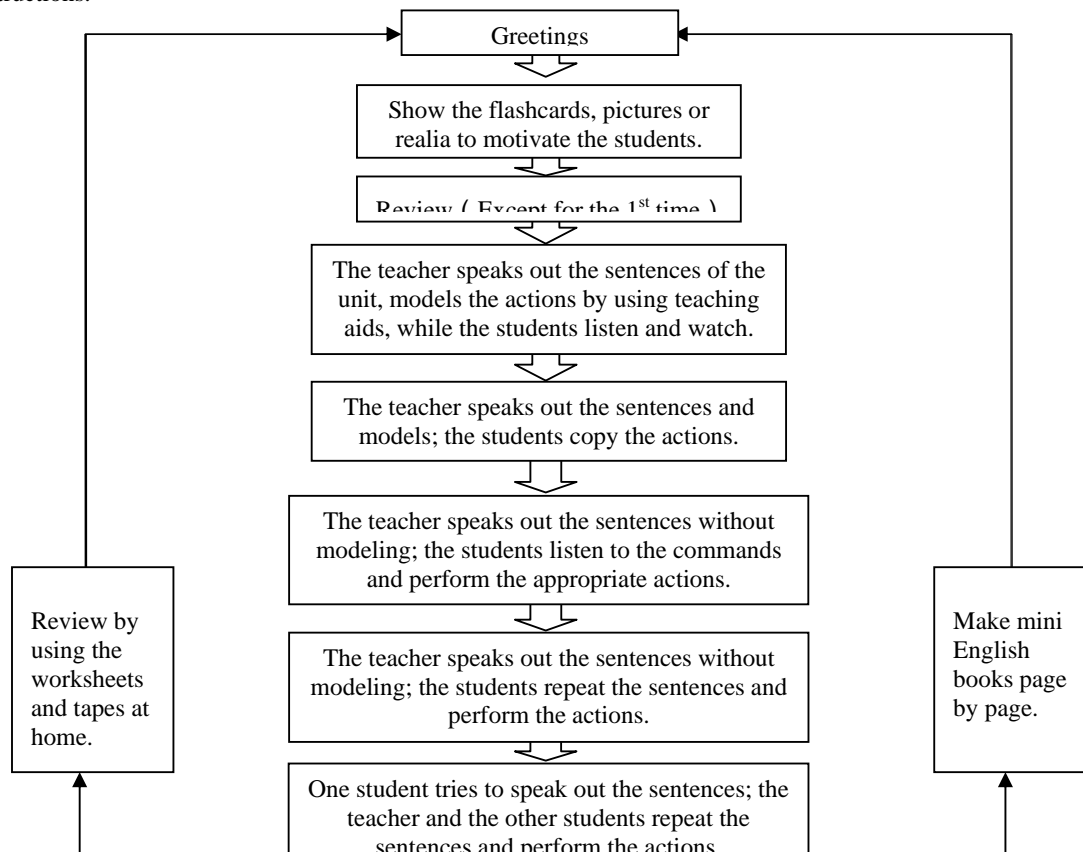


Figure 3 Implementation Procedures

**Data Analysis**

The data collected at the baseline, intervention and maintenance phase were analyzed by using visual inspection techniques and time-series C statistic. Changing analysis within phases and changing analysis between phases were included. Reliability of coincidence between observers was also taken into account.

Besides, the effects of other observation data, as well as the social validity of the interview data were also analyzed by descriptions.

