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Case Study Paper

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Case Study: Helping Penelope

Analysis on Penelope's Test Scores

One of the most notable aspects of the test results that Penelope took was the fact that they indicated in almost every category that she did not have problems or deficits. Almost all her standard scores were within one standard deviation of the average. In fact, she was remarkable close to the mean average on most of her scores on the WISC-IV and the WJ-III. The only exceptions being her Memory score on the WISC-IV (which will be discussed separately) and the Full Scale IQ which was still well within one standard deviation of the mean and which may have been impacted by the low Memory score. The tests also showed that Penelope did not have signs of ADD, ADHD, or Depression which helps narrow the causes of her learning difficulties. The Depression score in the 49th Percentile, as with most of her scores, was almost exactly at the mean or average score which would be represented by the 50th Percentile.

Penelope's test scores showed a very clear deficit in her memory. The case study explanation further elaborated that this memory deficit was in her short term and working memory. Her long term memory appeared to be normal. The memory score of 61 is significantly low. While all of Penelope's other scores were within one standard deviation of the mean average, the memory score was almost three deviations from the average. Penelope's percentile rank on her memory score would put her in the less than 1 Percentile category meaning more than 99 percent of individuals would have a higher memory score. This is a clear indication of a deficit that would affect Penelope's education and daily living. Further indication of her memory problem was the narrative

describing Penelope's results on the WJ-III. Even though she produced average scores, she was noted to have difficulty listening to directions and then completing a task that required multiple steps. This described difficulty is also descriptive of an individual with a short term or working memory deficit.

My research into individuals with deficits such as these test results describe for Penelope indicate how these deficits can be hidden to the naked eye. "Children who have problems in working memory or self-regulation of attention, neither of which can be directly observed, have invisible handicaps that may mask their ability to think." (Berninger & Richards, 2002, p. 7) It is great news that these tests were able to uncover deficits that might not be readily visible through observation.

It is often the case that observations of individuals with working/short term memory deficits are not interpreted correctly. Penelope has been described by her teachers as unmotivated, lazy, and prone to day dreaming, and her mother has also described her as being lazy. I found it noteworthy in my research how common this description matches other individuals with these deficits. In an article describing students with working memory impairments the author made the following observation: "Although the classroom teachers viewed their main problems as relating to lack of attention and motivation (e.g., 'He doesn't listen to a word I say'), it is important to note that the children showed no consistent evidence of attentional deficits" (Alloway, 2006, p. 137) It is great that the tests Penelope took uncovered what observation could not. It is important to also know how this deficit affects her learning process.

Impact of Penelope's Memory Deficits on Her Education

Scholarly articles helped clear up for me what working memory is and how it affects a person with a deficit in this area.

The key feature of working memory is its capacity both to store and manipulate information. Working memory functions as a mental workspace that can be flexibly used to support everyday cognitive activities that require both processing and storage such as, for example, mental arithmetic. However, the capacity of working memory is limited, and the imposition of either excess storage or processing demands in the course of an ongoing cognitive activity will lead to catastrophic loss of information from this temporary memory system. (Gathercole & Alloway, 2006, p. 4)

An article by one of the same authors helps to describe how this deficit translates into educational delays and disruption.

A child with weak working memory capacities is ... limited in their ability to perform ... in important classroom activities. ... [P]oor working memory skills result in pervasive learning difficulties because this [deficit] acts as a bottleneck for learning in many of the individual learning episodes required to increment the acquisition of knowledge (Gathercole, 2004). Because low working memory children often fail to meet working memory demands of individual learning episodes, the incremental process of acquiring skill and knowledge over the school years is disrupted. (Alloway, 2006, p. 137)

In other words, a student with a working memory deficit often receives more information than they are able to put together in an organized manner. By the time the information given is completed, the student would have forgotten the first part of the information. If this procedure is allowed to continue without accommodation, the student progressively falls behind because they have not successfully incorporated information that is needed to build upon the acquisition of new knowledge. With the deficit identified and an understanding of what problems it causes in learning, what remains is what can be done about it.

What Can be Done to Help Penelope?

The research I discovered seems to indicate there is not any “memory training” that has been found to significantly improve the academic achievement of individuals with low working memory skills. There are ways to help, however, as an author describes: “...[W]e suggest that the learning progress of children with poor working memory skills can be improved dramatically by reducing working memory demands in the classroom.” (Alloway, 2006, p. 137)

The essential problem of children with poor working memory skills is that they forget what they have to do next. One way teachers can compensate for this deficit is by giving these students instructions that are brief and simple. If the activity is more complex, it would be helpful for the instructor to break the complex task down to smaller separate steps. Another strategy for helping students like Penelope would be to frequently repeat the instructions to her, and if the process is stretched over a long period it is important to just repeat the instructions relating to the part of the process Penelope would be working with at the time. Another strategy to help Penelope is to ask her to repeat the instructions to determine if she has understood what was being asked of her (Alloway, 2006, p. 138). It has also been suggested to have individuals like Penelope practice making certain lower level rote activities automatic in order to free up higher level thinking tasks (Berninger, 2002).

