Book Review: Specific Learning Disabilities and Difficulties in Children and Adolescents: Psychological Assessment and Evaluation

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**Thinking Beyond: Learning Disabilities and Psychological Assessment**

Answers to the complex issues surrounding the assessment of individuals with learning disabilities begins with revisiting constructs applied to the condition. Some recent thought-provoking debates focusing on race are helpful in reminding us of the limitations inherent with labels (Guinier & Torres, 2002). *Colorblindness* refers to the goal that race should not be used to judge, discriminate, or predict performance of individuals. Although colorblindness applied in this manner is a lofty term and was an important one at the beginning of the civil rights movement, some scholars and advocates suggest the label is counterproductive in today’s society. Social context changes, and with it language, policy, and solutions require adjusting. Professionals interested in the assessment of learning disabilities should consider past constructs in light of new research. *Specific Learning Disabilities and Difficulties in Children and Adolescents: Psychological Assessment and Evaluation*, edited by Alan and Nadeen Kaufman in 2001, provides an excellent platform to engage in such a dialogue.

The Kaufman and Kaufman text begins with chapter 1 by Shepherd highlighting the contribution of select pioneers from the field of learning disabilities. I have always found it interesting to observe how a historian’s account of events often omits specific key players while overfocusing on others. Shepherd is no exception and contributes, in my opinion, to the sin of omission. Although she makes a strong case for the significant role of language in understanding learning disabilities, she fails to mention the language scholarship of Johnson and Myklebust (1967). But in fairness, Shepherd could not include every pioneer.

What has been missing from historical accounts, as well as discussions of current research, is a framework to organize our thinking. Researchers often focus on isolated abilities (e.g., phonological awareness or working memory) while ignoring the total system surrounding learning. Johnson and Myklebust (1967) provided one of the first dynamic frameworks by which to organize the cognitive and linguistic abilities influencing learning. Their model, the hierarchy of experience, includes many of the same broad abilities described in the Cattell-Horn-Carroll (CHC; McGrew & Flanagan, 1998) empirically driven taxonomy discussed frequently throughout the Kaufman and Kaufman textbook.

Johnson and Myklebust (1967) stressed the importance of such constructs as sensation, perception (*Gv, Ga*), imagery (*Gsm, Glr*), symbolization (*Grw, Gq, Glr*), and conceptualization (*Gc, Gf*) to the process of learning. They incorporated the work of Vygotksy (1962) and Luria (1961) into their clinically based information-processing model. In addition, the
bidirectional influence of constructs was central to their system of learning. I prefer the word system rather than model as it denotes more the functional relationship between interacting abilities, providing a more fluid representation of learning. Kaufman and Kaufman’s text provides us with a rich resource by which to discuss concepts that represent more than simplistic explanations of learning. Johnson and Myklebust’s hierarchy of experience could have provided the historical context for a discussion of alternative models of cognition.

Since the Kaufman and Kaufman text was published in 2001, several of the assessment tools discussed in the book have been revised. Therefore, I will critique general themes presented in the text that apply to current or revised editions of the tests presented. First, I will review the notion of systems of cognition that provide the framework by which to understand learning disabilities. Second, I will discuss the issue of individual variability and learning disabilities profile analysis. Finally, I will review information presented throughout the text that suggests trends influencing the assessment process, as well as the tools used in the identification of learning disability. In this process, I describe the organization scheme by chapter.

**Systems of broad cognitive ability.** The purpose of the Kaufman and Kaufman text is to provide professionals with a discussion of a variety of instruments and theories related to cognitive ability that might be useful in the diagnosis of learning disabilities. Understanding, defining, and operationalizing constructs important to the condition we label learning disabilities requires the integration of several bodies of knowledge. Several years ago, Frith (1999) provided an excellent three-level framework by which to integrate the paradoxes this neuro-developmental disorder presents. She discussed the importance of considering the environmental, biological, cognitive, and behavioral signs influencing the ability to learn specific tasks. The Kaufman and Kaufman text focuses only on the cognitive and behavioral information that psychometric and dynamic assessment can provide to better understand learning disabilities. Ongoing biological research in the fields of genetics and neuro-anatomy likely will lead to greater support for information-processing models generated by research in cognitive psychology.

