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WJ Perspectives

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Relevance in Cognitive Assessment, the *WJ* IV COG, and the *WIIIP*

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The ***Woodcock-Johnson*® IV Tests of Cognitive Abilities** (***WJ* IV™ COG**) measures the most important cognitive abilities for learning. The new ***WJ* IV *Interpretation and Instructional Interventions Program™ (WIIIP®)*** helps school psychologists relate cognitive assessment results to instructional planning. When the ***WIIIP*** is used with the ***WJ* IV COG**, assessment results are linked to relevant suggestions, interventions, or accommodations that can be used to individualize a student's program plan, teach strategies for learning, and improve educational outcomes.

It's probably fair to say that every school psychologist is motivated by a desire to make a difference in the lives of students. We all want to be relevant—and teachers, parents, and administrators expect that school psychologists will use specialized knowledge to help identify the nature of a struggling student's learning problems and make well-informed suggestions for improving educational outcomes. The desire for relevance in assessment practice is also reflected in the ***WJ* IV Tests of Cognitive Abilities** (Schrank, McGrew, & Mather, 2014b). Designed to measure an array of important cognitive abilities, the ***WJ* IV COG** facilitates documenting a student's relative strengths and weaknesses and can help professional teams determine if a disability exists. The ***WJ* IV *Interpretation and Instructional Interventions Program*** (***WIIIP***) (Schrank & Wendling, 2015) takes another step forward by linking ***WJ* IV COG** assessment results to individualized instructional interventions and program planning.

WJ IV Interpretation and Instructional Interventions Program

The ***WIIIP*** is an online program option designed to help school psychologists link test scores from any of the ***Woodcock-Johnson* IV** (Schrank, McGrew, & Mather, 2014a) batteries to associated instructional interventions. The idea for an expert system that would link ***WJ* IV** test and cluster scores to instructional interventions emerged in response to pressing practice needs that were articulated by many professional examiners. Those needs resonated with the authors' philosophy that assessment is most valuable when it results in suggestions for instruction and a fundamental belief that a quality evaluation should make a difference in the educational program of a student. To transform those practice needs and guiding philosophy into a practical tool for school psychology practice, a database of evidence-based interventions was derived from the efforts of hundreds of researchers and scholars whose studies and recommendations—spanning at least four decades of research—were based on thousands of research participants. The ***WIIIP*** now provides an updated database of evidence-based interventions—over 700 in total. The database includes over 100 evidence-based reading interventions and more than 50 evidence-based interventions aligned with each of the math, writing, and oral-language domains. In addition, specific skill development activities are suggested when item-level data is entered for five achievement tests: Letter-Word Identification, Word Attack, Spelling, Applied Problems, and Calculation. A sixth achievement test, Oral Reading, provides formative interventions when the examiner enters a tally of error types the student made when reading aloud.

But the ***WIIIP*** also links ***WJ* IV COG** results to dozens of new evidence-based interventions, recommendations, or accommodations that can help school psychologists address identified limitations in cognitive abilities— Comprehension-Knowledge (Gc); Fluid Reasoning (Gf); Short-Term Working Memory (Gwm); Cognitive Processing Speed (Gs); Auditory Processing (Ga); Long-Term Retrieval (Glr); and Visual Processing (Gv). Linking the results of cognitive assessment to instructional strategies, learning objectives, and intervention plans makes cognitive assessment more relevant than ever before. Creating an educational program that includes recommendations based on the cognitive profile of a student can make a real contribution toward individualizing an educational plan and achieving positive educational outcomes.

Linking Cognitive Assessment to Intervention

The ***WIIIP*** provides school psychologists with a valuable resource for linking assessment to interventions that can assist teams in making informed choices about the educational program of a student. To illustrate how the ***WIIIP*** interventions can contribute to individualizing an instructional program, three examples—drawn from three very different broad cognitive abilities—are presented.

