Validation of Procedures for Identification of the Children with Specific Learning Difficulties in Mainstream Classrooms

Tariq Mahmood Ch.*

Abstract

This paper will develop an insight into role of a teacher to identify the children with Specific Learning Difficulties among the students in mainstream classrooms. This study will edge the eminent role of a teacher in uplifting the self-esteem, developing sequential ability, decreasing attention deficit problems, developing reverse retention and replacing the skipping deficit of students with Specific Learning Difficulties. This research discusses the report on the Validation of a checklist and further procedures for identification of children with Specific Learning Difficulties from regular school classroom with purposive sampling techniques. Checklist has been validated with the advance statistical measures. IQ and classroom achievements are adopted to determine discriminant validity of procedures for the identification of these children.

Introduction and Background

Specific Learning Difficulty is a widespread and significant problem of the children. They are encountered with the unhealthy and discouraging learning experiences in regular classrooms. These uncertainties lead most of the beginners towards exclusion from the full range of educational opportunities, which are available to the majority children of their age. All children should enjoy equality of access to the breadth of the educational experiences, which are enjoyed by their peers. But it is a challenge for teachers, parents and professionals of special education. It is all due to number of different guises and several different contexts in which the child is reared up. Prior (1996) depicted that at least one in every ten children of school age will have difficulties with one or more areas of the school curriculum, most commonly reading and spelling. If these learning difficulties persist in the earlier age it will hinder the success in later career. It is diagnosed as specific learning difficulties, which is defined as:

> An IQ score greater than 80 and deficits in at least one area of academic achievement (reading, spelling, and mathematics) associated with specific cognitive impairments such as short term memory problems, poor auditory discrimination ability, Visio-perceptual problems, and the like (p.4).

*IER, University of the Punjab, Lahore – Pakistan

It is one of the major problems of the exceptional children especially with learning disabilities in Pakistan that they are not properly diagnosed. They are not even treated according to their specific difficulties in specific areas. The children with specific learning difficulties cannot perform well in verbal tasks in accordance with their non-verbal ability tasks. They perform general ability tasks in a good manner. But their performance in academic assignments is not excellent. The teacher perceives their problems, as they are causing trouble in doing assignments. Teachers are assessing their performance with out knowing their real deficiencies in verbal and non-verbal areas of achievement. They treat and even punish them harshly. Ultimately their actual problems have been neglected. It is due to the lack of awareness of the real problem of the children.

The child is with the problem in the interpretation of the words after seeing it from the board, notebook or from any other source. They are unable to reproduce the same word or respond as properly as required. Such types of problems of the children are becoming hindrances in their classroom performance. Many of the children cannot cope with the circumstances and quit their further education. Lerner (2000) reported the percentage of SLD among all disabilities is 51.10 by the US Department of Education 1998 in the Annual Report to Congress on the implementation of the Individuals with Disabilities Education Act, which is the greatest percentage according to all other categories of disability. In Pakistan the literacy rate at primary level is not encouraging. There are no exact statistics for the prevalence of Specific Learning Difficulties available.

But the literacy rate in Pakistan, according to the Literacy Commission of Pakistan, Ministry of Education Govt. of Pakistan (2000) was 47.2 % .According to CIA World Fact Book (2002) Literacy in The Nations and Territories of the World, the statistics from 2000 and 2001, literacy rate is 43 % and Pakistan stands at the 190th No. in the list of 210 countries. In another report of the Wikipedia (2010) the literacy rate of the Pakistan is just 53.2 %. These repots are not showing the encouraging facts about the literacy condition of Pakistan. There is one of the significant reasons of these failures in upgrading the standards of education in Pakistan that there is lack of identification of the learning problems of the children. There are no remedial measures adopted by the teachers to cater the problems of the children. There is only reason that there is no availability of identification tools and the standardized procedures according to the local norms.

A lot of human effort is exhausted without proper diagnosis of the children with specific disabilities. The teachers are treating students having specific learning difficulties as dull without knowing the nature of specific difficulties in learning. There is no proper remedial teaching possible under these circumstances. To avoid this massive wastage of potential, the identification of learning difficulties on the basis of academic achievements in accordance with the disabilities is absolutely essential. Some factors are

influencing the academic potential of these students than can be observed by the teachers as Moddy (2002) describes the unpleasant and perhaps debilitating emotions, anger, confusion, embarrassment, anxiety, depression low confidence and self esteem is developed during the struggle of facing the difficulties in learning. According to British Dyslexia Association (2002) there is a common pattern of abilities and weaknesses known as Specific Learning Difficulties. Dyslexic children often have difficulty in the acquisition of literacy skills and in some, children problem may show themselves in the area of mathematics the area that cause greatest concern are the language of mathematics the area that cause greatest concern are the language of mathematics, sequencing, orientation, memory.

