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## The assessment of receptive vocabulary in Thai children by using the Thai version of the peabody picture vocabulary test-revised Form L and Form M

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**Background** : *Delayed speech and language development is a salient problem which commonly leads a child to see specialists. When the child demonstrates no utterance, it should be investigated whether the cause is characteristic of the problem or it is a normal development of the child itself. Therefore the test to assess child's receptive language is needed. Peabody Picture Vocabulary Test-Revised (PPVT-R) is a screening test to measure individual's receptive vocabulary; it provides a quick estimation of one major aspects of verbal ability. However, it is an American English standard, this study is aimed to examine whether there are significant difference of receptive vocabulary between Thai and American children by using Thai version of PPVT-R Form L and Form M (Thai PPVT Form L and Form M).*

**Objective** : *1. To determine means of receptive vocabulary in Thai children by using Thai PPVT Form L and Form M, adapted with permission of Lloyd M. Dunn and Leota M. Dunn, authors and American Guidance Service, American Publisher.*

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2. To compare means of receptive vocabulary between Thai and American children.

3. To compare means of receptive vocabulary between Thai boys and girls.

**Setting** : Arnubarn Wat Parinayok School, Pratamnaksoankurab School, Wat Rachnadda School, Wat Maharn School, Soandek School, Thewaishvittayalai School, Ampornpaisan School, Sanyanookorn School, Bharatavidyalaya School, Pemarnvit School, Pranakorn District, Bangkok Metropolitan. Psychology Unit, Department of Rehabilitation Medicine, King Chulalongkorn Memorial Hospital, The Thai Red Cross Society.

**Research design** : Prospective and descriptive study

**Subjects** : 900 pupils aged 4.0 - 9.11 years were recruited for Thai PPVT Form L; 700 pupils aged 4.0 - 7.11 years, Thai PPVT Form M. The stratified random sampling was used to select subjects in the study of each form. The number of age groups and subjects of Form M. were different from Form L because the study of Form M preceded that of Form L. Age groups of 8.0 - 8.11 years and 9.0 - 9.11 years were added during the study of Form L. For the reason that, Form L and Form M were parallel form of the test, it would be advantageous to present them simultaneously.

**Materials** : 1. Thai PPVT Form L  
2. Thai PPVT Form M  
Both Forms were adapted with permission of Lloyd M. Dunn and Leota M. Dunn, the author and American Guidance Service, the Publisher.

**Methods** : Subjects were tested individually by using Thai PPVT Form L and Form M, in silent rooms at their schools.

**Results** : Comparison of the means of receptive vocabulary between Thai and American children by unpaired t-test. Regarding to Form L, there were no difference of statistical significance at the age of 6.0 - 7.11 years, significant differences at age of 4.0 - 5.11 years and 8.0 - 9.11 years

*p < .05. The finding was in accordance with the results from Form M, statistically non-significant differences were not seen between 4.0 - 4.5 years and 6.0 - 7.11 years, significant differences appeared apparently by 4.6 - 5.11 years, p < .01. No statistical significant differences of receptive vocabulary could be noticeable between Thai boys and girls.*

**Conclusion** : *The study pointed out that both forms of the tests were influenced by culture, and variation in the amount of exposure to words is a substantial factor in child's receptive vocabulary development. However, raw score means of the groups can utilize to support the assessment of receptive vocabulary in Thai children but the tests should be carefully evaluated.*

**Key words** : *Receptive vocabulary, Thai PPVT Form L and Form M, Language development.*

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มานิตา กริยามล, นันทนา ประชาฤทธิ์ภักดี, ภูมเรียง สายาวารานนท์, ศิริวรรณ ไกรสุรพงษ์, การประเมินผลความเข้าใจคำศัพท์ในเด็กไทย โดยใช้แบบทดสอบคำศัพท์รูปภาพพีบอดีฉบับปรับปรุง ฟอรัมแอล และ ฟอรัมเอ็ม ฉบับภาษาไทย. จุฬาลงกรณ์เวชสาร 2545 ม.ค; 46(1): 45 - 55

