

**Integrating Neuropsychological Principles into educational practice: State of the Art and Implementation Challenges**

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**My World View**

- Department Chair - Psychology and Philosophy - Texas Woman's University, Denton, TX
- Former Director, School Psychology Graduate Programs
- Former President of NASP
- Doctoral with a unique blend in school psychology, neuropsychology, and electrophysiology.
- Director - National Post-Graduate School Neuropsychology Certification Program.
- Conference Chair - 1st (2006) and 2nd (2007) National School Neuropsychology Conference in Dallas.



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**Presentation Outline**

- State of the art of assessing individual differences within the schools.
- Behaviorism versus cognitive science: the age old dichotomy being played out in educational practice.
- Identification of Specific Learning Disabilities: a Response-To-Intervention Model.
- Challenges that lie ahead.

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**State of the art of assessing individual differences within the schools**

- Fixed batteries standardized 20-40 years ago are still touted as state-of-the-art by some clinicians.
- The quality of theory-based, psychometrically sound assessments has dramatically improved in the past decade.
- Many of the new tests of cognitive ability and neuropsychological functioning are based on Lurian theory.

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**Selected Fixed Batteries for Children**

- Cognitive Assessment System (CAS: 1997)
- NEPSY (1998)
- WISC-III as a Process Instrument (WISC-III PI: 1999)
- WJIII Tests of Cognitive Ability (2000)
- Delis-Kaplan Executive Functions Test (2001)
- WPPSI-III (2002)
- SB-IV (2003)
- WISC-IV (2003)
- Dean-Woodcock Neuropsychological Battery (2003)
- KABC-II (2004)
- WISC-IV Integrated (2004)
- NEPSY-II (2007)

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**Greater Emphasis on the "processes" behind a given task**

- What strategies does a learner employ during the performance of a task?
- Qualitative Component to Assessment
  - LNNB-C & LNNB
  - Cognitive Assessment System
  - NEPSY
  - WISC-III PI
  - WISC-IV Integrated
  - D-KEFS
  - NEPSY-II



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### State of the art of assessing individual differences within the schools

The challenge for fields of school psychology, school neuropsychology, and education as a whole is to provide better linkage between assessments and interventions.



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### Behaviorism versus Cognitive Science

- The "nature vs. nurture" debate is as old as the psychology profession.
- The curriculum-based measurement/assessment approach touted by many practitioners today has its theoretical roots in behaviorism.
- In the late 1950s, researchers came to realize that the behaviorist approaches could not "explain complex mental functions such as language and other perceptual functions" (Gazzaniga, Ivry, & Mangun, 2002, p. 21), and this still holds true today.

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### Behaviorism versus Cognitive Science

- After passage of P.L. 94-142 in the 1970s, researchers began to investigate the neurobiological bases of learning disabilities and behavioral disorders (Obrzut & Hynd, 1996).
- The past 30 years have yielded substantial evidence for the biological bases of behavior.



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### Behaviorism versus Cognitive Science

- There is strong neurobiological evidence for:
  - attention deficit hyperactivity disorders (see Pliszka, 2003 for a review)
  - reading disorders (see Feifer & DeFina, 2000; Hale & Fiorello, 2004 for reviews)
  - written language disorders (see Feifer & DeFina, 2002; Hale & Fiorello, 2004 for reviews)
  - mathematics disorders (see Fiefer & DeFina, 2005; Hale & Fiorello, 2004 for reviews)
  - pervasive developmental disorders (see Bauman & Kemper, 2005 for a review)

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### Behaviorism versus Cognitive Science

A chief concern among those interested in translating brain research into educational practice is the increased emphasis in these federal laws and national reports on behavioral techniques at the apparent expense of the role that individual differences in cognitive processes play in the child's learning.

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### SLD ID: Response to Intervention

- The term learning disabilities gained widespread use with its inclusion in P.L. 94-142 in 1975.
- In 1981, the National Joint Committee for Learning Disabilities proposed a long-standing definition of learning disabilities suggesting "these disorders are intrinsic to the individual and presume to be due to central nervous dysfunction".
- Many national commission reports have suggested that the common method to identify SLD may be flawed but the definition should remain.

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### SLD ID: Response to Intervention

- There is a contingent of professionals who would like to have SLD redefined and exclude the notion that SLDs are neurologically based.
- A Response-to-Intervention Model is being touted as a possible alternative to the identification of children with learning disabilities.
- It is important to remember that RTI is just a process of systematically applying evidence-based interventions with the primary goal of preventing academic problems.



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### SLD ID: Response to Intervention

- Tier I - High quality instructional and behavioral supports for all students in general education.
- Tier II - Targeted intensive prevention or remediation services for students whose performance and rate of progress lag behind the norm for their grade and educational setting.
- Tier III - Comprehensive evaluation by a multi-disciplinary team to determine eligibility for special education and related services.

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### RTI Model: Questions Remain

- How long does one intervene at Tier 2 before making a referral for Tier 3?
- How long does one stick with an intervention in Tier 2 before switching interventions?
- Is RTI also a wait to fail model depending on how it is operationalized?
- Would it make more sense to complete a comprehensive, multidisciplinary evaluation first that could target specific deficits and provide for better linkage to early and prescriptive interventions?

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### Challenges that Lie Ahead

- Brain behavior research needs to be translated into workable educational practice.
- There needs to be a paradigm shift in the preparation of educators to integrate the value of understanding brain behavior relationships.
- Professionals interested in brain-behavior relationships must become stakeholders in policy making forums.
- The challenge for fields of school psychology, school neuropsychology, and education as a whole is to provide better linkage between assessments and interventions.

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- School Neuropsychology Post Graduate Certification Program - [www.schoolneuropsych.com](http://www.schoolneuropsych.com)

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