THE HIDDEN CHILD: AN UNCONVENTIONAL LEARNER

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ABSTRACT

Students who perform below their intellectual capabilities may be considered underachievers, lazy, and/or just not very smart. These students may have difficulty processing information delivered by the conventional means and manner typical of traditional schools. This does not mean, however, that they are not capable of processing this information. What it does mean is that their brains process, store, and retrieve information in an unconventional manner.

Unconventional learners are hidden within an educational system that is calibrated to deal with large numbers of conventional or, alternatively, clearly exceptional learners. Therefore, few diagnostic methodologies or support mechanisms exist for unconventional learners who function below their intellectual capabilities and have significant, but unrecognized, barriers to learning.

This article discusses the *hidden child;* the child who performs at a level high enough to avoid being identified as needing '"formal" assistance, but who nevertheless functions well below his or her full potential.

INTRODUCTION

The big game is almost over and a time-out is called by the coach. The team runs to the sidelines and the coach sketches and talks about important plays to use in the final minutes of the game. The team is "pumped," so the coach takes extra care to get the players focused by clearly and succinctly showing and telling them what they should do on the field. The whistle blows and play continues. Time ticks off the clock and, all of sudden, Michael *sees* a situation that the coach showed the team on the clipboard; he makes a break and focuses on the ball. He feels self-assured and empowered to *act*. The team rallies in support of Michael as he confidently moves toward the goal and scores.

On Monday, Michael goes back to school feeling good about himself and eager to talk to his friends about the big game. Then the bell rings and class begins. The teacher diagrams and discusses the lesson and asks students to complete a written assignment. Now Michael must complete the assignment using the information that the teacher provided in class. The teacher's directions were complete, but for some reason they did not sink in for Michael. He begins to read, but very slowly. Michael is running out of time. For some reason, he cannot connect with the information. Michael is frustrated and is unable to focus. The information on the page does not come together in a way that enables Michael to *see* the situation and *act* to move toward a solution. This is not the first time Michael has faced this type of situation; he knows that there is no winning play for him here, so he slouches down in his chair and quits trying.

This scenario describes a significant percentage of students in our educational system. These students may appear to be bright, articulate, and well-adjusted in a wide variety of social situations, but in academic situations, they seem to disappear in front of our eyes. Their academic performance is not low enough to identify them as officially needing special help, but *is* low enough to interfere with achievement of their full potential. They are often considered by their teachers, parents, and peers to be either *underachievers* ("He's smart enough, but he fools around and isn't willing to apply himself") or *overachievers* ("She works hard, but just isn't all that smart"). Sometimes these students may become labeled as troublemakers or they may choose to hide by not participating or dropping out. These pupils may lack confidence and deliberately limit their participation in social or academic endeavors to avoid appearing *dumb*. Expectations (of teachers, parents, and themselves) tend to drift downward.

Who are these underperforming children, what makes them different, how can they be identified, and how can we help them to achieve their full potential? Two questions we should ask are (a) are the child's academic or intellectual capabilities legitimately in question and, (b) are there unidentified processing issues that inhibit performance despite the child's inherent intellectual capacity; i.e., the child processes information *differently* than the norm? This paper discusses the child who functions below the notice of the academic performance detectors; not low enough to be easily identified as requiring help and not high enough to be consistent with their intellectual capabilities. This child is the *hidden child,* the child who has a unique or *unconventional* learning process but who, given the proper tools, most certainly *is* capable of learning at a higher level.

In order to provide context to the discussion of the hidden child and the impact of being an *unconventional learner* in the educational system, we must briefly examine the fields of Learning Disabilities and Cognitive Processing.

LEARNING DISABILITIES

The U.S. Office of Education, in 1977, defined specific learning disabilities (LD) as psychological processing disorders that result in deficits in at least one of the academic skills. Individuals who have been diagnosed with learning disabilities have difficulty with processing skills such as memory, visual perception, auditory perception, or thinking and, as a result, have trouble achieving in at least one subject such as reading, math, or writing (Lerner, 2003). These problems can make it difficult for a student to learn as quickly as someone who is not affected by learning disabilities. Certain kinds of learning disabilities interfere with a person's ability to concentrate and can cause a student to lose focus on the task at hand.