**ปัญหา** : ความล่าช้าของการพูดและภาษาเป็นปัญหาที่สำคัญ ซึ่งนำเด็กมาพบผู้เชี่ยวชาญเมื่อมีการแสดงให้เห็นว่าเด็กไม่พูดจำเป็นต้องมีการสำรวจว่าสาเหตุนั้นเป็นลักษณะของปัญหาของการพูดหรือเป็นพัฒนาการปกติของตัวเด็กเอง ดังนั้นการทดสอบเพื่อประเมินความเข้าใจในการรับรู้คำศัพท์จึงเป็นสิ่งจำเป็น แบบทดสอบคำศัพท์รูปภาพพีบอดีเป็นแบบทดสอบคัดกรองเพื่อนำมาวัดความเข้าใจในการรับรู้คำศัพท์ของเด็กและสามารถประเมินผลได้รวดเร็วในด้านที่สำคัญคือความสามารถทางภาษา อย่างไรก็ตามแบบทดสอบเป็นมาตรฐานของต่างประเทศ การศึกษานี้จึงต้องการสำรวจว่ามีความแตกต่างอย่างมีนัยสำคัญ ของความเข้าใจในการรับรู้คำศัพท์ระหว่างเด็กไทยและเด็กอเมริกันในการนำแบบทดสอบคำศัพท์รูปภาพพีบอดีฉบับปรับปรุง ฟอรัมแอล และ ฟอรัมเอ็ม ฉบับภาษาไทย มาใช้กับเด็กไทย

**วัตถุประสงค์** : 1. เพื่อหาค่าเฉลี่ยของความเข้าใจในการรับรู้คำศัพท์ของเกณฑ์เด็กไทย โดยใช้แบบทดสอบคำศัพท์รูปภาพพีบอดีฉบับปรับปรุง ฟอรัมแอล และฟอรัมเอ็ม ฉบับภาษาไทยซึ่งได้รับการอนุญาตให้ดัดแปลงอย่างเป็นทางการจากผู้สร้างและสำนักพิมพ์  
2. เพื่อเปรียบเทียบค่าเฉลี่ยของความเข้าใจในการรับรู้คำศัพท์ระหว่างเด็กไทยและเด็กอเมริกัน  
3. เพื่อเปรียบเทียบค่าเฉลี่ยของความเข้าใจในการรับรู้คำศัพท์ระหว่างเด็กชายไทยกับเด็กหญิงไทย

**สถานที่-  
ทำการศึกษา** : โรงเรียนอนุบาลวัดปรินายก โรงเรียนพระตำหนักสวนกุหลาบ โรงเรียนวัดราชনীดดา โรงเรียนวัดมหารณห์โรงเรียนสวนเด็ก โรงเรียนอัมพรไพศาล โรงเรียนแสนยานุกรโรงเรียนภารตวิทยาลัย โรงเรียนพิมานวิทย์ เขตพระนคร กรุงเทพมหานคร หน่วยจิตวิทยา ฝ่ายเวชศาสตร์ฟื้นฟู โรงพยาบาลจุฬาลงกรณ์ สภากาชาดไทย

