

*Study of Thai Language Oral Reading Problems  
For Students with Down Syndrome: Grade Range 1*

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*Abstract*

The purpose of the study was to explore the Thai Language Oral Reading Problems of students with Down syndrome, Grade Range 1 at Watnonsaparam School, Saraburi Thailand in favor of Web Quest Lessons Development Enhancing Oral Reading Skills of Down syndrome Students. The research instruments were the 2 observation forms on Thai Language Reading skill. The findings revealed that Thai Language Oral Reading Problems of Down syndrome students varied greatly on the pronunciation of vowels, tone marks, wording and sentences. Nevertheless, four students were able to orally read Thai characters with correct pronunciation and showed basic understanding of reading procedures. Most of the students were having problems in reading Thai vowels both in terms of pronunciation and meaning decoding; they took much more time on reading procedures. The problems found will benefit the development of Web Quest Lessons Enhancing Oral Reading Skills of Down syndrome Students Grade Range 1 at Watnonsaparam School, Saraburi Thailand.

*Introduction*

Down syndrome is the most common genetic cause of intellectual disability, occurring in approximately 1 in 700 live births as proposed by Centers for Disease Control and Prevention (2006). Ninety-eight percent of Down syndrome cases are caused by an extra copy of chromosome 21 (Trisomy 21). The Translocation occurs when part of chromosome 21 are attached to another chromosome. The mosaicism, occurring when some cells—but not all—include an extra copy of chromosome 21, is less common. A person of any race, socio-economic status, or geographic location can have a child with Down syndrome (Gerald et al., 2006). Approximately two-thirds of children with Down syndrome experience conductive hearing loss, sensor neural hearing loss, or both (Roizen, 2007). More recently, Hepburn, Philofsky, Fidler & Roger (2008) found that 15% of young children with Down syndrome met criteria for an autism spectrum disorder. Behavioral and psychiatric disorders, such as depression, appear to be less common in Down syndrome than in other types of intellectual disability; however, these difficulties may be more common in individuals with Down syndrome than in the general population (Antonarakis & Epstein, 2006). Moreover, social skills may decline and maladaptive behaviors increase with the common onset of dementia in adults with Down syndrome, which occurs at high rates at ages 45 years and older (Urv, Zigman & Silverman, 2008).

Reading is an important skill for human developing of any nation. In recent years, the importance of reading instruction for children and adults with Down syndrome has been increasingly recognized. Conflicting findings have been reported regarding the receptive vocabulary skills of individuals with Down syndrome. Several studies using standardized assessments suggest that children and adolescents with Down syndrome comprehend spoken words at levels similar to mental age-matched typically developing children (Law & Bishop, 2003). Glenn & Cunningham (2005) reviewed that vocabulary comprehension exceeded nonverbal cognitive ability for adolescents and young adults with Down syndrome. However, in Roberts *et al.*, (2007) purposed, children with Down syndrome scored lower than younger nonverbal mental age-matched typically developing children on standardized measures of receptive vocabulary. The recent researches also support the view that all children with Down syndrome will benefit from being read to and from being in reading instruction since the early age as these activities improve their spoken language and memory skills, even though they do not become independent readers themselves. There was a small amount of published literature that documented the literacy achievements of individuals with Down syndrome. But there are some indications on progress rates and the relationships between attainments in reading and other cognitive skills (Farrell & Gunn, 2000; Van, Moni, Jobling & Ziebarth, 2001; Bochner, Outhred & Pieterse, 2001). While research evidence is still limited, it does support the view that many individuals with Down syndrome can learn to read and write to a level that will be a useful skill to become more independent in their everyday lives, improving their ability to participate in formal education and learning, increasing employment opportunities and also giving them access to books and newspapers. This study explored Thai Language Oral Reading Problems with the Down syndrome students in Grade Range 1 at Watnonsaparam School, Saraburi, Thailand.

### ***Methodology***

#### **Population and Sample**

##### **Population**

The populations were seven students with Down syndrome in Grade Range 1 (Primary school level 1 to level 3) and six specialized Thai language teachers from Watnonsaparam public School, Office of Regional Education of Saraburi Region 1, Thailand, in the First semester, 2008 academic year.

##### **Sample Group**

Five students with Down syndrome between 6 to 13 years old that were purposive selected from Watnonsaparam public school under the Office1 of Saraburi Educational Service Area of Thailand that have students studying in 3 years of elementary level None of them presented hearing problems and reported no history of hearing difficulty. All of them were monolingual Thai language.

#### **Research Instruments**

1. Screening form adapted from Assistant Professor Dr. Daranee Utairatanakit's tool for students with short attention span, learning deficiencies, and autism (KUS-SI Rating Scales: ADHD/LD/Autism (PDDs) and Diagnostic test of deficiencies applied from the Department of Educational Technologies and Innovations (2003)

2. Observation forms on Thai language reading problems of students with Down syndrome, one containing 16 topics which identify particular reading problems and the other containing 18 topics with 4 levels of Thai language reading behaviors and problems. The problems were measured in 4 levels as follows:

- never (0%)
- sometimes (1-30%)
- often (31-70%)
- nearly always (71-100%)

### **Procedure**

1. The six specialized Thai teachers tested each student's reading abilities using the questionnaire and the observation form. The survey and observation were conducted from May to September 2008. The students were individually evaluated on the following reading abilities:

- consonants and vowel (พยัญชนะและสระ)
- Thai tone marks: (◌) (◌) (◌) (◌) (วรรณยุกต์)
- Thai syllables (พยางค์ไทย)
- vocabulary (คำศัพท์)

2. The researcher collected the survey results from 6 specialized Thai teachers and analyzed the data using the percentage. The problems on Thai Language oral reading were identified leading to the conclusion the content of Thai Language oral reading that should be used for making the WebQuest lesson for students with Down syndrome at lower elementary level.

