



A Game Changer: Scalable Assessment Tool for Educational Reform

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Abstract

Recent research, in the field of educational psychology, has revealed that many students experience various problems during their primary years in school. Some may suffer from repetitive failures that lead to scholastic delay, while others may exhibit high academic performance which necessitates a different type of intervention. Reasons for this vary from one student to the other. Each has special needs that qualified educators should address promptly and appropriately.

Considering the premise that all students need professional help, sometime during their learning journey, they need educators to help them succeed in school, and to develop to the optimal level of their potentials. The Battery of Developmental Assessment (BDA) is a culture – fair assessment tool that has been constructed for that purpose. More specifically, it provides educators with guidelines and strategies necessary to help their students overcome their various academic and / or behavioral problems.

What if we have enough educators equipped with the right assessment skills working with everyone of our kids, this year?

Would it be positively affecting educational reform?

We think yes, but we have to determine what the right assessment is and the optimal implementation method.

Scalable implementations leverage cloud-based computing and mobility solutions. But what is the right user experience that enhances the child/assessor relationship? And how can we deploy to maximize effect across a society?

Educators, specifically teachers, should be encouraged and empowered to undertake such assessment practices. They are the best to know their students and can recommend appropriate placement. They possess the expertise, knowledge of school practice, and knowledge of the child. For this they are considered the most appropriate to design the best method of support and challenge suited for the student's profile and needs. This is our proposal of BDA scalable assessment tool for educational reform.

1. Introduction

Since the foundation of the Lebanese Association for Rehabilitation and Development, a Battery of Developmental Assessment (BDA) has always been a necessity. Research in the area of educational assessment, revealed a significant need for a culture fair assessment tool, for children with special needs in the Arab world. A task force has been formed to research, investigate, and eventually compose the BDA. In spring 2005, 2 versions of the BDA have been published: the Saudi Version and the Lebanese Version. BDA Educators Certification Workshops have been conducted monthly to prepare educators assess these students and design Individual Education Plans (IEP) accordingly.

This study gives an overview of the BDA, its four stages of development, the BDA as a scalable assessment tool for educational reform (Phase D), and identification of the target group.

2. An Overview

The BDA is a dynamic tool that views development as a continuous process. It has been developed to meet the needs of the Arab 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 the counseling services needed [4]. Students with special needs may be gifted or talented, or twice exceptional, or suffer from deficits in comprehension or perceptual skills.

The BDA follows a developmental model of assessment. It is a new approach designed for the purpose of evaluating the students' abilities and developmental needs. More specifically, it explores their readiness,

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cognitive abilities, psychological needs, and academic performance. Overton [7] stated that by following a developmental model, the educator would be capable of preventing specific learning difficulties and psychological problems from occurring. It is important to note that the BDA has been developed as a culture fair assessment tool, standardized to meet the norms of the Arab student populations.

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. 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 [6].

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 [1], while others may be experiencing frustration and boredom in classrooms, as the result of the presence of a certain gift or talent.

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 [5]. The second part focuses on the developmental needs and the psychological health of children, specifically those children with special needs; as it is believed that the environment plays a major role in the development of any individual's well being [2]. Finally, the third part consists of academic achievement tests of two core subject matter (Arabic and Math), that are curriculum based referenced tests [3].

3. Phases of development of the BDA

3.1 Phase A: The Foundation Stage: (April 2005- December 2005)

1. Proposed agreement plan with DAH College in KSA
2. Established Learning Lab for assessment services
3. Selected BDA team and delegated responsibilities
4. Commenced public relation activities (visits)
5. Conducted of Training Workshops
6. Started assessment of cases using the BDA
7. Trained 32 participants for BDA Certification
8. Prepared 5 Certified BA holders for Licensure to conduct assessment services
9. Started selling BDA Kits for certified and licensed educators
10. Completed Research: Compilation of Technical Data, publication of a Peer Reviewed Article in the Saudi Journal of Disability and Rehabilitation SJDR, 9, 4, ICDR & JCRPO, Riyadh, KSA