**รูปแบบการวิจัย** : การศึกษาแบบสถิติเชิงพรรณนาไปข้างหน้า

**วิธีการศึกษา** : นำแบบทดสอบคำศัพท์รูปภาพพีบอดีฉบับปรับปรุง ฟอรัมแอล และฟอรัมเอ็ม

- ฉบับภาษาไทย ซึ่งได้รับอนุญาตอย่างเป็นทางการจากผู้สร้างและสำนักพิมพ์ มาทดสอบกับเด็กไทยในโรงเรียนเป็นรายบุคคล
- ประชากรที่ทำ-**  
**การศึกษา** : เด็กนักเรียนไทยจำนวน 900 คน ที่มีอายุระหว่าง 4.0-9.11 ปี ถูกนำมาทดสอบ ในแบบทดสอบฟอรัมแอล และ เด็กนักเรียนไทยจำนวน 700 คนที่มีอายุระหว่าง 4.0-7.11 ปี ถูกนำมาทดสอบในแบบทดสอบฟอรัมเอ็ม การศึกษาในแต่ละฟอรัม กลุ่มตัวอย่างได้มาโดยวิธีสุ่มแบบอัตรภาคชั้น ส่วนจำนวนช่วงอายุและจำนวน กลุ่มตัวอย่างของฟอรัมเอ็มจะแตกต่างจากฟอรัมแอล เพราะการศึกษาฟอรัม เอ็มนำมาก่อนฟอรัมแอล จึงได้มีการศึกษาเพิ่มเติมในช่วงอายุ 8.0 – 8.11 ปี และ 9.0 – 9.11 ปี เมื่อมีการศึกษาฟอรัมแอล จากเหตุผลที่ว่าฟอรัมแอลและ ฟอรัมเอ็มเป็นแบบทดสอบคู่ขนานจึงอาจเป็นประโยชน์มากกว่าในการนำเสนอ แบบทดสอบทั้งสองพร้อม ๆ กัน
- ผลการศึกษา** : การเปรียบเทียบค่าเฉลี่ยของความเข้าใจในการรับรู้คำศัพท์ระหว่างเด็กไทยและ เด็กอเมริกัน โดยการทดสอบค่า  $t$  ในฟอรัมแอลไม่พบความแตกต่างอย่างมีนัย สำคัญในอายุ 6.0 - 7.11 ปี แต่พบความแตกต่างอย่างมีนัยสำคัญที่อายุ 4.0 - 5.11 ปี และ 8.0 - 9.11 ปี ที่  $P < .05$  ส่วนฟอรัมเอ็มไม่พบความแตกต่างอย่าง มีนัยสำคัญในอายุ 4.0-4.5 ปี และ 6.0 - 7.11 ปี แต่พบความแตกต่างอย่างมีนัย สำคัญที่อายุ 4.6-5.11 ปี ที่  $P < .01$  และไม่พบความแตกต่างอย่างมีนัยสำคัญ ของความเข้าใจในการรับรู้คำศัพท์ระหว่างเด็กชายไทยและเด็กหญิงไทยของ แบบทดสอบทั้ง 2 ฟอรัม ที่  $P < .01$
- วิจารณ์และสรุป** : การศึกษานี้ชี้ให้เห็นว่าแบบทดสอบทั้งสองฟอรัมได้รับอิทธิพลจากความแตก ต่างทางวัฒนธรรม โอกาสของการเรียนรู้คำศัพท์ขึ้นกับอิทธิพลทางวัฒนธรรม และประสบการณ์ในชีวิตประจำวันซึ่งเป็นองค์ประกอบที่สำคัญมากต่อการ พัฒนาความเข้าใจในการรับรู้คำศัพท์ของเด็ก อย่างไรก็ตามค่าเฉลี่ยของคะแนน ดิบของกลุ่มต่าง ๆ สามารถนำมาใช้สนับสนุนการประเมินความสามารถของ ความเข้าใจในการรับรู้คำศัพท์ของเด็กไทย แต่การทดสอบและแปรผลเกณฑ์ ปกติของความเข้าใจในการรับรู้คำศัพท์ของเด็กควรใช้อย่างระมัดระวัง
- คำสำคัญ** : ความเข้าใจในการรับรู้คำศัพท์ แบบทดสอบคำศัพท์รูปภาพพิบอดีฉบับปรับปรุง ฟอรัมแอลและฟอรัมเอ็มฉบับภาษาไทย พัฒนาการทางภาษา

Speech is unique to human. The attainment of speech is one of the most important achievements of childhood. The coming of language occurs at approximately the same age in every healthy child throughout the world.<sup>(1)</sup> An intellectual child has better amount of vocabularies and control of language usage than the normal and the dull.<sup>(2)</sup>

