

CONSTRUCT VALIDITY OF THE BATTERY OF DEVELOPMENTAL ASSESSMENT (BDA): A MODEL TOOL FOR LEBANON

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Abstract

This study examines the construct validity of the Battery of Developmental Assessment (BDA) - the first comprehensive psycho educational assessment tool designed for students with special Needs in Lebanon and the Arab World. It consists of culture - fair tests, subtests and hands-on activities that help teachers and counselors identify students who are at risk of scholastic delay, and those who perform above average. More importantly, educators would be trained in assessing students, and in proposing suitable individual educational plans. The National Centre for Scientific Research (CNRS) has sponsored the study on construct validity of 27 tests and subtests of the BDA. Findings suggested better solutions for only 6, and items have been revised accordingly. The BDA is now considered a standardized culturally fair assessment tool for differently able students in Lebanon, and other Arab Countries.

Keywords: Battery of developmental assessment (BDA), construct validity

Introduction

The Battery of Developmental Assessment (BDA) is the first comprehensive psycho-educational assessment tool designed for students with special Needs in Lebanon. The premise on which the BDA is based upon is the perpetual integration of assessment, with counseling and instruction. It consists of culture - fair tests, subtests and hands-on activities that help teachers and counselors; identify students who are at risk of scholastic delay, and those who perform above average. More importantly, educators would be trained in assessing students, and in proposing suitable individual educational plans.

The BDA is considered a credible criterion - referenced descriptive diagnostic tool that facilitates the decision-making process, as it is easy to administer and score.

God has given man the mind, the will, the freedom to make choices, as well as the abilities to learn, work and develop. By instinct, man is capable of educating himself, searching for the truth, and developing his various talents and skills (Khabazerli, 1986).

Recent research, in the field of educational psychology, has revealed that many Students with Special Needs fail in school, are unable to solve their own personal problems, and experience difficulties in selecting appropriate methods to direct their attitudes and behaviors (Metzer, 1992). Whereas some others display outstanding academic performance, that calls for attention and another type of intervention. For this, the Battery of Developmental Assessment (BDA) has been constructed to provide the educators, in Arab countries, with a culture-fair assessment tool that would help them identify those children, make appropriate decisions, design IEP's, and intervene accordingly.

It is expected that those two distinctive groups of students need professional help to develop their various skills and abilities. They need counseling to learn how to meet their

developmental needs, and how to interact positively with classmates, teachers and society. The main objective is to help them adjust to the general curriculum, and consequently not only to succeed in school, but to develop to the optimal level of their potentialities. The BDA provides teachers with guidelines and strategies that are necessary to help them overcome their various academic and / or behavioral problems. In addition, assist them in designing, revising, evaluating, and modifying curriculum content.

Professional observations and research reviews reveal that schools in Lebanon and the Arab World need the BDA (Husseini-Bibi, 2005). More than two thirds of the assessment tools used for the purpose of screening, identification, and diagnosis do not possess appropriate psychometric specifications for reliable and valid measurements. The assessment tools that have been prepared by non-Arab specialists are considered culturally biased and therefore must not be used in accordance with the developmental changes of children with special needs. Unfortunately, many foreign assessment tools are now being used. Test users buy them, and use them over a short period of time. These foreign assessment tools need to be continuously revised and reedited (Azayat, 1998). For this, it was necessary to develop the Lebanese Version of the BDA to attend to the various needs of the Lebanese students, and later on adjusted for other Arab c During the last two decades, only few Arab countries have become interested in Special Education Programs. They have established special schools and centers for children with special needs. They have developed training programs that aim at improving teachers' performance, as well as undergraduate and graduate programs in the fields of counseling and special education. These countries have built strong relationships and cooperation among ministries such as: the Ministry of Social Affairs, Ministry of Education, Ministry of Health, Ministry of Higher Education, as well as government and non - government organizations (Mur, G. & Husseini-Bibi, H., 1997).

Here it is important to note Herbert's (2005) broader view of the way in which disabilities and disorders are assessed and formulated for planned individual and group interventions. The formulation of problems associated with a child's development is generally a multi-agency plan of action or an individual treatment intervention. It might also be an expert assessment for the social, health or educational services. More specifically, the way a formulation is conceptualized and the consequent selection of data describing the child's problem vary according to its nature, purpose, and the theoretical assumptions of the professional. There is no one right way of arriving at a remedial, preventive, or treatment program.

Herbert (2005) added that effective treatments depend upon reliable diagnosis. The term "diagnosis" has been the source of some intellectual difficulties for developmental theorists, psychologists and psychiatrists in their desire to work within a scientific and medical framework. Research over many decades, firmly rooted in scientific philosophy and methodology, has been built on these skills and generated an impressive array of rational treatments which have reduced human suffering.

Ideally, a diagnosis would give rise to the following:

- . Reliable descriptive criteria: the what? or the problem question.
- . Clear causal theory: the why has the problem come about question?
- . Appropriate or validated interventions: the how do I help question.