Although processing information was not noted as a problem through the tests, other strategies to decrease processing demands could also help Penelope. The processing of complex sentences can be difficult for individuals with poor working memories as they cannot put together the meaning of the sentence after it is stated.

Simplifying the complexity of the sentences would help. This could be done, for example, by using easier vocabulary or simple subject-verb-object structure. Keeping key reminder information and difficult vocabulary words right on the desk could also help Penelope. Penelope should be encouraged by her teachers to ask for forgotten information. Furthermore, training Penelope in the use of memory aids such as pictures and visual schematics could be valuable as well (Gathercole & Alloway, 2006, p. 12).

I found other ways Penelope could be helped through information given to college students who face similar learning difficulties. Penelope could be given instructions both orally and in simplified written form. She could be allowed to tape instructional sessions. Penelope could be trained to keep one single calendar with all relevant dates, assignments, and appointments. She could possibly benefit by sitting near the front of the class to receive easier teacher reminders and to avoid other distractions (University of Wisconsin-Milwaukee, 2007).

Still other ways to help Penelope can be discovered in how businesses accommodate employees who have working memory deficits. Penelope could use electronic organizers that may have reminders and cues. She could be given reminders and instruction through email to her home if available (Job Accommodation Network, 1995).

Other aids I discovered could be described to Penelope so she would know of what accommodation could be available in the workplace. Some of these aids include wearing earplugs to mask confusing background noise and sight barriers to reduce visible distractions (Langton, 2002). In the workplace, Penelope could have voice activated phones that could dial numbers without the need to remember the number. She could

have telephone recorders for taking information over the phone. She could have controls that are labeled simply and logically and which do not have multiple/complex functions. Communication to Penelope could be set up to reduce complex messages to clear simple messages (Job Accommodation Network, 1995). These and many other resources are available to educate Penelope on what tools could be used to help her both now and in the future.

What Should Penelope's School Counselor do to Help Her?

As Penelope's counselor, once I received the scores of her tests, there are many things I would need to do. I would be in an important position to both advocate for what accommodations she would need and to coordinate and facilitate those accommodations. For part of my research, I used a contact that I have to bridge the gap of my limited knowledge regarding what a counselor should do for Penelope in this situation. I spoke to Sandra Sparks, a friend of the family who is a retired guidance counselor from North Carolina.

Sandra made me aware of the very important duties that the counselor would have to ensure Penelope received the help she needed. It appears that although Penelope has defined deficits, she would not likely qualify for Special Education under the Individuals with Disabilities Education Act (IDEA). Penelope would, however likely qualify for assistance under Section 504 of the 1990 Americans with Disabilities Act (ADA). For Penelope to qualify for assistance under Section 504 she would need to show she has a mental impairment which substantially limits one or more major life activities (Richards, 2006). Although "a substantial impairment of a major life activity" has not been specifically defined, guidance can be found in the Codes. A substantial impairment of

this nature has been described as a condition that significantly restricts an individual from performing a major life activity under which the average person in the population would not be so restricted (Richards, 2006). It would seem that Penelope would qualify in this regard since her working memory is in the less than 1 Percentile of the entire population.

In order to receive services under Sec. 504 a certain procedures need to be followed which includes a referral form and parental consent. This assistance will not come on its own to Penelope without some advocacy on the part of the counselor (me). The parents need to be informed of what assistance is available and how Penelope could benefit from this assistance. Teachers are often not pleased to fit accommodations into their regular teaching routines, and school administrations are always constrained by the costs of accommodations. But these accommodations are not voluntary. Federal money to schools is tied to compliance with Sec. 504. A 504 committee is formed to implement accommodations needed and the counselor is an important conduit between the committee and the student/parents/teachers.

It would also be important to educate Penelope and her parents that Sec. 504 requirements are not limited to high school. Both colleges (University of Wisconsin-Milwaukee, 2007) and the workplace (Gotthelf, 2006) are required to follow Sec. 504. This information is particularly important when considering what classes to schedule and what career recommendations to make for Penelope. It is important to limit the affect of the working memory deficit first and foremost in order to maximize Penelope's learning potential. Penelope should also become aware that many occupational areas she may have interest in are not prohibited due to her memory deficit when appropriate accommodations are available and are required to be provided. Although there may be

some occupations that would not have available accommodations (for example court reporter or air traffic controller), Penelope should be encouraged to pursue whatever direction she wishes to as long as some accommodation could be arranged and the goal is realistic.

As Penelope's counselor, my duty to advocate for her cannot be overemphasized. Right from the start it will be important to make the teachers and parents understand that Penelope is not having trouble with her grades because she is lazy or unmotivated. They must know Penelope is struggling because the way she stores information is done in a way that makes it near impossible for her to follow instructions that are anything except clear and simple. These key people should know there are not other deficits that are getting in her way of learning; and if a concerted effort is made to help accommodate this deficit there is no reason she cannot successfully advance in her education. Parents and teachers alike should be made to understand how the modification of the instructions given to Penelope will make a world of difference to what she is able to accomplish.

This case study has helped me to understand both the potential assistance a counselor could have to the educational development of a student and the awesome responsibility of making sure each student receives an educational environment that matches their needs. I am excited to put this into practice.

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