**Results**

**Immediate Effects on Listening comprehension and expressing abilities**

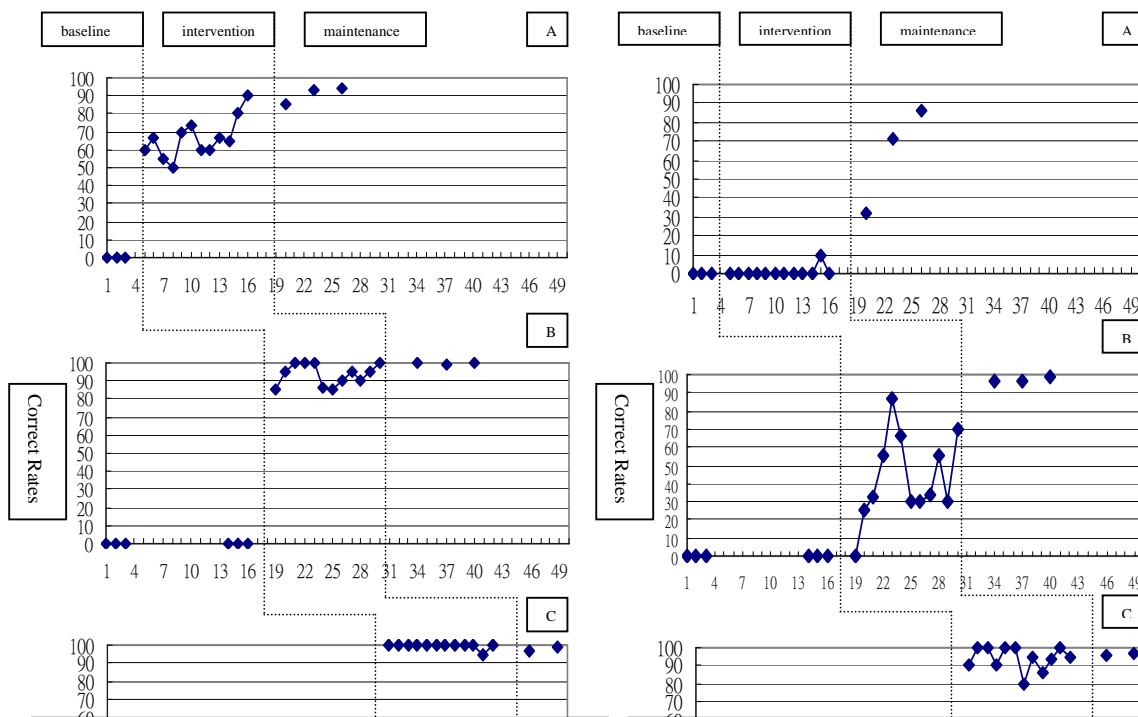
The immediate effects on listening comprehension for the 3 students were found in this study and the effects on student C was the best. Not being mentally retarded, with higher motivation, parents' involvement all accounted for the reason why student C performed well when she learned English.

Expressing abilities of English functional vocabulary student B and student C were enhanced immediately through TPR, while student A's wasn't. Maybe because student A was a beginner who learned English, there was a longer silent period before he began to speak. During the silent period, he had to internalize the target language to develop the readiness of speaking.

**Maintaining Effects on Listening comprehension and expressing abilities**

The maintaining effects of TPR on listening comprehension were found in this study. The correct rates of student A and B rose from intervention phase to maintenance phase. Although the correct rates of student C decreased a little at the maintenance phase, it maintained the similar level of the intervention phase.

The maintaining effects of TPR on expressing abilities were also found in this study. The effects of TPR on expressing abilities of the three students at the maintenance phase were better than those at the intervention phase, and the progress of student A was very significant.



◆ are data points collected at baseline, intervention, and maintenance phases  
Figure 4 curves of correct rates on listening comprehension and expressing abilities of three students

### **Analysis of Data from Other Observations**

The error types of the 3 students are similar; they forgot or confused with blends and words with letter "r." For example, clap, bread, drink, turn, erase and so on, were the words that they didn't learn very well.

Sentences that are complex or similar were also difficult for them. For example, student A confused with "Get up," "Hands up," and "Stand up." Student B didn't tell "Open the door." from "Close the door." and "Go to the door." from "Go to the board." very well. Student C got confused when she learned "I can draw." "I can write." and "I can count."

### **Analysis of Social Validity**

After the teaching experiment, the students were interviewed by the instructor's co-worker, who is also a special education teacher. All the students said that they enjoyed learning English through TPR; they also liked to watch the teacher's modeling, perform the actions with the teacher. Student B and C said that it's easier to learn English through the way they experienced in resource classroom and they learned more in resource classroom than in the regular classes. Besides, all of them showed their willingness keeping on learning English. Data from the interviews shows that students' motivation and interests in learning English were enhanced through TPR.

Student A's mother didn't believe that her child was able to learn English initially. She didn't quite sure whether the student's motivation and interests in learning English were enhanced through TPR, because the student always did his homework after her mother persuasion. From the interviews with parents of student B and C, we know that they spoke in English with their mothers occasionally on the way to school, listened to the tapes at home frequently without anybody's remind. Student C started to watch TV programs about English teaching when she was involved in the study. These observations indicates that motivation and interests in learning English of student B and C were enhanced through TPR.