Frith (1999) reminded us of two important facts. First, there is a formidable distance between brain and behavior, particularly when we consider environmental influences. Second, language used to describe constructs can be misused. Words and labels “readily become loaded with ideology while the concepts they refer to may be perfectly non-contentious” (p. 193). At times, words such as intelligence, cognitive processing, assessment, or learning disabilities take on a life of their own. It is critical to remember that performance on behavioral measures should not be used alone to determine causation of disorders. As Frith stated, “One danger with cognitive theories is that they can be circular by postulating deficits which are merely restatements of behavioral phenomena” (p. 195). Therefore, systems of cognitive ability must be based upon current research in the area of brain functioning, as well as account for ongoing environmental influences. Above all, systems of cognitive ability should become the signpost for effective instruction. The three cognitive frameworks discussed throughout the Kaufman and Kaufman text that are the basis for several leading broad cognitive ability batteries include (a) the CHC, (b) the simultaneous/successive theory, and (c) the Reitan-Wolfson framework.

**CHC theory.** Mather and Woodcock (chapter 3) provide an in-depth review of the Woodcock-Johnson Tests of Cognitive Ability–Revised (WJ-R; Woodcock & Johnson, 1989), and its
application to individuals demonstrating possible learning disabilities. The WJ-III (Woodcock, McGrew, & Mathers, 2001) is briefly introduced to the reader. Both the WJ-R and WJ-III use CHC as their theoretical framework.

The empirical support for CHC theory rests with the statistical and logical analyses of hundreds of data sets over a 50- to 60-year period of time. There is no question that the CHC theory is the most comprehensive, empirically supported psychometric framework for understanding cognitive abilities (McGrew & Flanagan, 1998). CHC theory is supported by additional sources of validity evidence, in the form of genetics, neurocognitive, developmental, and outcome studies (Horn & Noll, 1997).

A strength of the WJ is the comprehensiveness of the batteries (Cognitive and Achievement). The WJ’s broad-ranging inclusiveness of key cognitive and linguistic abilities provides examiners greater security against construct irrelevance or underrepresented variance. For instance, the WJ is still the only broad cognitive ability measure that includes Ga (Auditory Processing), an ability that is problematic for many students with learning disabilities.

A criticism of the CHC theory is that it describes cognitive abilities in isolation of their functional requirements. This issue is addressed in the Mather and Woodcock chapter with their discussion of the cognitive performance model (CPM). This dynamic addition to the WJ-III incorporates the latest thinking in cognitive psychology. The CPM model provides the examiner with three functional clusters (knowledge, thinking, and cognitive efficiency). In recent years, more attention has been focused on knowledge and cognitive efficiency. Understanding the relationship between knowledge (Gk) and learning disabilities is important. Although related to Gc, Gk is not identical. Gk builds on Cattell’s (1987, 1998) investment hypothesis and the distinction between Gc (historical) and Gc (present).

Cognitive efficiency, distinguished from cognitive fluency, has received a great deal of attention over the last few years. The WJ-III authors have been leaders in trying to operationalize this research for the purpose of assessment. It may be, as Daneman and Merikle (1996) noted, that the source of individual difference in memory capacity resides less with storage capacity and more with processes available to maximally utilize limited capacities (i.e., verbal ability and working memory). The CPM model and the new Clinical Clusters on the WJ-III will help professionals begin to sort these issues out at a theoretical, practical, and more important, individual level.