Comprehension-Knowledge (Gc)

No area of cognition is more conducive to improvement through intervention than Gc. Increases in knowledge can positively influence all areas of cognitive and academic performance. The ***WIIIP*** connects identified limitations in Gc—vocabulary and general knowledge—to

evidence-based interventions and recommendations at the level of the student's capacity to learn. The ***WIIIP*** includes numerous evidence-based interventions for limitations in Gc that focus on helping a student build vocabulary and background knowledge, including, if applicable, explicit recommendations for intentional, explicit word instruction; monitored practice with target vocabulary words; exposure to a variety of new words and general knowledge through reading; and specific, targeted word-development strategies such as word walls, word analysis techniques, and semantic mapping. Here is an example of one intervention that would be triggered for Todd, a Grade 4 boy with limited word knowledge based on his performance on the Oral Vocabulary test:

Use semantic feature analysis to help Todd explore the similarities and differences between the meanings of known words and the meanings of new words. Select a category related to the topic being studied. Identify keywords related to the topic. Create a chart with the topic listed at the top and the keywords listed down the left side. Write words that represent features shared by some of the keywords as headers for each column. Have Todd place a + or - in each column across from each keyword depending on whether or not the word has the feature listed. Discuss the similarities and differences among the keywords.

Fluid Reasoning (Gf)

Inductive and deductive reasoning are the hallmarks of fluid reasoning ability. Although many children develop reasoning abilities intuitively and incidentally, for some students, specific reasoning skills need to be explicitly taught. For those students, the ***WIIIP*** includes interventions that are designed to help develop inductive and deductive reasoning abilities. Students with deficits in Gf can benefit from interventions that involve categorization and drawing conclusions, particularly when the skill involves connecting new concepts to prior knowledge. Carefully targeted and well-planned Gf interventions that use teacher demonstrations and guided practice and that provide immediate feedback on performance may positively influence the development of reasoning abilities that are required in mathematics performance and other domains of academic learning. For young children, the ***WIIIP*** includes a variety of intervention activities designed to help develop early reasoning skills such as matching, finding similarities and differences, and categorizing. For older children and adolescents, ***WIIIP*** interventions include suggestions for implementing cooperative learning groups, reciprocal teaching modules, and metacognitive strategy instruction. The following is an example of one intervention that may be triggered for Jane, a Grade 1 girl with delayed number reasoning abilities on the Number Series test:

Jane may benefit from playing board games and card games to develop her sense of quantity, patterns, and the relationship between numbers. Board games require Jane to count spaces, sometimes forward and sometimes in reverse. Some board games require the use of dice, which assist in developing pattern recognition and counting strategies. Card games also represent numbers with patterns and can build number awareness and pattern recognition.

Short-term Working Memory (Gwm)

Short-term working memory plays an important role in academic success, especially when performing cognitively complex tasks. Although some disabilities in working memory capacity may need to be accommodated by keeping directions short and simple or using written lists of steps or things to remember, there are effective strategies that can be specifically taught to focus attention and lessen the demands on working memory capacity. Attentional focus and managing the demands of complex, multi-step problems can be developed with patience and practice— such as learning to slow down in response to difficult tasks and tackling a multi-step problem by breaking it apart into manageable units. The benefits of improved attentional focus and effective working memory strategies can result in improved performance across all areas of learning. Here is an example of an intervention that would be triggered for Gregg, a Grade 7 boy whose performance on Verbal Attention was limited:

Maintenance rehearsal is a technique for keeping information in working memory. Teach Gregg ways to consistently revisit important information, such as repetition of verbal information, re-reading of important print material, or re-scanning of visual input.

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Conclusion

When using the ***WJ* IV COG** and the ***WIIIP***, school psychologists can link limitations or deficits in cognitive abilities to instructionally-relevant interventions and recommendations that can make a real difference in learning. To be relevant, cognitive assessment should result in evidence-based interventions or practical suggestions for the educational program of a student—recommendations that may not have surfaced if a comprehensive cognitive evaluation were not conducted. School psychologists have the training, the knowledge, and the tools to identify a student's unique pattern of strengths and weaknesses and the desire to make a difference in the educational program of the students they evaluate. Linking ***WJ* IV COG** results to interventions or accommodations is made easier with the ***WIIIP***—making the assessment more relevant to the student's needs.

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References

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