Some standardized measures be adopted for the identification of these children to remove the hindrances in learning enhance the literacy rate for the children dropped out from the schools only due to undefined factors.

This is possible only when there is a suitable procedures and system for diagnosis according to the local norms. These comprehensive diagnostic procedures will be helpful for the identification of the specific learning difficulties as well as it would be helpful for remedial teaching. It will ensure the academic success of exceptional as well as their life. It would be an easy approach, comprehensive technique and useable system for the special education and regular school teachers. For the differential diagnosis of these problems, specialized assessment is necessary which is possible at school age.

Validity of the SLD Screening Checklist

The test scores are to be compared with the similar domain of existing competencies; it is practiced when analysis of abilities or potentials is used for future decisions. The existing valid measure of visible behavior of the individual is a criterion for comparison. Murphy and Davidshofer (1988) described the simplest method of determining whether a test can be used for validity in making decision is to determine the degree of correlation of the tests scores with measures of success or of the outcomes of decisions which an referred as criteria which can be obtained through quantitative estimates of validity.

The criterion for the prediction should be accurate and useful as Gregory (1998) suggested that test scores are useful when it provided the basis for accurate predictor. According to Nunnally (1998) the term prediction has been used in a sense to refer to functional relation between an instrument and event occurring before, during and after the instrument is applied.

The term concurrent validity is used when criterion measures are obtained nearly at the same time as the test scores. The identification of the relationship between the criterion and predictor are measured through the correlation. For discriminatory analysis it is described that when two groups are identified and they are to be distinguished on the basis of their score

profile. In discriminately analysis three problems are to be related, one is to determine whether difference in score profiles for two or more groups, secondly maximizing the discriminations among groups by combining the variables in some way and thirdly establishing rules for the new individual to be placed. It is also suggested that appropriate tests are available and t-test can be used to test the statistical significance of the differences between the average profiles of two groups. If the null hypothesis is rejected then it is inferred that both the categories are different. Garson (2004) has endorsed that the discriminatory analysis for mean scores on any test or observation between the two groups while describing the discriminate function. Analysis is used to classify cases into two groups.

Reliability of the SLD Screening Checklist

Reliability is the extent to that test is accurate and gives same results in re administration. When any test is read ministered to an individual to measure any behavioural aspect, the test gave same scores. These scores are to be representative of the potential of the individual but there occur some error in the estimation of true score of the individual. According to Swanson (1989) most of the variability of the scores can be attributed to error component. A relationship is indicated among the obtained scores, true score and error component

It is further discussed that Cronbach's alpha increased as the number of items in the scale increase Item should be dropped even with large sample if coefficient alpha is less than 0.3. Nunnally (1978) supported that coefficient alpha is proved to be low either the test is too short and test should be reconsidered if alpha is only 0.30. Linn & Gronlund (1990) discussed the consideration of the reliability for decision and it is described that low reliability in some test items is tolerable when decision is also confirmed by other data.

Kline (2000) discussed the reliability of the test and test length in classical theory. Longer tests are more reliable however in item response theories short tests can be more reliable. Reliability of the test items depend on the length of the test, nature of the test and nature of the test reliability rather it is measuring internal consistency.

Methodology

A SLD Screening Checklist for teachers was prepared for teachers to screen out of the SLD's in the definitional perspectives of Specific Learning Difficulties. It was including the observations for the physical problems of hearing and vision. This checklist was for teachers based on general observation of the children having specific learning difficulties. The purpose of the study was to determine the discriminant validity and reliability of the SLD Screening Checklist for Teachers for the identification of Specific

Learning Difficulties in Urdu

Administration, Scoring and Interpretation Procedures for Screening Checklist

Screening Checklist was given to those teachers, teaching subject of Urdu to sixth and seventh classes. They were briefed about the SLD of the children, the purposes and nature of the Screening Checklist. They were asked to overview the students' portfolio and prior behavior on different occasions. They were further asked to report the real reflection of their observation about the students. They reported mistakes especially in task of reading, writing and spelling in Urdu. They further indicated different nature of mistakes of students during their class work and homework. They were briefed about the filling of the Screening Checklist.