Nearly all observers agree that verbal comprehension precedes verbal production.<sup>(1)</sup> Verbal comprehension begins when the child can relate verbal concepts to familiar objects of any form and any context it may occur. By 6 to 10 months words first begin to have some meaning for the child. Not until at 15 to 18 months, the child begins to demonstrate true verbal comprehension (for example: feeding a doll from a toy cup); and she/he is able to recognize familiar objects by names. Between the age of 2 the child begins to relate two verbal concepts (for instance, put the ball into the box).<sup>(3)</sup> By the age of 5, most children have completed their language skill capability.<sup>(1,4)</sup>

Correct speech production occurs when the child can hear and understand which a speaker conveys to her/him and has no intellectual deficit or neurological impairment.<sup>(1,5)</sup> Speech retardation is considered by substantial vocabularies which the child has learned.<sup>(1)</sup> If the child is not able to speak a single word at the age of two, or phrases at the age of four, it means that there is severe problem in speech development.<sup>(6)</sup>

When the delayed speech is found, the first investigation is to assess the child verbal comprehension, because the understanding of a language a long time precedes the ability to articulate. Owing to language which is best provoked by showing picture

to the child,<sup>(7)</sup> Peabody Picture Vocabulary Test-Revised Form L and Form M have been used for screening receptive vocabulary in children. Form L and Form M are parallel form of the test, and administration of Form L is the same as Form M but each Form obtains its own norm.<sup>(8)</sup> Nevertheless, learning word categories depend upon amount of exposures to experience and culture.<sup>(3)</sup> The purpose of the study was to investigate that there were significant differences of receptive vocabulary between Thai and American children in using Thai PPVT Form L and Form M.

## Materials and Methods

### Materials

1. Thai PPVT Form L
2. Thai PPVT Form M

Both were test materials for assessing receptive vocabulary. The two Thai versions were adapted with permission of Lloyd M. Dunn and Leota M. Dunn, the authors and American Guidance Service, the American Publisher.

### Subjects

Subjects were Thai pupils of two Bangkok Metropolitan schools, two government schools and six private schools. Pranakorn District, Bangkok Metropolitan. The stratified random sampling was used to recruit subjects into the study. First, districts in Bangkok were considered in the program, especially, when there are Bangkok Metropolitan, government and private schools in the district. At random, Pranakorn District was taken. Second, two Bangkok Metropolitan schools, two government schools and six private schools were proportioned to pupils in

**Table 1.** The demography of pupils to school in each age group, n=100

	Kindergarten	Elementary
Government schools		
Arubarn Wat Parinayok	16	18
Pratamnaksoankurab	8	8
Bangkok Metropolitan schools		
Wat Rachnadda	6	8
Wat Maharn	10	20
Private schools		
Soandek	12	12
Thewaishvittayalai	10	14
Ampornpaisan	14	20
Sanyanookorn	10	-
Bharataviddayala	9	-
Pearnvit	5	-

Pranakorn District. The schools were then randomized. Finally, the ratio of pupils was determined in each school. (see Table 1)

900 subjects aged between 4.0 - 9.11 years, were enrolled in Thai PPVT Form L; 700 subjects aged between 4.0 - 7.11 years, Form M. The two groups were divided into age groups. There were 100 subjects in each age group, 50 boys and 50 girls; the subjects of Form L and Form M were allocated in each age group, as in the study of Dunn, the owner of the test. Owing to the study of Dunn and Dunn, there were 200 American pupils in each age groups. Consequently, 100 Thai pupils, a half of the number of the children were subjects in experimental group.

The number of age groups in Form M were unequal to Form L, since Form M was studied firstly only at age groups of 4.0 – 7.11 years. When Form L was studied subsequently, age groups of 8.0 – 8.11 years; the group of 9.0 – 9.11 years were added. These

results in the difference of the number of subjects in Form M and Form L, however, the subjects of Form M and Form L were still the same group.

For the reason that Form M and Form L are parallel form of the test, it would be advantageous to present them simultaneously.

