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Legal & Ethical Issues in Intervention and Assessment for Intervention

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Assessment

- **Individuals with Disabilities Education Act (2004 re-authorization)**
 - Evaluation must include:
 - "a variety of assessment tools and strategies" (PL 108-466§614[b](2)(A));
 - that "provide relevant information that directly assists persons in determining the educational needs of the child" (PL 108-466§614[b](3)(C));
 - and that have been validated for the purpose for which they are used (PL 108-466§614[b](3)(A)(iii)).
 - Parents have a right to be notified if RTI is being implemented as part of the process to determine whether a child has a disability (34 CFR§300.311[a]).

NASP Principles for Professional Ethics (2010): Assessment

Principle II. Professional Competence and Responsibility

Principle II.3. Responsible Assessment and Intervention Practices

- Standard II.3.2: School psychologists use assessment techniques and practices that the profession considers to be responsible, research-based practice.
 - School psychologists select assessment instruments and strategies that are reliable and valid for the child and the purpose of the assessment.
- Standard II.3.3: A psychological or psychoeducational assessment is based on a variety of different types of information from different sources.

Selecting Assessment Instruments that are Relevant to Intervention: Technical Adequacy

- Reliability
 - Consistency of scores across items (internal consistency), forms (alternate form), and time (test-retest)
 - Concerns: Reliability across CBM "equivalent" reading passages Christ & Ardoin, 2009); reliability of R-CBM "trend" (slope of trendline) with too few data points (Ardoin et. al, 2013)
- Validity
 - Degree to which test measures that which it purports to measure, or accurately represents the phenomenon of interest
 - Concern: *Content validity* of standardized, norm-referenced tests (adequacy of overlap with actual content being taught, of particular concern given new content standards)
 - Concern: *Criterion/predictive validity* of all tests (how well they predict some important future criterion – e.g., "do screening measures accurately predict/discriminate students who will later experience academic failure?")
 - Concern: *Construct validity* (degree to the test accurately measures the hypothesized psychological construct – e.g., "does this processing test accurately measure a construct that underlies learning?")
 - Concern: *Treatment validity* (degree to which information provided by the test is essential to, or provides information that is meaningful for intervention-planning)

Intervention

Scientific, Research-Based Intervention

- No Child Left Behind Act (ESEA, PL 89-10):
 - (i) Employs systematic, empirical methods that draw on observation or experiment;
 - (ii) Involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;
 - (iii) Relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations; and
 - (iv) Has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review (20 USC 6368).
- Components of effective *reading* instruction (defined by NCLB):
 - Phonemic awareness
 - Phonics
 - Vocabulary development
 - Reading fluency
 - Reading comprehension
- Resource:
Institute for Education Science (IES): What Works Clearinghouse (<http://ies.ed.gov/ncee/wwc/>)

Rank order the following factors and practices in terms of their impact on student achievement:

- A. Characteristics of principals and school leaders.
- B. Teachers' knowledge of subject matter.
- C. Teachers' use of formative evaluation.
- D. Students' socioeconomic status.
- E. Students' use of self-instruction strategies.
- F. Teachers' expectations for student performance.
- G. Class size.

NASP Principles for Professional Ethics (2010): Intervention

Principle II. Professional Competence and Responsibility

Principle II.3. Responsible Assessment and Intervention Practices

- Standard II.3.9: School psychologists use intervention, counseling and therapy procedures, consultation techniques, and other direct and indirect service methods that the profession considers to be responsible, research-based practice:
 - Preference is given to interventions described in the peer-reviewed professional research literature and found to be efficacious.

Behavioral Interventions

- "Planned, systematic use of learning principles, particularly operant techniques and modeling theory, to change the behavior of students" (Jacob, Decker, & Hartshorne, 2011).
- Considerations:
 - Are the goals/objectives in the best interests of the student or the teacher (e.g., "dead person behaviors"?)
 - Promote adaptive replacement behaviors, not just suppression of inappropriate behaviors
 - Is the behavioral intervention supported by a functional assessment (observation, interview) or a functional analysis (functional assessment + hypothesis-testing)?
 - Required in the event of major disciplinary code violations that are manifestations of disability
 - Does the intervention employ the "least drastic" procedure that minimizes adverse side effects and is most likely to be effective (e.g., positive behavior supports)?
 - Differential reinforcement (selective reinforcement of appropriate behaviors)
 - Extinction (withdrawing reinforcement of inappropriate behaviors)
 - Removal of desirable stimuli (time-out)
 - Presentation of aversive stimuli
- Note: No intervention should result in denial of basic rights (e.g., lunch) or educational opportunities that are part of the expected educational program!
- Is the effectiveness of the intervention being monitored?