Screening Checklist consisted of part A and Part B. There were four statements in part A and all related with the criteria for the children with SLD. The student was eligible for further investigation if response "Yes" for the statement one and four and "No" for the statement two and three. Part B was consisting 26 statements in the beginning. Later on five statements were excluded, as there was confusion in the statements according to the characteristics required for the persistence of SLD in children. If the child was with any characteristics the answer was to put in yes and one score was given. If the child was not with the characteristics representing SLD, the answer was to be given in No and zero score was given. The total score of the part A must be four and for part B was counted for each student and put for further analysis for the first identification of children with SLD. Screening Checklist cut off points was determined with the 2 SD discrepancy.

Higher scoring category was selected for the discrepancy for the Screening Checklist. It was (8 – 13) score as higher scorer category and within this range of scores of the student was considered at risk for the problem related with SLD and stood eligible of the Test Battery for further identification.

Ability I.Q Test Raven Progressive Standard metrics was administered to students with high score in Screening Checklist. Their school achievements in Urdu were collected from school record. The previous achievements test score in Urdu was taken for further analysis.

Population and Sample

The sample of the study was selected from the population while considering each school as cluster. These clusters were randomly selected. 40 male and female government schools were selected for the study. In each school teachers were consulted and purposive sample from the students was selected for the study. Those students who were having problem in one or

more learning areas related with definitional perspectives of SLD'S selected for the study. 1013 students were selected for the study and for the whole procedures of validation of SLD Screening Checklist for Teachers. The teachers reported their observations about the students.

Selection Criteria

Selection of Criteria for Validity of the tests was determined while selecting the school grades and ability I.Q. test. Raven progressive matrix was used. Although school grades lacked of reliability as well as sampling validity but in the absence of standardized achievement test school grades were the best available criterion. Although the correlation coefficient of the achievement test or school grade and ability I.Q. were not so high but with few exceptions tests were having significant correlations.

Discriminant Validity

It is the validity in which one test is having some categories of low and highs cores and these categorical variables discriminate the other variable. If it is significantly discriminated the variable the discriminant validity is determined. This validity was determined in SLD screening checklist for teachers while making low (0-7) score and high (8-13) score two categories with school grades in Urdu. Discriminant validity was determined for the SLD screening checklist for teacher with the selected factors having good and logical and sufficient loading while making low (0-7) scores and high (8-13) scores two categories with school grades in Urdu and with the score of each test of SLD test battery.

Data Collection and Data Analysis

The SLD screening checklist was given 202 teachers of the students teaching them Urdu and they identified 1013 students having specific learning difficulties. SLD Screening Checklist for Teachers data was analyzed to determine the discriminant validity.

Table 1
Independent Samples t-test for comparison of low with (n=69) and high with (n=944) scoring groups of Screening Checklist with achievement scores in Urdu and IQ

Variables	Group	M	SD	t	Sig.	SE
Scores In Urdu	low	44.39	4.00			0.48
				1.11	0.266	
	high	45.14	5.49			0.17
IQ	low	90.351	17.49			2.10
				5.23	0.000	
	high	100.64	15.62			0.508

1. It is indicated in the table 1 of Independent Samples t-test for discriminant Analysis of the SLD Screening Checklist for Teachers with school grades in Urdu test mean score of low scoring (0-7) group one and high scoring (8-13) group two of the SLD Screening Checklist for Teachers were 44.30 and 45.06 with standard deviation 4.52 and 6.26 respectively, the significant value 0.324 which was greater than 0.05 level of significance .So the null hypothesis that "there is no significant difference between the students of low scoring (0-7) group one and high scoring (8-13) group two of the SLD Screening Checklist for Teachers with the school grades in Urdu test mean scores" was accepted when equal variance was assumed.
2. It is indicated in the table No 1 of Independent Samples t-test for discriminant Analysis of the SLD Screening Checklist for Teachers with IQ test score mean score of low scoring (0-7) group one and high scoring (8-13) group two of the SLD Screening Checklist for Teachers were 90.3517 and 100.7052 with standard deviation 18.3166 and 15.6638 respectively, the significant value 0.000 which was lower than 0.05 level of significance .So the null hypothesis that "there is no significant difference between the students of low scoring (0-7) group one and high scoring (8-13) group two of the SLD Screening Checklist for Teachers with IQ test mean scores" was rejected when equal variance was assumed.

Table 2

Cronbach's alpha coefficient for the identification of reliability of Screening Checklist

Scale factors	Number of Items	Alpha Reliability
Low Self-Esteem	3	0.8297
Sequence	3	0.5904
Attention Deficit	2	0.5802
Reverse Retention	2	0.6882
Skipping	2	0.503

It is indicated in the table 2 that Cronbach alpha reliability coefficient was high for low self-esteem factor screening checklist for teachers was 0.8313.

