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Identification of Dual-Exceptional Learners

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Abstract

This research paper presents evidence that an apparent contradiction between giftedness and learning difficulties can be resolved because 'gifted children with learning difficulties' have a characteristic profile of cognitive attributes. An extensive process using mixed methods was conducted by a multi-disciplinary team to identify a sample of 30 students (16 girls and 14 boys) who revealed dual-exceptionalities of 'mathematical giftedness' and 'learning difficulties' (in the fifth and sixth grades, ages 10 years to 11 years and 11 months, in three public primary schools in Amman, Jordan. A multi-dimensional evaluation involving eight criteria (e.g. teacher nomination, parents and teachers interviews, and documentary evidence) and a combination of psychometric (i.e. WISC-III-Jordan, Perceptual Skills Tests, and a diagnostic Arabic Literacy Language Skills Test) and dynamic mathematics assessment was used. In the WISC-III-Jordan test, a significant verbal-performance discrepancy was shown, in addition to the characteristic patterns of strengths and weaknesses in the subtests profile and factors of five cognitive classification systems and models. Visual perceptual skills, including visual short-term memory, were found to be significantly stronger than auditory perceptual skills in the MG/LD sample.

Keywords: Dual-Excptionalilty; Gifted With Learning Difficulties; Identification; Teacher Nomination; Psychometric And Dynamic Assessment.

1. Introduction

During the last four decades, increasing attention has been given to the pressing question of "dual-exceptional" children, or more able students who also have learning difficulties (LDs). According to Baum (1989) and Brody and Mills (1997), these dual-exceptional children who remain unrecognized can be classified into at least three subgroups: the first subgroup comprises students with hidden LDs, which includes students who are identified as gifted yet exhibit difficulties in school or, as Baum (1989) described them, "gifted students who have subtle LDs" (p. 1). This group is easily identified as gifted; however, the gap between what is expected and their actual performance is often wide (Fetzer, 2000). The second subgroup consists of students with hidden giftedness, which includes students whose LDs are severe enough that they have been identified as having LDs, but whose high abilities have never been addressed or recognized. They are first noticed for what they cannot do, rather than for the talent they also demonstrate (Brody & Mills; Little, 2001). The third subgroup is composed of students with hidden giftedness and LDs and "perhaps the largest group of non-served and unidentified students" (Brody & Mills, 1997, p.2) are those whose high abilities and LDs mask each other (Baum, 1989; Brody & Mills, 1997). These students sit in regular classrooms, are not considered as qualifying for services provided for students who are gifted or have LDs, and are regarded as possessing average abilities (Brody & Mills, 1997).

In the field of exceptional and dual-exceptional children, identification is always related to definitions. Accordingly, nebulousness about the definitions of giftedness and learning difficulties generates problems in

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identifying gifted children with LDs. The major difficulty in identifying those students is that there are too many gifted children with LDs who fail to meet the qualification requirements for either gifted programs or special needs services. For example, research has shown that teachers are much more likely to refer gifted students who do not have LDs, than gifted students who do possess LDs, for placement in gifted and talented programs (Minner, 1990). This is because students with LDs who are gifted rarely show consistently high academic achievement; they usually go unrecognized as being gifted and eligible for special programs (Baum, 1989; Beckley, 1998; Brody & Mills, 1997; Ruban & Reis, 2005).

Some educators (e.g. Al-Hroub, 2010; Brody & Mills, 1997; Fetzer, 2000) have suggested a flexible, multidimensional approach to identification, which they argue is necessary to determine areas of strength and weakness. This approach includes an individual test of intelligence, academic tests to determine the discrepancy between potential and performance, a test of creativity to assess abilities that may not emerge from cognitive ability measures, and dynamic assessment in addition to teachers' and parents' reports (Thomson, 2001). Recently, Al-Hroub (2010) has proposed a comprehensive model for identifying gifted students with LDs, which includes teacher and parent nomination, behavioral observation, an individual intelligence test, measures of cognitive processing, perceptual skills and literacy tests, and a dynamic assessment. The proposed identification system also suggests assessing the student's level of functioning in the regular classroom environment, using curriculum-based assessment, and conducting interviews with students to assess their perceptions and attitudes toward academic work.

Baum and Owen (2004) report that in order to recognize the potential for gifted behavior in students with LDs, educators should generally approach the identification process in two ways: (a) *a priori* identification, entailing collection and analysis of test data and interview information about students; and (b) dynamic identification, involving the use of activities purposely designed to elicit creative responses and signal possible areas of student talent. In order to recognize gifted students with LDs, there are four defining characteristics that should be considered (Al-Hroub, 2008; Brody & Mills, 1997)**,** including evidence of an outstanding talent or ability, evidence of an aptitude achievementent discrepancy, evidence of verbal-performance IQ discrepancy, and evidence of a processing deficit.

2. The Case of Mathematically Gifted with Learning Difficulties

Some mathematically gifted students do not necessarily demonstrate outstanding academic achievement, display enthusiasm toward school mathematics programs, or obtain top grades in mathematics. There are many possible reasons that these students may not be doing well, but often it is, at least in part, because of a mismatch between the needs of the student and the mathematically gifted programs provided for them. Many students refuse, or are unable, to conform to the expectations of programs (Miller, 1990), which can be a result of their specific LDs.

According to Krutetskii's (1976) concept, mathematically gifted students may show an outstanding talent in mathematics accompanied by deficits in other areas. An instance of early mathematical giftedness was described in 1964 by psychologists in the German Democratic Republic. S. Reiner's parents first paid attention to his abilities when he was 5 years old. After one year at school, he went directly into the second grade. According to the experimenters, although Reiner showed remarkable skills in arithmetic and problem-solving, he had considerable difficulty in studying language and spelling (Krutetskii, 1976). Leonardo da Vinci (1452-1519), the remarkable Florentine artist, architect, engineer, and mathematician is another case of dyslexic genius. An example of his "mirror writing," a distinctive symptom of LDs, may be seen in his notebooks exhibited at the British Museum in London (Aaron, Joshi, & Ocker, 2004).

A "controlled comparison" study of the performance of dyslexics in mathematics was carried out by Steeves (1983). Her subjects were 54 dyslexic students between the ages of 10 and 14 years, and 54 suitably matched controls. The researcher divided them into four groups, namely, (a) dyslexic high (DH), that is dyslexics with a high score on the Raven Standard Progressive Matrices; (b) dyslexic average (DA), namely dyslexics with an average score on the Raven Standard Progressive Matrices; (c) non-dyslexics in a mathematics class for those of high ability (NH); and (d) non-dyslexics in a mathematics class for those of average ability (NA). The DH group was found on testing to be at the same level as the NH group in the Raven Standard Progressive Matrices; in a mathematics school test, however, they scored less well than the NH group and were on a level with the NA group, whereas in the Wechsler Memory Test they had lower scores than both of the non-dyslexic groups. The DA group was on a level