In the light of this, the BDA has been developed as an assessment tool that leads the practitioner or psycho – educator, to a general casework formulation. Among the criteria used in this formulation, are those related to the child's developmental needs: First, defining the learning problems by focusing on three main questions: What did the student learn? How does the student learn? And why do some students fail or excel? Second, diagnosing and measuring the child's various stages of development, i.e. cognitive, psychological and educational, which allow the assessor to select appropriate individual educational plans meeting the students' needs.

Third, identifying the type of assistance required in designing appropriate teaching strategies, and consequently modifying the curriculum accordingly (Vernon, 1993).

Fulfilling all these desiderata is somewhat rare in child development work and psychiatry. Early detection of disorders is crucial for both children and their families. Undoubtedly, the younger the age at which children with physical, intellectual, emotional, or social difficulties are identified, the more likely it is that appropriate interventions can be planned to enable them to develop their independence and the potential to participate in everyday life. It often proves difficult to at an early stage to distinguish between typical and atypical development. The relationship between them is far from simple or dichotomous. In addition, diagnosis could be considered the ‘automatic generator’ of a plan of management. Formulation encompasses more information than a restrictive diagnosis. Many signs of atypical development are the manifestations of physical, behavioral, cognitive and emotional attributes common to all children. Their quality of being dysfunctional lies in their inappropriate intensity, pervasiveness, frequency and persistence (Herbert, 2005).

The BDA is a dynamic tool that views development as a continuous process. Assessment and counseling, and assessment and teaching interventions, are considered the two continuous processes that go hand and hand. The BDA identifies students’ positive traits and abilities, and trains assessors to develop decision-making and problem solving skills. In addition, the BDA focuses on three major developmental domains: the cognitive, the psychological and the academic domains.

The BDA follows a developmental model of assessment. It is a new approach designed for the purpose of evaluating the students’ abilities, and needs during their various developmental stages. More specifically, it highlights the developmental needs of students such as: readiness, cognitive abilities, psychological needs, and academic performance. Overton (2000) stated that by following a developmental model, the educator would be capable of preventing specific learning difficulties and psychological problems from occurring. In addition, the model could be helpful in providing counseling services to students facing difficulties with social, psychological and academic adjustments.

The BDA could be perceived as a clinical assessment tool. As defined by Simonsson and Rosenthal (2001), the term ‘clinical assessment’ has a broader meaning which encompasses the use of varied procedures and multiple activities, to evaluate and record developmental and psychological characteristics. The BDA meets these characteristics:

- Screening
- Testing
- Observing
- Interviewing
- Formulating
- Planning
- Monitoring progress
- Evaluating outcomes

The rationale of this approach is based on recognition that the idiosyncratic and complex nature of problems of children with disabilities and chronic conditions requires methods that are flexible and comprehensive to an extent not possible with standardized tests.

The BDA has been developed to meet the norms of the Lebanese student populations. Since local research has revealed that the number of students with special needs is increasing, it was necessary to develop a practical battery of assessment that consists of tests, subtests, and checklists, that identify the abilities of those students, discover their various needs, and provide appropriate Individual Educational Plans (IEP), and consequently intervene appropriately (Husseini-Bibi, 2005).

The BDA differs from most assessment tools in that it focuses on qualitative rather than quantitative data. Most of the subtests are descriptive, and their credibility does not

depend on raw scores or data. These descriptive measures aim at understanding the child from a developmental perspective.

Children with Special Needs deviate from the normal curve in one or more of the following developmental domains: cognitive, linguistic, emotional, and sensory – motor. Some could be experiencing some learning difficulties, sensory/ motor deficits, auditory or visual perception problems, problems with adaptive behavior, or suffer from speech and language disorders, which may lead to school delay (Alroosan, 2000), while others may be experiencing frustration and boredom in classrooms, as the result of the presence of a certain gift or talent.

The BDA tests and subtests are varied, easy to administer, and developed to suit the needs of diverse Arab populations and cultures, allowing more time for the child to respond and interact. The child is viewed as a partner and an active participant in the assessment process, as well as in the counseling process. The BDA does not focus solely on the child's weaknesses and problems, but helps in identifying strengths and positive traits as well. Moreover, it links assessment to learning, providing the educator with clues and directions in accommodating curriculum content, and in designing suitable teaching strategies.

The BDA is made up of three parts: The first part consists of 10 readiness and ability tests and subtests measuring multiple abilities, such as general knowledge, logical thinking, memory, sensory, motor, visual, and linguistic skills (Mashmouh, 1993). The second part focuses on the developmental needs that identify the degree of psychological health of children, specifically those children with special needs, as environment plays a major role in the development of an individual's well being (Azayat, 1998). Finally, the third part consists of academic achievement tests of two core subject matter (Arabic and Math), that are curriculum based referenced tests (Azoyoud & Ulayan, 1998).

Sample and BDA administration

Ten Special Educators were selected to be trained to become BDA Certified, Licensed and qualified to administer the BDA.

The Lebanese Association for Rehabilitation and Development provided a sample of 400 students with special needs.

Over a one year period the students were BDA assessed.

The Record Forms of the students consisted of charts, checklists and tables of tests, and were collected and compiled.