### Procedure

The subjects were individually tested by each Form of Thai PPVT by researchers, or co-researchers, or well-trained assistants in a silent room at the schools. Each testing session of Thai PPVT, either Form L or Form M, it lasted 15 - 20 minutes.

### Results

The raw scores of receptive vocabulary in each age group were estimated in terms of means and standard deviations. The unpaired t-test was used as a statistical tool to examine the hypotheses. The results were shown in Table 2, 3, 4 and 5.

Data analysis revealed that Thai PPVT Form L and Form M were in concord, regarding the means of receptive vocabulary in each group between Thai and American children. Means of receptive vocabulary of both Forms illustrated statistic significant differences at age groups of 4.6 – 4.11, 5.0 – 5.5, 5.6- 5.11 years and non-significant differences at age groups of 6.0 – 6.5, 6.6 – 6.11, 7.0 – 7.11 years. Only at age groups of 4.0 – 4.5 year which mean of receptive vocabulary of Form L disclosed statistically significant difference, but Form M showed statistically non-significant difference. Furthermore, significant differences of means of receptive vocabulary were seen at age groups of 8.0 – 8.11 and 9.0 – 9.11 years, in Form L. (see Table 2 and 3)



**Table 2.** The comparison of means and standard deviations of the performances to Thai PPVT Form L between Thai and American children, at  $p < .05$

Age range	Thai children n = 100	American children n = 200*	T
	Mean ( SD )	Mean ( SD )	
4.0-4.5	41.7 (7.7)	45.6 (12.7)	3.3
4.6-4.11	49 (9.8)	52.8 (13.2)	2.7
5.0-5.5	54 (10.2)	59.3 (14)	3.7
5.6-5.11	61.5 (11.3)	64.4 (11.5)	2.1
6.0-6.5	69.6 (14.5)	68.7 (15.7)	0.7
6.6-6.11	76.3 (14.2)	76.6 (12.7)	0.2
7.0-7.11	85.4 (12.7)	85.5 (14.2)	0.06
8.0-8.11	101.1 (13.6)	96.7 (13.7)	2.4
9.0-9.11	107.1 (13.9)	101.1 (15)	3.5
	Mean <sub>m</sub> (SD <sub>m</sub> ) = 72.3 (21.9)	Mean <sub>m</sub> (SD <sub>m</sub> ) = 72.3 (19.2)	0.0

**Tables 3.** The comparison of means and standard deviations of the performances to Thai PPVT Form M between Thai and American children, at  $p < .01$

Age range	Thai children n = 100	American children n = 200*	T
	Mean( SD )	Mean( SD )	
4.0-4.5	45 (10.1)	46.5 (13.5)	1.1
4.6-4.11	50 (8.6)	54.4 (12.9)	2.8
5.0-5.5	55.6 (9.2)	59.5 (15.4)	2.7
5.6-5.11	63.3 (12.7)	69.6 (15.1)	3.8
6.0-6.5	72.5 (15.4)	74.1 (13.7)	0.9
6.6-6.11	76.7 (14.2)	79.4 (12.7)	0.1
7.0-7.11	83.7 (14.4)	86.3 (10.3)	1.6
	Mean <sub>m</sub> (SD <sub>m</sub> ) = 63.8 (14.4)	Mean <sub>m</sub> (SD <sub>m</sub> ) = 67.1 (14.3)	0.43

\*Dunn and Dunn, Technical Supplement, Minnesota: American Guidance Service, 1981:25.

In comparison between means of Thai boys and girls, the two Forms displayed no statistically

significant difference in all age groups at  $p < .01$  (see Table 4 and 5)

**Table 4.** The comparison of means and standard deviations of Thai PPVT Form L between Thai boys and girls, at  $p < .01$

