

Chapter one - Introduction

Statement of the problem

While an awareness of the fact that a category of children exists in school that have difficulty with learning to read, the reasons and understanding of the reasons have yet to be made clear - especially among teachers. Some children come from families where there is a lack of opportunity to start early reading skills. Others are from village areas of low economic status (SES) and as such, insufficient nutritional factors may cause developmental delays. Yet others may have all of the above and for some unknown reason, still not learn to read as expected. These are the students who are suspect of specific learning disabilities or dyslexia.

In Malaysia, there is still very little understanding about such difficulty with reading, or what is called "dyslexia". The classroom teacher will easily recognize who in their class performs well and who are the stragglers. However, they may quickly become frustrated, because no matter how much they teach using the normal or even remedial methods, these children still continue to have difficulty. Why?

Over time, in developed countries, it has become a well known fact that these children, when taught with conventional teaching techniques, still do not learn as they should. Each child has his/her own difficulties specific to him/her. It is said that for each dyslexic child, a different set of difficulties presents itself. How does one determine just what is each child's difficulty? An educational psychologist who is trained in understanding learning problems, can assist to

assess children to diagnose their specific problems. The results of the assessment should help to develop an Individual Education Plan (IEP) to recommend a course of instruction to help the student, and together with a remedial or learning disability teacher, navigate through their difficulties. A very dire need in Malaysia at this time is to train more educational psychologists to help diagnose this very unrecognized population of students. According to international standards, at least 10% of the student population has a specific learning disability such as dyslexia. Detailed research has yet to be done in Malaysia to establish figures for here. However, one research which was conducted (Dr. Khadijah & Dr. Zalizan, 1994) that was based on teacher perception which indicated that 30% of standard one students were not yet able to read. No test of reading ability was given to verify this. The problem of deciphering which of these children are dyslexic or merely disadvantaged has not been adequately tackled in Malaysia.

Part of the problem in Malaysia lies in the fact that formal screening and diagnostic tests of reading ability for all grade levels have yet to be developed in order to assess the reading ability of school children. An attempt has been made to develop two tests for the purpose of this research, one a screening test and one a diagnostic test in Bahasa Malaysia for the standard two reading level. The screening test is the "Ujian Saringan Bacaan Bahasa Malaysia" (USBBM) and the diagnostic test is the "Ujian Diagnostik Bacaan Bahasa Malaysia" (UDBBM). A field test of both the screening and diagnostic tests was conducted to determine the item and test reliability and content validity prior to the case study and in order that they may be used for further research and diagnosis of reading

difficulties. Continued reliability analyses are recommended to be conducted on a proper sample in order to further validate the test. However, since these tests are still in the early developmental stages, such analyses could be carried out at later stages when and if funding and a research effort would allow for a proper random sample to be tested that reflects the population of Malaysia. Results of the Standard Two class raw scores from the first field test of the USBBM showed that students were having difficulty with various decoding skills in reading. Most of these students had even more difficulty with comprehension skills.

Purpose of the study

The purpose of this study was twofold, that is, first to establish the reliability and validity of both the USBBM screening and UDBBM diagnostic reading tests and secondly, provided the tests are reliable and valid, to use them to determine the causes of low reading ability in the case study group. Other measures such as a mental ability test, behavior analysis and personal data were included to develop a comprehensive understanding of the case study group. The following hypotheses were formulated to direct the study:

Testing the tests

a) If the reading tests that were constructed are reliable, we should be able to establish a relationship of their concurrent reliability through a Pearson rho $\beta\iota\omega\alpha\rho\iota\alpha\tau\epsilon$ correlation with the students' actual scores from school in Bahasa Malaysia.

If : $H_0 : \rho = 0$

$H_1 : \rho \neq 0$

b) If the tests have internal consistency, we should be able to prove this through a split-half test reliability analysis and the application of the

Spearman-Brown prophecy formula :
$$r_{total} = \frac{2r}{1 + r}$$

c) Given a) and b) are found to be true, we should then be able to use these instruments for the screening and diagnosis of reading ability.

Testing the children

a) If the results of a culture-fair mental ability test determine that the students are of average intelligence or above, in comparison to internationally recognized norms, and in contrast, they demonstrate weak reading performance, then we can conclude that there is the presence of some form of specific learning disability or dyslexia.

b) Through a miscue analysis scoring procedure in the diagnostic reading test, we can determine what basic functions in the reading process are presenting difficulties to these students that are assessed. Areas being assessed in the UDDBM are oral decoding skills : consonants, vowels, syllables, whole word recognition, nonsense word recognition and phonetics and a separate section on oral comprehension skills. What diagnosis and recommendation for remediation can be made about their reading difficulties from the miscue analysis?

c) Upon determining the results from above, the low reading ability group will then be subject to a qualitative evaluation of their family background, academic records and with information sought via teacher and parental

information forms. An ecological assessment of their reading disabilities will be undertaken in order to suggest a remedial plan of action or an Individual Education Plan (IEP) to the school and family for follow-up.

