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**CULTURAL ADAPTATION OF BOEHM TEST OF
BASIC CONCEPTS-REVISED IN MALAYSIA**

BY

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**INTERNATIONAL ISLAMIC UNIVERSITY
MALAYSIA**

2006

**CULTURAL ADAPTATION OF BOEHM TEST OF
BASIC CONCEPTS-REVISED IN MALAYSIA**

BY

NORLESUHAILA SAMA'ON

A dissertation submitted in partial fulfilment of the
requirement for the degree of
Master of Human Sciences in Psychology

Kulliyyah of Islamic Revealed Knowledge
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ABSTRACT

The present study investigated the mastery level of basic relational concepts among children aged 5, 6, and 7 in the southern part of Malaysia. The understanding of basic relational concepts was measured using Boehm Test of Basic Concept-Revised (BTBC-R). This instrument was translated and modified according to Malaysian culture. The modified version of the test was pilot tested using sample of International Islamic University Malaysia (IIUM) kindergarten. The main study involved a total of 160 children from kindergarten, preschool and standard 1 in Kluang Johore, which were grouped according to their chronological age. Comparison of mean scores across ages showed that as the age increases, the mastery level of basic relational concepts also increases. It also found that comparison between standard 1 children attending remedial class and those who did not was significant. In addition, significant relationship exists between scores obtained in the midyear examination and the BTBC. Item difficulty was computed for each item and the reliability estimates were also calculated. The internal consistency for the test was satisfactory.

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APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Human Sciences in Psychology.

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other Institutions.

Norlesuhaila Binti Sama'on

Signature:.....

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To my beloved parents and family, for all the prayers,
To all my lecturers in the Department of Psychology, IIUM, for sharing the
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To all my friends, for undying support generously given,

Thank you.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Going to school can be considered as a crucial milestone for any children (Fabes & Martin, 2000). The process of transition from informal surrounding they used to have at home to a more formal surrounding in schools require them to make appropriate adjustment according to the new set of environments. Children are going to school not as empty slate but they have been receiving many inputs such as basic academic skills such as knowing things surrounded them, knowing numbers and alphabets and indirectly learn many ways of interactions with other people since they were born (Fabes & Martin, 2000). In some areas they might be quite advanced and in others somewhat delayed and this situation vary among children.

Barth & Parke (1996) have come out with two views regarding children readiness to go to school. From a developmental view point, they explain that children's cognitive, social, emotional and biological capacities are assumed to be related to their age and in turn, the age will determine their level of understanding, behaviour and adaptation. On the other hand, from a cultural viewpoint, they explain that culture plays a role in determining the children's entry into social setting such as children's age in starting primary school and secondary school and this transition will markedly alter the subsequent development. On the other hand, few researches suggest that the age (birthdate) of the children plays role in determining their readiness to go to school (May & Welch, 1986) and that younger children are more likely to

have been referred by teachers for learning disability testing and subsequently diagnosed as such than older children in a particular grade (Uphoff & Gilmore, 1985).

In Malaysia, children are normally exposed to formal education when they reach age 7 i.e. enroll in standard 1 in the primary school. In order to help children prepare for the formal education, the government has developed a Preschool Transition Programme to Standard 1. This programme meant for all children who previously were exposed to informal education from home, kindergarten or preschool (Ministry of Education, 2005). A study by Magnuson, Meyers, Ruhm and Waldfogel (2004) revealed that most children, who attended certain centre or school-based preschool programme before the year of school entry, performed better on assessments of reading and mathematic skills upon beginning kindergarten. This finding suggests that past experience and learning will help children be more receptive of the formal education they are about to face in the near future.

The ministry outlined four main objectives. The objectives of the programme are to help children adjust with the new environment and getting to know new friends and teachers in a short period of time; to give teachers space to explore and to standardize children's needs in terms of their cognitive need, emotional need and physical need before starting the formal teaching processes; to inculcate interest and motivation among children to attend school without reluctance or hesitation and to ensure that children from various background will be at the same level of understanding in order to start schooling.