The Kaufman Adolescent and Adult Intelligence Test (KAIT; Kaufman & Kaufman, 1993) is described by Lichtenberger in chapter 4. Whereas the theories of Piaget (Inhelder & Piaget, 1958; Piaget, 1972) and Luria (1980) contributed to the content of this measure, Kaufman and Kaufman drew a great deal from the work of Horn and Cattell (1967) in the development of the KAIT. Therefore, the test measures the broad abilities of crystallized (Gc) and fluid (Gf) intelligence. Since the publication of the KAIT, McGrew (1998), using both confirmatory factor analysis and non–factor-analytic evidence, presented an integrated model of Cattell, Horn, and Carroll’s work (CHC model) (see McGrew & Flanagan, 1998, for an in-depth discussion). A series of additional confirmatory factor analyses were completed to support the integration of these models (McGrew & Flanagan, 1998). The CHC language and content validity is now widely accepted for use in the evaluation and interpretation of intelligence measures.

Sequential and simultaneous processing system. Lichtenberger (chapter 4) also discusses the sequential and simultaneous processing system of cognitive ability that underlies the
framework of the Kaufman Assessment Battery for Children (K-ABC; Kaufman & Kaufman, 1983). She states that the Kaufmans drew upon the theories of Luria (1961, 1973), Sperry (1968), Das (1973), and Naglieri and Das (1988, 1990), as well as their own research, to support using this system of cognitive ability. Certainly one of the great strengths of this system is the emphasis on the process of learning over a single score or product. The inclusion of Reuven and Raaphael Fernsteins’ approach to assessment (chapter 7) supplements the psychometric model with a dynamic approach that presents an in-depth discussion of this issue. According to Luria (1966), simultaneous refers to processes representing gestalt or holistic learning, whereas successive pertains to more linear, analytic-sequential thinking. The revised KABC-II (Kaufman & Kaufman, 2004) now uses the theoretical frameworks of Luria (1966) and CHC theory. Following CHC theory, the Kaufmans now provide a means by which you can use either theoretical orientation. The KABC-II scales include scores for Simultaneous ($G_v$), Sequential ($G_{sm}$), Planning ($G_f$), Learning ($G_{lr}$), and Knowledge ($G_c$) abilities. The original K-ABC, as described by Lichtenberger, loaded very heavily on Visual Processing ($G_v$) and Short-Term Memory ($G_{sm}$). As with the WJ-III, the comprehensiveness of the KABC-II (Cognitive and Achievement) is a strength of the battery.

The Cognitive Assessment System (CAS; Naglieri & Das, 1997) is the second intelligence measure drawing from the simultaneous/successive framework of learning. Specifically, the CAS was based on the planning, attention, simultaneous, and successive model of cognitive learning (PASS; Naglieri & Das, 1997). The theoretical support for the PASS was drawn from the work of Luria (1973, 1980). According to Naglieri (chapter 5), the CAS framework is not a factor-analytic system, such as CHC, but rather draws its validity from clinical, information-processing theories. The CAS measures the abilities to attend, to plan, and to process information simultaneously or successively, primarily with nonverbal stimuli. In addition to describing the CAS, Naglieri provides an in-depth discussion of two interventions, the PASS remedial program (Das, 1999) and the planning facilitation method (Naglieri & Johnson, 2000). The first intervention is designed to increase decoding abilities, and the second calculation skills. While addressing the usefulness of the CAS in the diagnosis of possible learning disabilities, it would have been beneficial if more empirical research was reported documenting the predictive use of the CAS in the identification of specific achievement areas. Naglieri spends a great deal of time in an effort to discount CHC theory rather than providing evidence of the PASS model in the identification of learning disabilities.