Justification of the study

It is imperative that measures be taken within the education system in Malaysia to diagnose such children as early as possible. To date, a standardized and normed diagnostic tool for reading difficulties has yet to be established. Furthermore, mental ability testing, to supplement the diagnostic reading testing needs to be implemented to determine the level of expected academic ability of these children. As of this writing, I am led to understand from the Directorate of the Ministry of Education, that a new achievement test in the “3M’s” (reading writing and arithmetic) has been implemented this year for Standard One and is to be administered nationwide to collect data about the reading and achievement abilities of Malaysian children. This is the “Instrumen Penilaian Celik Huruf (IPCH)”. However, also to my understanding, this assessment is being administered as an individual reading, spelling and writing ability test and not in conjunction with any other testing, such as mental ability testing. For if we are to determine if a student is dyslexic according to the accepted definition of the World Federation of Neurologists, then we would need to establish the mental ability of the child as well. One such test that is commonly used around the world is the Raven’s Colored Progressive Matrices (CPM) which is known and accepted as a culture fair test of mental ability. As far as is known, the ministry has not taken measures to assess mental ability at the standard one level. So it would seem

while they are testing for reading ability, they are not specifically looking at dyslexia as one of the causes of reading difficulty. In essence, the Ministry of Education is defining a problem - difficulty with reading, but not diagnosing the cause of the problem. This is the intention of this research - to take the position that an educational psychologist would and to complete a comprehensive reading assessment and mental ability assessment to diagnose children who are suspected of having dyslexia.

Objective of the study

I would like to propose a case study for screening and assessment of dyslexia (reading disability) of the Standard Two class of an urban school Sekolah Kebangsaan Taman Kooperasi Polis - Fasa 2, at the perimeter of the city. Assessment of children with specific learning disabilities such as dyslexia would usually require an ecological approach to enable a proper diagnosis of the problems each child is encountering and to develop an individualized plan of remediation.

This research will take an ecological approach that will be both qualitative and quantitative that will take place over three stages. Included will be a reading screening test, an in-depth diagnostic reading test, mental ability testing, and case history development through background information provided by parents and teachers to finally develop a full picture of each child's difficulties.

The first stage was a field test for a general reading ability screening test recently developed by the author, the "Ujian Saringan Bacaan Bahasa Malaysia" (USBBM) at another primary school earlier last year. It has not yet been subject to

a full reliability or validity analysis as the test has not yet been administered on a proper sample. However preliminary reliability and validity analyses were carried out during the field tests and results are provided.

The second stage was the actual pilot test of the reading ability test - the USBBM - which was conducted in the selected school - Sekolah Kebangsaan Taman Kooperasi Polis (SKTKP). Out of the standard two class of 255 students, 230 were present to take the test. This first assessment at SKTKP effectively screened out those children who were experiencing difficulty with reading.

The third stage was a more in depth assessment done on those who were screened out for reading problems. First, a mental ability test, the Ravens Colored Progressive Matrices was administered in small groups of six which served to verify the intelligence level of the students. This was followed by a diagnostic reading ability test, the "Ujian Diagnostik Bacaan Bahasa Malaysia" (UDBBM), also developed by the author. This test was field tested in April and May of 1998 with a split-half reliability analysis, item analysis and content and construct validity checked. Subsequent corrections based on these analyses were undertaken. In a test of diagnostic nature, one should seek to have items of great variance that will assist to discriminate the strong students from the weak students. An item analysis was carried out and items ranged from .33 to .83. Those items that fell out of this range were rejected and the test was revised for use at the target school SKTKP.

Lastly, qualitative data via teacher behavior checklists, academic records from school and personal background provided by parents was also gathered to

enable a complete evaluation of each student. Subsequently, recommendations were given for each individual case and the decision was left with the parents and the school if they would like to take further steps to help the child. Most parents, we hope, would take a positive decision. We would then have to answer the question of who would take on the onus of helping these children according to the recommendations that were given. Standards and education laws in other countries require that Individualized Educational Plans (IEP) be developed for each student, which would recommend individual remediation plans to be delivered by the school system. However, this type of procedure has yet to be implemented and enforced by law in Malaysia.

Limitations of the study

With a lack of development of professional diagnostic reading assessments that have been normed and published with reliability and validity levels in Bahasa Malaysia, comparisons for concurrent validity are limited. Unlike in other countries, where a large choice of published assessment instruments are available, a typical research might include a correlation study of several tests in order to test the reliability of a given new measure. Therefore, we are confined to comparing the relationship of the test scores to school performance grades in the same subject. This is, in any case, an acceptable measure of comparison in academic research. However, since test grades were not yet available for this academic year, at the time of the research, the final grades of standard one were used for comparison. Given that it was 3-4 months into the standard two school year, it is

expected that some learning progress in reading has taken place. Therefore, correlations to establish concurrent validity may not have been strong enough.