### ***Results***

The results of the survey and the observation on Thai language oral reading problems of students with Down syndrome in grade range 1 at Watnonsaparam School, in Saraburi province, Thailand were presented in Table 1 and 2 as follows:

The result from six specialized teacher screening found that five students with Down syndrome had reading learning problems (Table 1). Four girls and one boy had Thai language oral reading problems on inability to read and recall words, inability to master tones in words, inability to identify vowels in words, slow and halting reading, and inability to read some word. The topics they had the less problems is limited vocabulary. Descriptive results analysis and conclusion on Thai oral reading topic contents based on the study results of Students with Down syndrome' in grade rang 1 show in Table 2. Thai language reading problem among Down syndrome students divided into 4 contents are

vowel, tone marks, wording and sentence. The problems related to vowel are single and combined vowel, compound word with single vowel and with or without final consonant and compound word with compound vowel and with or without final consonant. For the Thai tone, the students have problem in both of tone sound and tone mark. In case of the used of wording problem are involved of initial consonants, Diphthongs word (ror roer, lor ling, wor whaen), word with symbol on the consonant mute, final consonant word with off-clause and phony merge word. In addition, the sentence level problems are sound in the sentence and topic sentence.

**Table1.** Survey results from six specialized Thai language teacher screening on Thai language oral reading problems among students with Down syndrome in grade range 1 from Watnonsaparam School, in Saraburi province, Thailand

No.	Topics of Thai language reading problems	Down syndrome students in grade range 1				
		Primary school level 1	Primary school level 2		Primary school level 3	
		Annie (girl)	Peter (boy)	Patty (girl)	Gibe (girl)	Kitty (girl)
1	Consonants (พยัญชนะ)	6*	5	5	2	2
2	Vowel (สระ)	6	6	6	6	6
3	Master Thai tone marks: (◌) (◌◌) (◌◌◌) (วรรณยุกต์)	6	6	6	2	2
4	Compound word with single vowel with final pronounced letter (คำที่ประสมสระเดี่ยวไม่มีตัวสะกด)	6	6	6	6	6
5	Compound word with single vowel syllable (คำที่ประสมสระเดี่ยวมีตัวสะกด)	6	6	6	6	6
6	Compound word without combined vowel syllable (คำที่ประสมสระประสมไม่มีตัวสะกด)	6	6	6	6	6
7	Compound word with combined vowel syllable (คำที่ประสมสระประสมมีตัวสะกด)	6	6	6	6	6
8	Word with initial consonant (คำที่มีอักษรนำ)	6	6	6	6	6
9	Diphthongs word(คำควบกล้ำ ร ล ว)	6	6	6	6	6
10	Word with mute mark letter (คำที่มีตัวการ์นต์)	6	6	6	6	6
11	Word with tone marks	6	6	6	6	6

	(คำที่มีวรรณยุกต์)					
12	Word with final pronounced letter and special spelling rules (คำที่มีตัวสะกดไม่ตรงตามมาตรา)	6	6	6	6	6
13	Inactive cluster (คำควบไม่แท้)	6	6	6	6	6
14	Short sentences (ประโยคสั้นๆ)	6	6	6	6	6
15	Slow reading (อ่านช้าใช้เวลามาก)	6	6	6	6	6
16	Limited vocabulary (รู้คำศัพท์ค่อนข้างน้อย)	6	2	2	2	2

\*2 – 6 is number of specialized Thai language teacher who agreement screening on Thai language oral reading problems among students with Down syndrome in grade range 1

**Table 2.** Thai oral reading topic contents based on the study results of Students with Down syndrome' reading problems

Thai Language Components	Topics of Oral Reading Problems
1. Vowel (สระ)	1. Single vowel and combined vowel (เสียงสระเดี่ยวและสระประสม) 2. Compound word with single vowel and with or without final consonant (คำที่ประสมสระเดี่ยวมีตัวสะกดและไม่มีตัวสะกด) 3. Compound word with compound vowel and with or without final consonant ( คำที่ประสมสระประสมมีตัวสะกดและไม่มีตัวสะกด)
2. Tone (วรรณยุกต์)	1. Tone sound (เสียงวรรณยุกต์) 2. Tonal mark on the consonants (คำที่มีวรรณยุกต์) - Completely 5 tones (ครบ 5 เสียง) - Incomplete 5 tones (ไม่ครบ 5 เสียง)
3. Word (คำ)	1. Leader consonant word (คำที่มีอักษรนำ) 2. Diphthongs word (ร <u>อ</u> ร <u>อ</u> ร, ล <u>อ</u> ร <u>ล</u> ง, ว <u>อ</u> ร <u>ว</u> ห <u>า</u> เ <u>น</u> ) (คำที่ควบกล้ำ ร ล ว) 3. Word with symbol on the consonant mute (คำที่มีตัวการ์นต์) 4. Final consonant word with off-clause (คำที่มีตัวสะกดไม่ตรงมาตรา) 5. Phony merge word (คำที่ควบไม่แท้)
4. Sentence (ประโยค)	1. Voice in the sentence (เสียงในประโยค) 2. Sentence from topic (ประโยคจากเนื้อเรื่อง)

### Conclusion

Thai language oral reading problems of the lower elementary students with Down syndrome at Watnonsaparam School, Saraburi province, Thailand varied greatly; they were separated on to three level. Level 1 is alphabets (vowels, tone marks), level 2 is words and level 3 is short sentences. The problems found will benefit the further development of Web Quest Lessons Enhancing Oral Thai Language Reading Skills of Down syndrome Students Grade Range 1 at Watnonsaparam School, Saraburi Thailand.

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