1.1.1 School readiness

School readiness is more than just about children's willingness to start schooling. Among the important factors needed to be looked on before they start going to school

are the children's physical well-being and their emotional and cognitive relationship with those who care for them (Katz, 1991). These factors have to be looked on regardless whether the children are normal or experiencing developmental disabilities (Farran & Shonkoff, 1994). In the broadest sense, it involves children, families, early environments, schools and communities (Maxwell & Clifford, 2004). Pianta & La Paro (2003) came out with a contextual definition of readiness, which is more or less similar to what Katz (1991) and Maxwell & Clifford (2004) have said. For them children are ready for school when they have been exposed to emotionally stable adults, stable and predictable physical environment, a consistent sets of daily activities, competent peers and adequate stimulation which can enhance their sense of mastery (Pianta & La Paro, 2003). All of these definitions are emphasizing a broad and unique background children carry when they start schooling.

Since the children's background and their early exposure have great influence towards their readiness for school, assessment or evaluation of their readiness might help the teachers to understand them better. Most of school readiness assessments in the west focus on five aspects of children's development and learning that are important to school success. The five aspects are physical well-being and motor development, social and emotional development, approaches towards learning, language development and cognition and general knowledge (Nagle, 2000, Maxwell & Clifford, 2004). Although, these assessments give opportunity to the teachers to understand the children more, the assessments might also implicate negative impacts to the children when these tests are used to determine children readiness to enter schools (Katz, 1991). This notion implies that only children who are identified as ready will proceed to enter school. There are also growing concern that poor, minority

(Shepard, 1994) and undereducated children have high probability to be identified as unready thus excluded from school when they most need it (Ramey & Ramey, 2004).

School readiness involves a wide range of skills and behaviors related to the needs of school settings (Lichtenstien & Ireton, 1984) such as the exposure to basic concepts. According to them children have to be exposed to various basic relational concepts such as same-different, big-small, near-far, above-below, under-over etc., that are pre-requisite for school learning to take place. A study by Pianta & La Paro (2003) revealed that almost 50 percent of the kindergarten teachers reported that at least half of the students in their classes had difficulty following directions. Among the other problems are lack of academic skills, difficulty in working independently, difficulty working as part of a group, poor social skills, communication problems and immaturity. These findings highlight that social, behavioral and academic aspects are closely related to children adjustment in kindergarten. Although teachers view academic skills as the most important aspect, they also include social and task oriented skills as indicators of school readiness. For that reason, skills such as following directions, working independently for a period of time and working as part of a group will determine the child's teachability.

Therefore, related to school readiness, Boehm (1986) purports that children's mastery of basic relational concepts might help them in understanding teacher's instruction, in test taking and might also help them in other areas such as reading and arithmetic. Children do have acquired certain concepts when they start schools, however these knowledge are not very sophisticated in nature. They will learn more concepts, which mostly are imbedded in the teachers' instructions in the classroom when teaching various subjects and when engaging in classroom activities.

1.1.2 Assessment

Assessments in educational settings are conducted to gather information, which later can be used to make appropriate decisions about children that will promote their educational and psychological development. The major purposes of these assessments are for screening, diagnosis, evaluation of child's progress and also programme evaluation (Nagle, 2000).

Haywood and Brown (1990) viewed that the traditional approaches to assessments as normative, standardized and static because most of the assessments limits their utility such as rely heavily on achievement, rely on the assumption that subject has equal chance to learn and focus on the product past learning rather than process of learning, thinking and problem solving. They proposed what they called as dynamic approaches to assessment by which assessment attempts to look on the processes or changing events because of the occurrence of teaching within the assessment context. This alternative approach demonstrates that one has to look the subject from various dimensions when assessments in educational setting are about to take place.

Assessing young children is not an easy task because of their special characteristics such as their activity level, attention span, communication ability, and ability to relate with strangers, at least one test is needed to assess each characteristic. Since the children come from various backgrounds and are at various levels of intellectual maturity and understanding of concepts (Zill, Collins, West & Hausken, 1995), such assessment is of great importance.

However, the purpose of assessments should be defined accurately to avoid any child becoming labelled or affected from any unintentional implication from assessments (Meisels, Wiske, Tivnan, 1984). A review on test utilization in education

by Ng (1984) also concerns on the growing usage of tests and the implication entailed on school children. It is also worth remembering that young children change rapidly, as Stahlman (2005) described them as having a “highly mercurial developmental period in their lives” especially in the social-emotional development and therefore their “lack of readiness” which initially tapped might disappear as they grow up (Gallerani, O’regan & Reinherz, 1982).