The reliability coefficient of Reverse Retention was .6882, which was good for reliability.

The reliability coefficients for the Sequencing Attention Deficit and Skipping factor was 0.5865, 0.5821, 0.503 respectively which was sufficient for the reliability.

Conclusion

It was concluded that students of low scoring group and high scoring groups of the SLD Screening Checklist for Teachers was not

significantly discriminating the mean scores of the school grades in URDU. So the discriminant validity of the SLD Screening Checklist for Teachers was not established with school grades in URDU.

It was further concluded that students of low scoring group and high scoring groups of the SLD Screening Checklist for Teachers was not significantly discriminating the mean scores of IQ test. So the discriminant validity of the SLD Screening Checklist for Teachers was established with IQ test scores

Discriminant validity of the Screening Checklist was also checked and established with Scores in Urdu achievements and IQ scores. It was established with I.Q test scores. While it could not be established with scores in Urdu .It might be due to the fact that the Screening Checklist is the collection of factors comprising different statements in the definitional perspectives of Specific Learning Difficulties. It is not necessary that all the conditions of the SLD symptoms are being fulfilled among all the students

It was concluded that one of the factor Low Self-Esteem of Screening Checklist was having high reliability, where as one factor of the factors Reverse Retention was being good reliability. Three factors, Sequencing Attention Deficit, and Skipping were having sufficient reliability so all the factors of the Screening Checklist were reliable for the diagnosis of the children with Specific Learning Difficulties.

Reliability of the Screening Checklist was determined with internal consistency measures by Cronbach's Alpha coefficient. For reliability of the Screening Checklist, Low Self Esteem factor, there was high reliability in one of the factors. Reverse Retention, another factor was with good reliability. There was with sufficient reliability in all other factors of the Screening Checklist. These results indicate that the reliability of Screening Checklist is sufficient for the diagnosis of SLD

This paper can contribute to the research for the identification of the Specific Learning Difficulties at the school level. School teacher can identify the students having specific learning difficulties and conduct more specific identification measures. Teacher can start intervention and investigate the more sophisticated problems of these children having specific learning difficulties at the school level.

References

Annastasi, A. (1997). *Psychological testing.* New York: Macmillan Publishing Company.

British Dyslexia Association (2002). *Dyslexia.* Retrieved September 24, 2002.from http://www.bda.dyslexia.org.uk/bogmaths/molcalc.htm/com.

Cronbach, L. J. & Meehl. P. E. (1955). Construct validity in psychological Tests: *Psychological Bulletin* 52, 281-302.

Garson, G. D. (2004) *Factor analysis in stat: An online text book* Retrieved June 6, 2007 from http://www2.classnesu.edu./garson/pa765/stat note.htm.

Gregory, R. J. (1996). *Psychological testing*. U.S.A. Allyn & Bacon.

Grounlund, N.E. & Linn, R. L. (1990). *Measurement and evaluation in teaching*. New York: Maxwell Macmillan Publishing Co.

Kline, P. (2000). *Handbook of psychological testing* (2nd Ed.). London. Routledge.

Lerner, J. (2000). *Learning disabilities*, (8th ed.) New York: Houghton Mifflin Co.

Moddy, S. D. (2002). Dyslexia. Retrieved (September 23, 2003). *Dyslexia online Journal-Dyslexia: A Psychotherapist grade.* From http://www. dyslexia.therapy.html. Com

Murphy, K. R. & Davidshofer, C. O. (1988). *Psychological testing*. U.S.A. Prentice Hall.

Nunnally, J. C. (1988). *Psychometric theory.* New York. Macmillan College Publishing Co.

Pakistan Govt. Ministry of Education. (2000). Literacy rate in Pakistan AEPAM. Retrieved April 12, 2003. From http://www.aepam.govt.pk. index.htm.

Prior, M. (1996). *Understanding specific learning difficulties.* U.K. Psychology Press Publisher.

Raven, J. C. (1956). *Ravens progressive matrices.* London, H. K. Lewis & Co.

Swanson, H.C. & Watson, B.L. (1989). *Educational and psychological assessment of exceptional children.* London: Merrill Publishing Co.

Wikipedia (2010). *Education in Pakistan*. From http://en.wikipedia.org/ wiki/Education_in_Pakistan.

World Fact Book (2002, July 1st). *Literacy in the nations and territories of the world*. Retrieved on (April 14, 2003) from http://www.cia.govt/ cia/publication/factbook.