These Record Forms were analysed through the SPSS system for the purpose of exploring the construct validity of the BDA.

27 BDA Tests and subtests selected for Construct Validity

Hyperactivity

Attention Deficit

Attention Deficit Hyperactivity

Language – Receptive

Language - Expressive

Thinking - Memory

Thinking - Sorting

Thinking – Application

Thinking – Composition

General knowledge

Math and Logic – Initial Math

Math and Logic – Mathematical Skills

Math and Logic – Logic

Math and Logic – Problem solving

Sensori Motor – Gross motor

Sensori Motor – Fine Motor
Visual Perception
Visual Discrimination
Spatial Discrimination
Picture and Movement
Auditory Perception
Giftedness
Dyscalculia
Dyslexia
Dysorthographia
Academic Arabic Tests
Academic Math Tests

Findings:

Some items in some tests and subtests were not valid. Therefore the researcher recommended a better solution wherever it was appropriate; otherwise the items were found valid.

BETTER SOLUTION FOR HYPERACTIVITY To use less items than 23 items where a clear cut solution in which 1, 2, 3, 4, and 8 measure Hyperactivity Indicators and 9, 11, 12 and 13 measure Attention Deficit (2), while 16, 17, 20 and 22 measure Attention Deficit Hyperactivity (3).

BETTER SOLUTION FOR LANGUAGE TEST. It is shown that Reception 1, and Reception 2 measure one dimension while the rest (7 items) measure the second dimension (Expression).

BETTER SOLUTION FOR Thinking Test: It can be seen that Application and Sorting are measuring the same thing while memory measures two different dimensions

BETTER SOLUTION FOR Math and Logic Test: It Measures four dimensions that are modified from the original

BETTER SOLUTION FOR FINE SENSORI MOTOR TEST:

If we delete four items 8, 15, 2 and 11 we get a better four dimensions solution.

BETTER SOLUTION FOR VISUAL PERCEPTION TEST: After deleting items 8 and 9 we received a better solution with three different dimensions.

Conclusion

The BDA has been proved to be a culturally fair test, and therefore is recommended to be used in Lebanon and any population that speaks Arabic. The BDA is not a translation of an existing instrument, but has been constructed from scratch in Arabic, based on review of literature. It is the first time in which such an instrument has been validated.

Recommendation

It is recommended to conduct workshops to discuss results of findings and revise the BDA accordingly, to be implemented in Lebanon and other Arab countries.

References:

- Alroosan, F.(1996). Methods of assessment and diagnosis in special education. Dar Al fikr, Amman.
- Azayat, F.(1998). Learning difficulties: theory, diagnosis and therapy. Cognitive Psychological Series 4, Education Department, Almansoura University, Egypt.
- Azoyoud, N.F& Ulayan, H.A.(1998). Principles of educational tests and measurements. Dar Alfikr, Amman.
- Ginter, E.J., & Glauser. (2004). Assessment and diagnosis: the developmental

- perspective and its implications. In R.R. Erk (Ed), *Counseling treatment for children and adolescents with DSM-IV- TR disorders* (pp. 2-36). Upper Saddle River, NJ: Prentice Hall.
- Herbert, M. (2005). *Developmental problems of childhood and adolescence: prevention, treatment and training*. Blackwell Publishing, Library of Congress.
- Husseini Bibi, H. (2011). *Construct Validity of the Battery of Developmental Assessment BDA): A Model Tool for Lebanon*. Conseil National De La Recherche Scientifique (CNRS), Beirut, Lebanon
- Husseini Bibi, H. (2005). *Battery of developmental assessment (BDA): an assessment kit with tools to describe abilities, academic skills, and psychological health of Arab children*. Irshad, Beirut & Dar Okaz, Jeddah.
- Kamphaus, R.W., & Frick, P.J. (1996). *Clinical assessment of child and adolescent personality and behavior*. Needham Heights, MA: Allyn & Bacon.
- Khabazerli, R.S.(1986). *Learning and spirituality*. Educational Research, Um Alqura University, Ministry of Higher Education, Kingdom of Saudi Arabia.
- Mashmouh, S.M., Khieri, M. Kh. & Mehni M.A. (1985). *Educational assessment*. Dar Okaz, Riyadh.
- Meltzer, L.J. (1993). *Strategy assessment and instruction for students with learning disability: TX: Theory to practice*.
- Mur, G.& Husseini - Bibi, H. (1997). *Learning difficulties*. Beirut: World Rehabilitation Fund.
- Overton, T.(2000). *Assessment in special education*. NJ: Merrill, Prentice Hall.
- Semrud – Clikeman, M.(1995). *Child and adolescent therapy*. Boston: Allyn & Bacon.
- Simeonsson, R.L. & Rosenthal, S.L. (2001). *Psychological and developmental assessment: Children with disabilities and chronic conditions*. New York: Guilford Press.
- Vernon, A.(1993). *Developmental assessment and intervention with children and Adolescents*. University of Northern Iowa, ACA, Alexandria, VA.
- Vernon, A. & Clement, R. (2005). *Assessment and intervention with children and adolescents: developmental and multicultural approaches*. ACA, Alexandria, VA.