Based on the researcher’s experience during a practical work in the hospital, a child is often referred to the professional only when parents and or teachers sensed that the child is having developmental delays, difficulties in cognitive functioning or showing academic backwardness. This awareness often stems from comparison by parents or teachers when they notice that the child lags behind his or her siblings and peers when they were at the same age. However, the referral depends on the problem faced by the child. If the child suffers from manifest congenital defects, like problems of vision and hearing or body deformity, parents would refer straight away to the professional.

Nevertheless, children who have learning difficulties or referred as “slow learners” as it understood in the schools are not easily detected and if they are detected, parents might have a hard time to accept the situation. Children with learning difficulty are often detected by the teacher when their performances are below average of the performance of other children in reference to their academic achievement. This might happen when they show signs of academic backwardness due to in ability to cope with the increasing task difficulty. Lichtenstien & Ireton (1984) believed that problems faced by young children might lessen or disappear over time as it may increase or appear. Therefore, if early detection takes place, it does not mean that the

child proves to have later problems because of the unpredictable nature of developmental changes in the early course of life.

Early identification is important because it allows early intervention for change. The term “early” is relative in nature as Lichtenstien & Ireton (1984) pointed out that it means “identification of problem in its early stage or in presymptomatic stage regardless the age of the children”. For this reason, technically, “early” here does not only connote early detection in the early years of the child’s life but also refers to early in the course of the child’s problem. For that reason a thorough understanding of early childhood development and their readiness to school are important in determining whether or not a particular child has any difficulty and whether or not the child will benefit from any intervention or remediation.

A recent review of tests in Malaysia (Fauzaman, Ansari & Rahmattullah, 2004) shows that there are few tests available for Malaysian children of 5-7 years. Most of the tests available were used when studies on young children in this country were carried out such as Peabody Picture Vocabulary Test (PPVT) (Keats, Keats & Wan Rafaei, 1977), Piagetian Measurement Task (Omar Ibrahim & Wan Rafaei, 1986, 1990) and Child Development Rating Scale (Zalizan & Khadijah Rohani, 1993). However, the details of tests/instruments used were not sufficient for public use. Therefore, translation and adaptation of a reputable foreign test, like Boehm Test of Basic Concepts (BTBC), would add more tests available for young children in this country.

BTBC was developed in its earliest form by Anne E. Boehm in 1971. The present version called, Boehm Test of Basic Concepts-Revised (BTBC-R) was published in 1986. The test is in two forms C and D, each consisting of 50 pictorial items, dealing with basic concepts, classified into four categories; space (over, center,

away from, etc), quantity (half, whole, several, etc), time (often, never, always, etc) and miscellaneous (skip, different, over, etc) (Boehm, 1986, Wallace, Larsen & Elksnin, 1992). Although the test is classified under readiness test, the test actually designed to indicate where the child stands relative to educational objectives or criteria thus focusing on what the children need to learn. It can be said that this test has dual functions; help the identification of child who lag behind their peers and at the same time providing information on which area the child need to learn (Levin, Henderson, Levin & Hoffer, 1975). The test has proven to be useful in assessing children's mastery level of basic concepts and several reliability and validity studies have shown that it is a sufficiently reliable and valid instrument for that purpose (Boehm, 1977, 1986).

The purpose of this study is to adapt a test namely Boehm Test of Basic Concepts – Revised (BTBC) into Malaysian culture, and translate the instructions into Bahasa Malaysia. Several aspects regarding the process were cautiously executed. This process covers adaptation of the test in a new culture and modification of the content of the test according to the new settings. This is important to ensure that the adapted version serves similar function in the new culture as it does in the original culture in which it was first developed. According to Geisinger, (1994):

“The adaptation of assessment instruments for new target populations is generally required when the new target population differs appreciably from the original population with which the assessment device is used in terms of culture or cultural background, country and language. Most of cross-cultural adaptations of assessments/instruments involve the translation of an instrument from one language to another” (Geisinger, 1994).

Some of the pictorial stimuli from the original version would not need any modification because most children are familiar with these pictures. However, some

pictorial stimuli may carry negative or unfamiliar images. This needs to be determined and appropriate modification be made because the pictorial stimuli help children understand the concept that is being tested.