Verbal/nonverbal models. Kaufman and Kaufman (chapter 13) discuss the historical roots of the Wechsler scales. They state that the original precursor of the Wechsler Performance Scale was developed by the army to help identify the lower end of the ability spectrum. The “abstract formal operational skills from Piaget’s cognitive-developmental framework and the highly similar planning abilities from Luria’s neuropsychological perspective were unintentionally slighted” (p. 441). Going further, they conclude that the Performance subtests of the Wechsler scales have always had a stronger emphasis on visual-spatial ($G_v$) rather than fluid reasoning ($G_f$). Although one can not ignore that the Wechsler scales have provided a significant contribution to the field of intelligence, the framework or model of verbal/nonverbal today has little clinical utility given more sophisticated models of cognitive processing such as CHC theory.

The Wechsler Intelligences Scales, as described by Groth-Marnat (chapter 2), is the weakest chapter from a substantive perspective. Wechsler’s ideas are not elaborated sufficiently in
this chapter. The chapter contains generalizations unsupported by references. For instance, on page 30, Groth-Marnat states the verbal/performance dichotomy of intelligence was based on theoretical formulations and empirical research. One need only refer to Kaufman and Kaufman’s (chapter 13) historical account of these scales to understand their development and labeling. No reference was made by Groth-Marnat that the Wechsler Adult Intelligence Scale–Third Edition (WAIS-III; Wechsler, 1997) is derived from a factor structure entirely different from that used in creating the WAIS and WAIS-R. Both on the WISC-III and IV, as well as the WAIS-III, the inclusion of four broad first-order factors is more closely aligned to CHC theory than the verbal/performance model. For instance, confirmatory factor analysis (CFA) studies on the WAIS-III have consistently found four factors. Using reliable component analysis, Caruso and Cliff (1999) identified that the two most reliable, orthogonal components from the WAIS-III as measures of $G_f$ and $G_c$, not the hypothesized components of the verbal/performance model. In fact, the Wechsler scales’ verbal/performance model of intelligence has been criticized in the literature for lacking empirical evidence (Flanagan, McGrew, & Ortiz, 2000). Furthermore, Caruso and Cliff (1999) suggested that the WAIS-III Performance Scale score was indistinguishable from psychometric “g.” Finally, this chapter does not address satisfactorily the application of the Wechsler scales to the diagnosis and treatment of learning disabilities.

Chapter 6 was one of the best chapters in this edited text from both a content, and a practical perspective. Elliot (chapter 6) does an excellent job describing the Differential Ability Scales (DAS; Elliot, 1990), and the British Ability Scales (BAS II; Elliot, Murray, & Pearson, 1983) for the assessment of children with possible learning disabilities. The author quotes Kamphaus’s (1993) statement that the DAS test developers “erred in the direction of quality at every turn” (p. 178). I would generalize this statement to chapter 6. In relation to theoretical frameworks, it is difficult to decide whether to place the DAS or BAS II under CHC or verbal/nonverbal frameworks of learning. As the author of the chapter himself concludes, the tests “may be interpreted from a number of theoretical perspectives. Their content is designed to address processes that often underlie children’s learning” (p. 181). The work of Carroll (1993) and CHC theory are referenced throughout the chapter. Even so, the DAS requires that examiners calculate verbal, nonverbal, and spatial scale scores for the school age population and verbal/nonverbal for preschool children. Consequently, it could be considered under the verbal/nonverbal framework. On the other hand, following CHC theory one could surmise that the scales tap Verbal Ability ($G_c$), Nonverbal Reasoning ($G_f$), and Spacial ($G_v$).

Elliot (1990) provides an excellent description of normative and developmental concerns (pp. 192-198) surrounding the development of the BAS II and DAS. Special attention was given to the separate and overlapping preschool and school-age norms, the out-of-level testing, a special nonverbal composite score, the downward extension of scores, and the integration of complex cognitive processing (e.g., $G_f$, $G_c$, $G_v$, $G_{sm}$). One of the most interesting aspects of the chapter was his discussion of several studies conducted using the BAS II with children identified with different types of learning disabilities. The findings of these studies should be required reading for all professionals interested in the field of learning disabilities.