Another limitation of the study is the sample group. The reliability and validity of a new test can not be assumed based on one pilot study. Further research with a representative sample of the population of Malaysia would be necessary if there would be any intention of further development of the use of the USBBM screening and UDBBM diagnostic reading tests for the general population.

A third limitation is the mental ability testing. While the Raven's CPM is accepted in research circles as a culture fair test of mental ability, norms for Malaysia are somewhat limited and I was unable to access them as unpublished research. Therefore the normed results were based on available and widely accepted developing country norms.

As a final limitation of this study, it is not feasible, due to the time and length of effort needed to continue until completion of individual remedial plans based on recommendations from the results. Most class teachers, we agree, would also not have time for individualized instruction. As completion of the follow up remedial plans would be far too large of a project to undertake for the purposes of this research project, I have proposed that the Specific Learning Disabilities Association be willing to offer assistance to those who elect to do so. The Association has recently opened their own Activity Center and as part of their plans, are offering remedial / individualized instruction to children diagnosed with specific learning disabilities. Parents with children who were diagnosed as

having dyslexia were recommended an option to seek specialized remedial assistance at the Center. A variety of alternative methods have been developed over the years such as multi-sensory methods, repetitive phonetic approaches, direct instruction based on IEP's, which are not yet well known nor used here in Malaysia. Too few specialists in this field have not enabled such methods to become widely used yet here. Moreover, published educational and instructional packages are all researched, developed and marketed in western countries and little to date has been done in Malaysia.

Definition of key terms

Dyslexia - also known as specific learning disability or specific reading disability. Researchers to date have yet to fully agree on a proper definition. The earlier legal definition as set out by the World Federation of Neurology in 1968 defined dyslexia as "a disorder in children who, despite conventional classroom experience, fail to attain the language skills of reading, writing and spelling commensurate with their intellectual abilities" (Fawcett & Nicolson, 1994) . In other words, these are children who in all ways, look, act and seem normal, have average to above average intelligence, but for some reason, just can't seem to master language and reading skills at the same pace and level as their peers in school. Some also have difficulty with Math.

At the end of the 80's , when substantial research had delivered excessive evidence of language and phonological processing deficits in dyslexics, another definition was proposed. "Dyslexia is a developmental language disorder that involves a specific deficit in the processing of phonological information. ... A

prominent characteristic of the disorder is a specific reading disability ... the disorder manifests itself in various difficulties in phonological coding, encoding problems, retrieving and using phonological codes in memory. Difficulties may also be observed in speech production and in the metalinguistic awareness of speech sound segments “. (Catt, 1989).

Through the efforts of the International Dyslexia Association (IDA) Research Committee (formerly the Orton Dyslexia Society), a new working definition was proposed in April of 1994. “Dyslexia is one of several distinct learning disabilities. It is a specific language-based disorder of constitutional origin characterized by difficulties in single word decoding, usually reflecting insufficient phonological processing. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities; they are not the result of generalized developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems with reading, a conspicuous problem with acquiring proficiency in writing and spelling” (Reid, 1994)

Interestingly, very recent research completed with MRI - magnetic resonance imaging (Shaywitz, 1997) has shown that, in fact, dyslexia has been confirmed to be of neurobiological origin. MRI has shown that while normal people are reading and sounding out words, a whole region in the back of the brain became active. With dyslexic persons reading, there is inactivity in the back, but overactivity in the front of the brain. Further research is hoped to address the question of why this difference exists. Given this new development, a new

definition of dyslexia must invariably be proposed. In any event, it confirms what reading and language tests have told us about phonological deficits and pinpoints the neurological source of the problem.

decoding skills - phonological and semantic means and skills from which a reader integrates information and makes sense of the printed word.

diagnostic oral reading test - a more in-depth test of reading ability which is given individually and which identifies weaknesses in specific skill areas, such as word identification, word analysis, reading rate and fluency, comprehension and writing. The UDDBM will not cover this last area of writing as it is an oral test and the writing component is covered in the screening test.

reading screening test - a test of basic reading skills given to a group which should identify those who are experiencing difficulty with reading.

miscue analysis - a form of categorizing the errors made in reading and writing. The accepted categories are letter reversals, omissions, substitutions, mispronunciations, additions and complete refusals to pronounce or write.

SKTKP - Sekolah Kebangsaan Taman Kooperasi Polis - Fasa 2, the case study school, the standard two class.

USBBM - Ujian Saringan Bacaan Bahasa Malaysia , a screening assessment of reading ability constructed by the author for the purpose of this research.

UDDBM - Ujian Diagnostik Bacaan Bahasa Malaysia, an oral diagnostic reading assessment constructed for the purpose of this research.