3.2 Phase B: Marketing & Media Stage: (from December 2005 until present time) at the Lebanese Association for Rehabilitation and Development – www.taaheel.net, Lebanon

1. Designed a comprehensive Marketing Plan
2. Scheduled media campaigns and a press conference
3. Conducted training workshops
4. Appointed one part time Administrative Assistant
5. Established a special room for assessment
6. Appointed 2 Trainer/ Research Assistant (TRA)
7. Prepared 2 TRA s to become Trainers
8. Commenced assessment services in Learning Lab at DAH
9. Conducted Continuous Education (CE) Workshop for licensed members
10. Research: Collection of data for field / Pilot study for Face validity



3.3 Phase C: Growth Stage (From October 2007 – October 2011) at TAAHEEL, Lebanon

1. Designing a comprehensive Marketing Plan.
2. Conducting monthly Educator Certification Workshops
3. Providing Assessment services to children suffering from academic delay
4. Providing consultancy services to educational institutions, mostly schools
5. Conducting Continuous Professional Development Workshops (biyearly)
6. Research: Construct Validity of the BDA, and more than 12 papers presented during national, regional and international conferences <http://eujournal.org/index.php/esj/issue/view/135>
<http://eujournal.org/files/journals/1/books/MIFS2014.Vol.2.pdf>

3.4 Phase D: Scalable Assessment Stage (From June 2015 – ongoing) for educational reform

With rapid evolution of technology in daily life, transforming the assessment tool into an interactive solution that leverages modern technology and mobility became a necessity. The overall approach was not to build an 'app' or self service platform but instead to enhance the usefulness of the assessment toolkit using technology.

Considering the traditional kit is rich with many tools, initial focus was centered around 'digitizing' the various sections of the BDA, but it was quickly the case that overall user experience took center stage. The single screen approach originally designed was going to negatively impact the current one-on-one child to educator relationship and quickly had to adapt into a dual-screen form factor that complemented the face to face traditional approach.



Figure 1: BDA Dual-Screen Form Factor Assessment Tool ^a

The dual device approach provided a smooth uninterrupted experience for the child by utilizing more interactive and lively assessment props and at the same time significantly improved the educator's process of conducting the test, recording the results, and building counseling strategies and goals.

Alongside the advancement in the assessment toolkit, E-learning would transform the way educators are trained to utilize the BDA with distance learning, online virtual classrooms, and collaborative learning.

The technological development revealed multiple unexpected advantages and benefits to assessment. With widespread tablet device availability, low-cost cloud based computing, a proven software distribution model, and an E-learning training model, the BDA is promising of administrative and geographic scalability.

Educational technology like the BDA can provide sustainable advancement in education reform and with a fresh and modern approach, more children can receive the benefit of systematically built Individual



Education Plans (IEPs) and more educators will be engaged and trained in addressing the needs of special education.

4. Identification of the Target Group

In the identification of the target group, four groups will be targeted. First, professionals working at learning centers and schools across the Arab World whose daily work allows them to be in contact with children requiring special education. They are the first to truly grasp the concept of the BDA and utilize it effectively. They could be certified psychologists, counselors, and therapists. Second faculty members in the education and psychology departments, who are instructors and advisors to student teachers. This group would bring legitimacy and are able to influence a great tide of participants. Third, students registered in the Education Departments across the Arab World who aspire to become teachers or specifically special educators. They would inherently become premier spokespersons for the BDA. Forth, general and special teachers in private or public schools in the Arab world, aspiring to acquire a well-rounded understanding of students, but also have interest in helping them be on the right track. This is our Mass. Teachers should be encouraged and empowered to undertake such assessment practices. They are the best to know their students and can recommend appropriate placement. They possess the expertise, knowledge of school practice, and knowledge of the child. For this they are considered the most appropriate to design the best method of support and challenge suited for the student's profile and needs.

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a. BDA Dual-Screen Form Factor Assessment Tool. © Copyright. All rights reserved, 2016.