### **Conclusion**

1. The immediate and maintaining effects of TPR on listening comprehensions for learning English functional vocabulary for resource classroom students were found in this study. At the baseline phase, all the students didn't understand any words of the contents, when they were tested at the intervention phase, the correct rates rose immediately. That TPR is a high speed language acquisition is proved to be true in this study. The facts that student A and B performed better and student C's performance was stable at the maintenance phase shows the maintaining effects of TPR.
2. It's necessary to conduct further study to ensure that whether resource classroom students learn how to express in English functional vocabulary immediately through TPR. Although the performance of oral expressing of student B and C were significant, student A almost kept silent at the intervention phase. Further study may help us figure out the question.
3. The maintaining effects of TPR on expressing abilities for learning English functional vocabulary for resource classroom students were found. All the students progressed at the maintenance phase, and it demonstrated that TPR results in long-term retention.
4. To avoid frustrated experiences and to make them be confident, we should considerate the language development of students with special needs, their weakness in learning. It's recommended that blends and words with letter "r" and sentences that are complex or similar should not be taught at first for the resource classroom students.
5. From the interviews with students and their parents, students' motivation and interests in learning English

were enhanced through TPR. The result was same as the study Duran reported in 1992 that the motivation and interests in learning English of students with severe disabilities were enhanced through TPR.

### **Pedagogical Implications**

Pedagogical implications for English teaching for resource classroom students are as follows,

1. Language learning abilities of resource classroom students are doubtless. When they are taught in appropriate instructions, they are able to learn foreign language.
2. Listening comprehension is prior to oral development, we should accept the silent period of students. In this study, student A uttered some of the sentences at the maintenance phase, but didn't express orally at the intervention phase. The phenomena can stand for Asher's point of view "listening comprehension is prior to oral development." Silent period is the first stage that children must go through at their own pace (Krashen & Terrell, 1983; Johns & Torrez, 2001), in the English classroom; teachers shouldn't ask students speak in the new language before they haven't comprehended yet. Be aware of not making "silent period" become an excuse of ineffective teaching and learning. Teachers should devote in developing strategies to help students improve their learning no matter how long their "silent period" are.

Here are the pedagogical implications for English teaching for resource classroom students,

1. Utilize TPR to enrich successful experiences for students with special needs. From the result of this study, TPR was successful when it worked on students with special needs. Asher (2004) says, TPR is powerful for three reasons. First, TPR has the unique feature of being aptitude-free, it works for almost all students of any age. Second, it is high speed language acquisition. Third, study after study demonstrates that skillful application of TPR results in long-term retention lasting weeks, months- even years. To compare with the results of this study, the first features makes the application of TPR on special educations be a right and appropriate trial.
2. Utilize different teaching methods. There is no definite teaching method that is appropriate with all students. Teachers should be able to be familiar with the advantages, disadvantages of different teaching methods, and know how and when to use them.

### **Suggestions for Further Study**

1. Make the duration of implementation longer

According to studies from Cabello (2004), students spontaneously begin to speak in the new language after about 10 to 20 hours of understanding the target language through physical movements. The listening comprehension and expressing abilities trainings were both included in the 12 times in my study, it's not enough for thorough understanding of the effects on TPR. It's recommended that the students in future study learn English through TPR for at least 24 times, 40 minutes per time.

2. Follow-up

The purpose of follow-up is to understand that whether the students use the functional vocabulary in their daily life after the study or not. In the future study, follow-up phase can be designed and last at least a semester to make sure that whether the functional vocabulary are useful for them in their independent living, social accommodation and academic abilities or not.

3. Students with different ages

It's said that TPR is successful with children and adults learning any language. We need some further studies on students with different ages to help us prove whether it's true or not. Although scores of language classes using TPR in countries around the world have enjoyed successful results for students learning European, Asia, Indian and Semitic languages, it's the first study in Taiwan.

4. Multiple measurements: assess the effects of English learning in different ways.

It is recommended that assessing the effects of English learning by using pictures, films, computer assistant, oral translation, writing are also good ways to be used.

5. Include reading and writing abilities as dependent variables.

Language learning consists of listening, speaking, reading and writing. There are also researches and books about TPR storytelling and TPR grammar. The effects of TPR on listening comprehension and expressing abilities were found in this study, how does it work on reading and writing? Maybe we will have the answers from further study.

6. Parental involvement.

In addition to make use of instruction practices, it's useful to involve parents in their children's education. Giving information about the instructional approaches being used to the parents, make them understand the teaching method, so that they can help the student review at home. In the further study, the influence of parents' attitude and participation to children's education, their confidence of the children's accomplishment, strategies in parenting, modeling are worthy to be discussed.

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