Legal and Ethical Issues in Response-to-Intervention/Multi-Tiered Systems of Support

(Jacob, Decker, & Hartshorne, 2011; Burns, Jacob, & Wagner, 2008)

- Consent not required (Tiers 1 and 2) to "determine appropriate instructional strategies"
- Records review, screening, consultation
- Interventions, if within scope of teacher's authority, and within scope of typical classroom interventions
- Consent if ongoing involvement or privacy intrusion
- Courts tending not to view RTI as "unreasonable delay" of special education, as long as interventions and progress are documented (Delaware College Preparatory Academy and Red Clay Consolidated School District/Delaware State Educational Agency, 2009), and "suspected disability" triggers required evaluation activities
- May not require interventions to be implemented for a predetermined number of weeks before responding to parent request for evaluation; if request refused, must provide notice of refusal and description of rights to challenge the decision (34 CFR §300.311[a]).

Response-to-Intervention/MTSS (cont'd)

Higher stakes if RTI used for eligibility determination

- "Decision rules" require additional research (i.e., recent findings question the use of trend data from CBM progress monitoring if fewer than 10 – 15 data points).
- Validity of *diagnosis* from "failure to respond" (although a good indicator of adequacy of instruction)
- Evaluation (in RTI/MTSS system) must be ...
 - Multifaceted (instructional environment; student skills; multiple measures);
 - Comprehensive (beyond "response" CBM data);
 - Fair (consider language, culture, etc. before choosing interventions; CBM reduces disproportionality; quality of RTI may vary across settings);
 - Useful (positive effect on student learning; doesn't reduce amount of support to students – number of services, intensity, earlier grades, cost effectiveness);
 - Valid (instructional utility and reliability; some concern re: measurement error; good discriminant validity)

Response-to-Intervention/MTSS (cont'd)

Scientific, Research-Based Interventions (SRBIs)

- Adequate knowledge and dissemination of SRBIs across subject areas and grade levels ("standard protocols" evaluated by IES have emphasized early reading, but research on higher grade levels and broader range of skill domains is emerging)
- Consideration of appropriateness, given setting and child characteristics
- Adequacy of resources and training for interventions; policy re: "integrity monitoring" (who; how info used)

Scientific Thinking to Ensure Evidence-Based Practice

Myth-Busting for School Psychologists

Lilienfeld, S., Ammirati, R., & David, M. (2012). Distinguishing science from pseudoscience in school psychology: Science and scientific thinking as safeguards against human error. *Journal of School Psychology, 50*, pp. 7 – 36.

Schools as Host Environments for Commonly-Accepted Myths

- **A profile of characteristics can be used to identify potentially violent students.**
 - No single set of characteristics exists to describe risk with sufficient specificity to be of practical value, and profiling leads to unfair and inaccurate labeling of students (Borum, Cornell, Modezeleski & Jimerson, 2010).
- **Self-esteem is highly related to maladjustment and poor school achievement.**
 - While negatively related to depression, correlation is modest; minimally related to interpersonal success and substance use; correlated with poor achievement, but not causally related (Baumeister, Campbell, Krueger & Vohs, 2003).
- **Subtest scatter can be used to draw inferences regarding specific cognitive deficits.**
 - Subtest scatter accounts for minimal if any variance above and beyond cognitive ability for predicting achievement and learning problems (Watkins, 2003).
- **School-based suicide prevention programs for adolescents can reduce the incidence of suicide.**
 - Little evidence of efficacy, and some evidence of iatrogenic effect (Mann & Currer, 2011).

Myths (continued)

- **Discovery learning results in deeper and more enduring knowledge than direct instruction.**
 - Discovery learning (uncover underlying principles) is best used as adjunct, once knowledge and fluency have been established (Klahr & Nigam, 2004).
- **Whole word ("look-say") reading approaches are effective.**
 - Phonics-based instruction is more effective than whole-word approaches (Rayner, Foorman, Perfetti, Pesetsky & Seidenberg, 2001).
- **There is an autism epidemic.**
 - The diagnostic criteria for autism have become less stringent; reported increases in prevalence are not based on population studies using standardized diagnostic criteria, but on school reports of the number of children classified as autistic. In the UK, there was no increase in rates when identical diagnostic criteria were used across a multi-year span (Gernsbacher, Dawson & Goldsmith, 2005).
- **Matching students' learning styles to teachers' teaching styles results in improved learning.**
 - "Modality preference" (among students) does not interact with teaching method; i.e., there is no difference in student outcomes when the teacher uses a method (e.g., visual presentation) designed to match the student's preference/style (e.g., visual learner) (Pashler, McDaniel, Rohrer & Bjork, 2009).

Many of these issues are being addressed and resolved in current and ongoing research, but ...

- "Research can generate crucial information on ... incidence, effectiveness, and consequences ...
- Scientific thinking is an important *personal value* for individuals who practice psychology."
- "The evidence-based practice agenda is not just about adopting and implementing research-supported practices. It is about our way of *thinking scientifically* to reduce bias and errors in our practice" (Kratochwill, 2012, p. 38, emphasis added).

If a card below has a vowel on one side, then it has an even number on the other side.
Which of the cards should you turn over to determine if this is a true statement?