Neuropsychological approaches. Reitan and Wolfson (chapter 10) begin by providing an overview of the Halstead-Reitan Neuropsychological Test Battery for Older Children (HRNTB-OC) and its usefulness in the assessment of individuals with possible learning disabilities. In addition, they discuss the Reitan-Wolfson model of neuropsychological func-
tioning (p. 322), which they claim was based on “empirical observation, testing, and clinical work with brain-damaged children” (p. 321). References were not provided to support this claim. However, the model is very similar to Johnson and Myklebust’s (1967) hierarchy of experience with the exception that cognitive development is represented in a unidirectional framework. The Reitan-Wolfson model certainly provides additional external validity for a CHC framework. The chapter concludes with a review of research comparing children diagnosed as brain-damaged and learning disabled with controls on the Neuropsychological Deficit Scales (Reitan and Wolfson, 1993). The authors claim the scales are described in “books on the NRNTB-OC” (p. 339) but fail to provide these references. Unfortunately, a great deal of the research in the chapter pertaining to individuals with learning disabilities was not current.

Chapter 11, a review of the Neurological Assessment of Children (NEPSY; Korkman, 1980) by Korkman, Kemp, and Kirk (chapter 11); and chapter 12, a review of the Wide Range Assessment of Memory and Learning (Sheslow & Adams, 1990), Test of Memory and Learning (Reynolds & Bigler, 1994), and the California Verbal Learning Test–Children’s Version (Delis, Kramer, Kaplan, Ober, & Fridlund, 1994) by Bigler and Adams provide information about other neuropsychological measures useful in the assessment of individuals with possible learning disabilities. The description of the relationship between these measures and academic learning was not detailed enough to provide a good understanding of the diagnostic and predictive use of such measures.

Oral language approaches. “Multi-Perspective, Clinical-Educational Assessment of Language Disorder” by Wiig (chapter 8) is one of the best chapters of the textbook. I was impressed that Kaufman and Kaufman included a chapter on oral language, indicating their formidable understanding of assessment and the field of learning disabilities. As the majority of cognitive assessment batteries discussed throughout the text provide only a superficial inclusion of oral language measures, this chapter is essential to the diagnosis of learning disabilities. In addition, Wiig presents oral language in its entirety, not just as phonological awareness or word knowledge. The majority of psychologists, and I suspect special education teachers, are provided very little background related to oral language development and disorders. This chapter should be mandatory reading across training programs. Wiig provides an outstanding description of the different components of oral language necessary to observe, as well as the link between oral and cognitive disorders to academic and social underachievement. Above all, she provides a “multidimensional and multiperspective” system for the assessment process.

Individual Variability and Profile Analysis

As the Diagnostic and Statistical Manual of Mental Disorders (4th edition, Text Revision [DSM-IV-TR]; American Psychiatric Association, 2000), continues to grow in the identification of psychological and developmental disorders, government policy makers are attempting to dismantle labeling. One of the difficulties for policy makers has been the lack of validity for categories of developmental disorders, as well as experimental research to support the effectiveness for determining appropriate intervention. Both the Clinton and Bush administrations have focused on reading (Sweet, 2004). Both political parties supported the need for more operational definitions of reading and scientific-based instructional methods (National
Institute of Child Health and Human Development [NICHD], 2000). Although this review is not a discussion on policy, it is important to reflect on the political and social context driving a great deal of current research funding.

Understanding the processes involved in reading and identifying effective reading interventions are certainly critical from an educational, sociological, and political perspective. However, learning disabilities do not equal reading underachievement (Kaufman and Kaufman, chapter 13). Different cognitive and linguistic deficits impact different types of learning (academic, social, vocational) depending on age and type of task. One of Woodcock’s greatest contributions to test measurement theory was the use of developmental weights which varied across type of learning and abilities (see McGrew & Woodcock, 2001). The influence of different cognitive and linguistic processes varies depending on age, ability, and type of academic task demands. Whereas a great deal of attention has focused on a better understanding on dyslexia, there is also a great deal of ongoing research in the areas of attention deficit/hyperactivity disorder and high-functioning autism and Asperger that has direct bearing on the broader field of learning disabilities. The Kaufman and Kaufman textbook provides the opportunity to debate frameworks and assessment measures that help us understand the heterogeneity of different types of learning disabilities.