Regarding adapting psychological and educational tests, the International Test Commission (ITC) has outlined four sections such as context, test development and adaptation, administration and documentation/score interpretation (Hambleton, Van de Vijver, 1996, Hambleton, 2001, Hambleton & De Jong, 2003). In the adaptation or translation processes, certain procedures need to be followed to ensure that any particular test will be properly translated or adapted. There are ten steps suggested by Geisinger (1994):

1. Translate and adapt the measure
2. Review the translated or adapted version of the instrument
3. Adapt the draft instrument on the basis of the comment of the reviewers
4. Pilot test the instrument
5. Field test the instrument
6. Standardize the scores. If desirable and appropriate, equate them with scores on the original version.
7. Perform validation research as appropriate
8. Develop a manual and other documents for the users of the assessment device
9. Train users
10. Collect reaction from users.

Since a test developed in other country will be adapted in this study, therefore the implication is that this study will be a cross-cultural in nature. Although the test will be modified appropriately and presumes to be a culturally appropriate test, the problem in methodological aspects raised by Frijda and Jahoda (1966) will be taken

into consideration. They described four major problems pertaining to cross-cultural research; adequacy and comparability of descriptive categories, functional equivalence of the phenomena under study, comparability of investigation procedures and adequacy representativeness and comparability of sampling.

Among the listed problems, the adequacy and comparability of descriptive categories and the functional equivalence of the phenomena under study are considered minimum since the study on the subject matter of basic concepts has been carried out on children in many places by Preddy, Boehm and Sheperd (1984) who came out with the Spanish versions after a long informal use of the test to the Hispanic kindergarteners. Eileen (1986) also followed the same steps when working on the English version for children in England. The same cross-cultural studies took place in Jordan with the work of Al-Batish in 1993. The author of the test, Boehm made a joint research with Zheng in 1999 to compare the basic concepts acquisition between Chinese and American Children. However, the third problem, comparability of investigation procedures will be closely taken care of especially regarding the aspects of equivalence of verbal materials, the instructions and tasks, the equivalence of test materials and the equivalence of test situations. Finally, equivalence in sampling will be done to overcome the last problem.

1.2 SIGNIFICANCE OF THE RESEARCH

This research is significant because there have been few attempts in Malaysia to adapt and translate reputable foreign test to Malaysian. Some of the tests include Peabody Picture Vocabulary Test (PPVT) (Keats, Keats & Wan Rafaei, 1977), Piagetian Measurement Task (Omar Ibrahim & Wan Rafaei, 1986, 1990) and Child Development Rating Scale (Zalizan & Khadijah Rohani, 1993). It is believed that

many other attempts in adapting tests also have been done however unavailable for public use, most probably because the works have not been published. This scenario shows that research in this area is needed.

The present study focused on exploring the mastery level of basic relational concepts among young children using a readiness test i.e. Boehm Test of Basic Concepts Revised. This test relates to school readiness and is useful as a basic screening device for children who might have learning difficulties in the future. Anastasi and Urbina (1997) defined the term “school readiness” as “the attainment of prerequisite skills, knowledge, attitudes, motivations and other appropriate behavioral traits that enable the learner to profit maximally from school instruction”(p. 489).

However, this research does not attempt to propose the utilization of the test as a screening instrument, rather it is aimed as a tool to improve children’ learning and or to evaluate their progress in the basic relational concepts mastery. Therefore, the appropriate assessment would lead to appropriate remedial help and intervention for them because the children have to know essential basic concepts to follow teacher’s instruction for reading comprehension and for test taking. By knowing which basic relational concepts the child is lacking, teachers can easily formulate ways of teaching the concepts by introducing those concepts during informal teaching and playing. This strategy albeit looks simple but it is actually following the Concepts of Preschool Education outlined by the ministry, which emphasize the method of informal teaching and playing (Azizah, 1995) and thinking (Jamaliah , 1998, Shahril & Habib, 1999).

This research is significant as it will help educators to understand how appropriate instructional planning is important for young children and how it varies according to the age and educational level of the children. A survey on basic vocabulary of standard one students by Atan (1970) suggests that instructions used for