CHAPTER 1

INTRODUCTION

1.1 Principle, theories, rationale, and/or hypothesis

Currently, there is a significant increase in the amount of attention being paid to the study of children as well as to the screening tools that support and encourage these studies (Hua-Yi & Pauline, 1994). Given this increase, finding a reliable test to filter children has been found to be necessary for pre-school and school-age children. Every year, there are many children who face failures in education, e.g. incapability in writing and reading, consequences from lack of study; misbehaving, demanding, etc. (Hua-Yi & Pauline, 1994). Tools for screening and filtering pre-school children are being widely utilized to better understand children's disabilities and administer treatments in the correct directions (Burner et al, 1997).

An occupational therapist is a specialist who treats children, and is responsible for screening, filtering and treatments. The screenings they perform are related to school children's success along various modes of perception: recognition, motor, language, intelligence, socialization, daily tasks, writing, and visual perception. (Hua-Yi & Pauline, 1994). This research emphasized visual perception, which is an ability that is directly related to the study of children (Schneck, 2001).

Many studies of occupational therapy for children focus on problems in visual perception and their effects on children's performance in daily living activities, education, work, play, leisure, and socialization. (Schneck, 2005). Children who have visual perception problems may demonstrate difficulties in such occupational performances. In daily living activities, for example, they could have difficulties with using a spoon and fork during meals or in tying their shoelaces. In terms of school activities, these children may be slow in reading and writing. As for games, these children may demonstrate difficulties in negotiating obstacles while playing with puzzles (Chan & Chow, 2005). The studies found that children with developmental disabilities, such as autism and learning disabilities often have visual perception

problems (Rogow, 1992; Osterling & Dawson, 1994; Todd, 1999). In addition, many children enrolled in schools may have visual perception problems. These problems may not be recognized by parents and teachers until the children manifest difficulties with reading, such as difficulty with spatial orientation and visual recognition of letters (Schneck, 2005).

In addition to identifying specific problems with visual perception, occupational therapists have the role of assessing and treating those which affect the working performance of children. Therefore, it is important for an occupational therapist to use a visual perception test that is able to measure visual perception problems (Schneck, 2005).

For visual perception screening, there are several standardized assessment tools in visual perception and visual-motor performance which are widely used by clinicians and researchers. Burtner et al. (1997) reviewed the visual perception tests that are frequently administered by pediatric therapists. The assessment tools included: Motor-Free Visual Perception Test – Third Edition (MVPT-3) (Colarusso, Ronald, Hammill & Donald, 2003); Test of Visual-Perceptual Skills (non-motor) (TVPS) (Gardner, 1982); Test of Visual-Motor Skills (TVMS) (Gardner, 1986); The Beery-Buktenica Developmental Test of Visual-Motor Integration – Fifth Edition (BEERY VMI) (Beery & Beery, 2004); and The Developmental Test of Visual Perception – Second Edition (DTVP-2) (Hammill, Pearson & Voress, 1993).

This research studied the DTVP-2 because this test has the strengths of being well designed, easy to follow, easy to administer, capable of proving the degree of visual perception problems of each child and of providing separate sub-scores for each subtest. (Burtner et al, 1997). It could also help therapists to further analyze children found to have visual perception problems, so that it can be determined which interventions must take place. Moreover, the test manual states that this test requires very little spoken language, therefore it is able to be administered to children who do not use English. (Hammill, Pearson, & Voress, 1993).

Besides, the DTVP-2 is one of the tests to be added to the Occupational Therapy Curriculum for the Undergraduate Program at Chiang Mai University (Occupational Therapy Department, 2008). Moreover, the DTVP-2 has been categorized as the test to use for screening children with visual perception problems according to the

standards of practice in Thai Occupational Therapy (Professional Standard for Thai occupational therapists, 2011). Therefore, it has the potential to be widely used by Occupational Therapists in Thailand. The DTVP-2 is able to identify children from 4 to 11 years old who are at risk of visual perception problems. There are 8 sub-tests involved: (1) Eye-hand coordination, (2) Position in space, (3) Copying, (4) Figure-ground, (5) Spatial relations, (6) Visual closure, (7) Visual-motor speed and (8) Form constancy (Hammill, Pearson & Voress, 1993).

The DTVP-2 was developed in the United States, a place with many cultural and environmental differences in comparison with Thailand. Moreover, this test was originally written in English, and it includes standards based on child development as measured in the US. It only examines the values of psychometric properties in US children. Taking the norms from US children for standardization in Thai children might cause errors in screening. A review of this test has pointed out its sound psychometrics and usefulness for clinicians. (Hammill, Pearson & Voress, 1993). However, if the DTVP-2 is utilized to test Thai children without translating and examining for validity and reliability, it might result that the test is not standardized and that intervention decisions would be made based on comparative data from the US.

In fact, cultural differences in raising children do have an influence on how children perform on the tests (Widenfelt et al, 2005). There are studies of how cultural experiences affect visual perception (Levine, 1987; Zimbardo, 1992; Chow, Choy & Mui, 2003; Chan & Chaw, 2005). Schneider (1995) said that children from different cultures develop at different rates, therefore applying norms from one culture to another culture could misrepresent the development status of a child. Moreover, the only studies in Thailand have been relative to normative scores of intelligence tests developed by psychologists. (Intuptim, 2005; Moleechart, 2005; Mungkhuetklang, 2005; Palakas, 2005; Proh. Mpetch, 2005; Raven & Court, 1995; Runseawa, 2005; Sirisakpanit, 2005; Udomphol, 2005). No studies have been conducted to examine normative scores on visual-perceptual tests for Thai children.

Thus, this study aimed to examine the validity and reliability of the DTVP-2 and to determine the normative data for Thai children. With this research accomplished, Thai occupational therapists can have a Thai version of the DTVP-2,

so that results from psychometric examinations are acceptable and based on normative values for Thai children.

1.2 Purpose of the study

1). To examine the validity and reliability of the DTVP-2 in Thai children.

2). To determine the normative values of the DTVP-2 in Thai children.

1.3 Definition of terms

Visual perception means the ability to translate and give meaning to what has been seen from the environment through sensory impulses, based on a previously developed view of the environment. (Bouska, Kauffman & Marcus, 1990). In this study, visual perceptions are measured by the scores of eight sub-tests from the DTVP-2.

Normative values are based on the mean of the sample used as a standard in comparison with the levels of individual abilities. (Proh Mpetch, 2004). In this study, normative values were constructed based on the ages of children by using raw scores from the DTVP-2.

1.4 Education/application advantages

1.4.1 Acquisition of a Thai version of the DTVP-2 that has acceptable validity and reliability.

1.4.2 Acquisition of the normative values for a Thai version of the DTVP-2.