Age range	Thai boys n = 50		Thai girls n = 50	
	Mean (SD)	Mean (SD)	Mean (SD)	T
4.0-4.5	42.7 (8.7)	41.5 (7.3)		0.76
4.6-4.11	48.1 (10.2)	49 (7.8)		0.46
5.0-5.5	55.1 (10.7)	52.8 (9.7)		1.1
5.6-5.11	59.2 (12.1)	64.5 (12)		2.21
6.0-6.5	67.3 (14.7)	72.7 (13.9)		1.86
6.6-6.11	76.4 (12.6)	77.3 (15.3)		0.31
7.0-7.11	85.1 (13)	86.1 (12.6)		0.39
8.0-8.11	101.6 (15)	100.3 (12)		0.48
9.0-9.11	107.7 (12.9)	106.5 (14.9)		0.42

**Table 5.** The comparison of means and standard deviations of Thai PPVT Form M between Thai boys and girls, at  $p < .01$

Age range	Thai boys n = 50		Thai girls n = 50	
	Mean (SD)	Mean (SD)	Mean (SD)	T
4.0-4.5	45.3 (9.4)	44.7 (10.8)		0.27
4.6-4.11	49.9 (8.4)	50.2 (8.6)		0.18
5.0-5.5	54.7 (8.6)	56.5 (9.7)		0.99
5.6-5.11	61.7 (12)	64.8 (13.4)		1.22
6.0-6.5	72.6 (15.9)	72.4 (15)		0.09
6.6-6.11	75.9 (12.5)	77.4 (15.8)		0.53
7.0-7.11	83.7 (14.6)	83.6 (14.3)		0.03

## Discussion

As a result, the comparison with raw score means between Thai and American children were considered. Means of Thai children at age 4.0-5.11 years in Form L and 4.5-5.11 years in Form M were lowered than American children. Due to early childhood vocabularies were frequently developed from parents and interactions with environments.<sup>(3)</sup> Sayawaranon P. et.al, in 1997 noted that the means of language area in Thai children were lowered than the means of other areas by testing with Denver and Gesell. But their subjects were only 15 -18 months, so it was difficult to determine the accurate measurement, because of the fact that during the period language development was uncomplicated and mostly it sound imitation.<sup>(9)</sup> Consequently, the possibility may be extended to age of 4.0 - 5.11 years. In addition, schooling effects may be another factor. From

interviewing teachers and observation, educational system may be vary depend on school. Private schools emphasized on academic performance and language skills, whereas schools under Bangkok Metropolitan and government were involved in physical, emotional and psychosocial development and intellectual capability. So, the means of Thai children differed from that of American children. Furthermore, McCallum s. & Bracken A. found that raw score means between American black and white preschool children were cultural differences on PPVT-R testing even in the same nation.<sup>(10)</sup>

During 4.0 - 4.5 years of age, learning language is mainly on basic words, such as nouns and verbs.<sup>(11)</sup> It may be possible, by chance, the means of Form M in age 4.0 -4.5 years between Thai and American children were not different.

When a child entered an elementary school,

her/his receptive vocabulary rapidly increased by teachers' use of language. Moreover, external environments implicated child activities, for example; book reading, radio listening, watching television, etc. These advantages expanded the child's perception.<sup>(12)</sup> Therefore, receptive vocabulary of Thai children did not differ from that of American children at age of 6.0 - 7.11 years

Many authors accepted that culture had an impact on word acquisition. The utility of words depends upon each local culture.<sup>(13)</sup> The means of receptive vocabulary of Form L in Thai children age 8.0 - 9.11 years were shown differently from American children due to cultural differences.

As for the idea that girls had more vocabularies than boys, even when they entered school, girls still had more advantage in languages over boys.<sup>(14)</sup> Comparative studies, indicated no differences in both genders.

### Conclusions

The study pointed out that PPVT-R Form L and Form M were influenced by culture; and the variation in the amount of exposure to words of a language was a substantial factor in a child's receptive vocabulary. Nevertheless, the raw score means of the groups could be used as a support for evaluating the ability of receptive vocabulary in Thai children. Since the means increased with the rise of the child's age, when testing with Thai PPVT Form L and Form M, and mean raw scores between Thai and American children showed no statistically significant differences.

Also, the study suggested that the norms of Thai PPVT Form L and Form M for measuring receptive vocabulary should be established in Thai children.

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