Why? "Automatic" and Universal Cognitive Errors and Biases

- **Confirmation bias** (seek evidence consistent with our beliefs; deny, distort, dismiss contrary evidence)
 - Premature closure (before adequate evidence is available)
 - Belief perseverance (clinging despite repeated contrary evidence)
 - **The cure:** Consider what conclusions would have been drawn if evidence was the opposite of what it is (e.g., aggressive behavior evokes suspicion of physical abuse in the home; what if child were fearful and withdrawn? If same conclusion is drawn, "confirmation bias.")
- **Illusory correlation**
 - Between "signs" in drawings and propensity for psychological problems
 - Recalling "hits" – when expectation corroborated – and forgetting "misses" (fallacy of positive instances)
 - **The cure:** Attend to instances that do not corroborate expectations.

Cognitive Errors and Biases (cont'd)

- **Hindsight bias** ("I knew it all along" ... perceiving events as more predictable after they've occurred than before they occurred)
 - Contributes to overconfidence, and tendency for "second opinions" to corroborate first opinions
 - Contributes to tendency to assume that an event/condition that precedes a pathological outcome is causally related to the outcome (e.g., knowing a child was adopted is regarded as cause of his disruptive behavior)
 - **The cure:** Generate alternative explanations for the outcome.

Cognitive Errors and Biases (cont'd)

- **Over-reliance on heuristics** (mental shortcuts or “rules of thumb”)
 - *Recognition heuristic*: “If we’ve heard of something, it’s probably better” (e.g., Harvard vs. Nowhere Community College, or WISC vs. Obscure Test of Intelligence)
 - *Availability heuristic*: Judge likelihood of an occurrence by ease with which it comes to mind (e.g., escalation in school violence as a result of publicity, despite evidence of decrease over past 2 decades)
 - *Anchoring heuristic*: Tendency to be influenced by initial information (e.g., initial low IQ score, followed by later higher score; lower score “sticks”)

Cognitive Errors and Biases (cont'd)

- *Affect heuristic* (emotional reasoning): More likely to remember and be persuaded by claims with emotional salience (e.g., anecdotal reports and stories)
- *Representativeness heuristic*: “Like goes with like” (Drawing conclusions based on similarities between current phenomenon and past experiences or prototypes; e.g., some IQ test responses remind SP of responses observed among some children with autism)
- **Base rate neglect**
 - Underemphasizing the rate or prevalence of a phenomenon within the population as a whole (e.g., regarding IQ score discrepancies as diagnostically significant, despite their high base rate in the general population)

To make matters worse ...

Many of the decisions in which school psychologists are involved (especially those of a high-stakes nature) are actually made by *teams*.

So, group “process” variables influence decisions, including ...

Groupthink (preoccupation with group unanimity that impairs critical thinking)

- Pressure toward conformity ("We really need to reach consensus")
- Illusion of group's unanimity ("We all agree, right?")
- Illusion of group's correctness ("We're on the right track")
- Mindguards, or self-appointed group members who suppress dissent ("Are you sure you know what you're talking about?")
- Self-censorship, or tendency to keep doubts to oneself ("I must be missing something, so I'll keep quiet")
- **The cure:** Encourage minority dissent; appoint a devil's advocate to raise questions about group decisions

Cognitive Errors and Biases (cont'd)

- **Warning signs:**
 - Lack of falsifiability of hypotheses, and tendency to explain away negative findings that contradict hypothesis ("Well ... maybe it didn't work because the intervention wasn't done properly")
 - Emphasis on confirmation
 - Evasion of peer review
 - Over-reliance on testimonials and anecdotal evidence
 - Extraordinary claims
 - Absence of connectivity between this claim and "settled science" (truly revolutionary paradigms overthrowing extant knowledge are exceedingly rare)
 - Ad antequitem fallacy (because this has been done for years!)
 - Use of hypertechnical language
 - Lack of self-correction ("science" means bending over backward to prove oneself wrong!)
- **Bias Blind Spot:** "Although others make these cognitive errors, I don't, because I'm not that biased or naïve."
 - The "not me" fallacy
 - It's important for others to learn about evidence-based practices!

Ten Prescriptions for School Psychologists

- Seek out disconfirming evidence (to prove your hunch/hypothesis wrong);
- Don't become overly attached to your hypotheses ("know all theories, love some, wed none");
- Consider rival hypotheses (accept hypothesis only if it beats at least one other rival hypothesis);
- Don't cherry-pick (examine *all* evidence/data);
- Put your intuition to the test (hunches may be a good starting point, but they don't work well for decision-making);
- Be skeptical of clinical judgment and long-standing clinical wisdom ("eminence-based practice");
- Be aware of the existence of blind spots (run ideas past others to detect weaknesses or biases);
- Encourage dissent (reinforce others who offer alternative views);
- Quantify, quantify, quantify (assess "impressions" numerically; measure outcomes);
- Maintain a self-critical attitude (willingness to acknowledge that one might be mistaken), and be willing to change beliefs.

References & Further Reading

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