**Subtyping and Eligibility Issues**

The issue of subgroups and learning disabilities was approached by almost all the chapter authors, and with a few exceptions (e.g., Groth-Marnat in chapter 2) the authors are thus focused on the use of models and measurement tools as a means to challenge old constructs pertaining to the diagnosis of learning disabilities. For example, Spreen (chapter 9) provides an excellent review of the neurological foundations of learning disabilities as well as a thorough discussion of issues surrounding the subtype literature. He critiques the current research exploring the asymmetry of lobes/ventricles, the corpus callosum, and functional abnormalities of the population identified as learning disabilities and cautions that “currently offered theories do not take into account the large individual variability found in neuroanatomical, neurophysiological, and functional studies of normal and abnormal readers” (p. 301). Spreen states that subtypes evolve and differ as individuals develop.

Eligibility criteria contribute significantly to determining which individuals receive learning disabilities services. The controversy surrounding types of eligibility models is discussed in-depth by Kaufman and Kaufman (chapter 13). One very important point of which they remind researchers and diagnosticians is that intelligence does not equal the Wechsler scales. To extend their line of thinking, learning disabilities do not equal psychometric tests. It might be time to challenge the need to identify learning disabilities by academic areas as encouraged by Shepherd (chapter 1), and rather organize our thinking by using intracognitive and intra-achievement profiles as described by Mather and Woodcock (chapter 2).

**Conclusion**

The Kaufmans in chapter 13 state, “The time has come for professionals to become fluent with the new wave of instruments, such that psychologists weigh alternative options” (p. 442). I would add that these same professionals must become more knowledgeable about
new cognitive and linguistic theories that are challenging past constructs used to understand learning disabilities.

Measurement theory should play a key role in understanding the diagnosis, accommodation, and intervention of learning disabilities. With the need to apply scientifically based interventions, the importance of sophisticated tools is critical. It would have been helpful if Kaufman and Kaufman had included a chapter on the strengths and weaknesses of advanced measurement models on the construction of new psychometric assessment tools. For instance, the application of item response theory to test construction and interpretation is changing some of our long-held perceptions about learning disabilities. As mentioned earlier, Woodcock has been a pioneer in using the Rasch model for test construction in the areas of cognition, language, and achievement measures. His contribution to test construction and theoretical frameworks challenges some of the traditional beliefs about learning. For instance, Woodcock’s use of reliable component analysis, or the weighting of subtests that comprise composite scores, appears to lead to lower estimates of “g” within certain subtests; however, it provides more “potential incremental and discriminant validity and more reliable difference scores, resulting in more precise confidence intervals” (Caruso & Cliff, 1999, p. 205). Future test developers should look carefully at the importance of applying component analyses to the accurate assessment of abilities.

The Kaufman and Kaufman text provides a significant contribution to discussions pertaining to the measurement of abilities, as well as the identification of learning disabilities. A number of the chapter authors reference the importance of Luria’s (1980) work to our understanding of cognitive processing. Luria was invested in developing a framework to organize an understanding of cognition. In addition, he wisely understood the balance required between experimental and clinical observations in the development of such systems. The Kaufman and Kaufman text continues this tradition in understanding the interrelationships between cognitive, linguistic, and achievement systems and, as such, provides a good addition to the learning disabilities literature. I recommend the book for practitioners and advanced students. In spite of its inclusive nature, there is no mention of recent responses to information models for helping to define learning disabilities. The text would have been even stronger with this addition.

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References