Learning disabilities can vary in severity and interfere with the mastering of and the use of one or more skills: *oral language* (e.g., listening, speaking, ability to grasp meaning), *reading* (e.g., decoding, fluency, comprehension); *written languag*e (e.g., spelling, written expression); *mathematics* (e.g., computation, problem solving).

A leading web site on learning disabilities and ADHD, (http://www.ldonline.org/ldbasics/whatisld), that serves more than 200,000 parents, teachers, and other professionals cited the following facts and statistics about the LD population.

- Fifteen percent of the U.S. population, or one in seven Americans, has some type of learning disability, according to the National Institutes of Health.
- Difficulties with basic reading and language skills are the most common learning disabilities. As many as 80% of students with learning disabilities have reading problems.
- Learning disabilities often run in families.
- Learning disabilities should not be confused with other disabilities such as mental retardation, autism, deafness, blindness, and behavioral disorders. None of these conditions are learning disabilities. In addition, they should not be confused with lack of educational opportunities like frequent changes of schools or attendance problems. In addition, children who are learning a new language (such as English) do not necessarily have learning disabilities.

Learning difficulties are often identified in early childhood or in early elementary school by parents or teachers. Students are tested to determine the level and category of learning disability. If a student falls within a range identified by the school, an Individual Educational Program (IEP) is created to help accommodate the learning process.

Individuals identified as having learning disabilities typically have adequate or better intelligence levels and have abilities to learn despite difficulties with processing information. Living with a learning disability can have an ongoing impact on school, work, self-esteem, family, friendships, and daily life in general if the student is not identified and provided with the necessary assistance to succeed in an academic environment.

COGNITIVE PROCESSING

Cognitive processing refers to all mental operations by which sensory input is perceived, transformed, stored, retrieved, and used (Dehn, 2006, p. 2). Human cognition encompasses a series of complex occurrences or actions that interact in the brain to create thought. Recent brain research has helped to discover some of the elements that define cognitive potential and has begun to demystify how human thought is processed.

> In recent years educators have explored links between classroom teaching and emerging theories about how people learn. Exciting discoveries in neuroscience and continued developments in cognitive psychology have presented new ways of thinking about the brain - the human neurological structure and the attendant perceptions and emotions that contribute to learning. (Caine & Caine, 1990, p. 66-70)

For decades, educators viewed students as empty vessels waiting to be filled with information and facts. This idea has been challenged by the constructivist point of view that students "create or construct their own new understandings or knowledge through the interaction of what they already know and believe and the ideas, events, and activities with which they come in contact" (Cannella & Reiff, 1994; Richardson, (1997). The idea that intellectual capacity is a *fixed entity* has given way to the view that "the brain … is powerfully shaped by experiences before birth, during youth and, in fact, throughout life" (Diamond, 2001). This point of view provides the framework for the study of continuous learning from a broader perspective. Brain research in the last 20 years has led scientists, psychologists, and educators to recognize and understand that individuals can improve their cognitive functions through targeted interventions and/or strategies. An example of this is the research by Michael M. Merzenich (Doidge, 2007) in the area of brain plasticity.

> Merzenich's specialty is improving people's ability to think and perceive by redesigning the brain by training specific process areas, called brain maps, so that they do more mental work. He has also, perhaps more than any other scientist, shown in rich scientific detail how our brain-processing areas change. (p.46)

The sensory areas of visual and auditory processing and the cognitive processing areas of sequential, conceptual, speed and executive functioning are undergoing rigorous research. Visual and auditory processing have been researched for years and, more recently, research in the cognitive processing areas has helped to unlock the inner workings of *how* cognitive processing occurs and *how* the brain creates new knowledge through *neuroplasticity,* or reorganization of its maps. The following definitions of various processing areas provide an overview of key functions required for learning.

Visual processing is the ability to make sense of and utilize information taken in through the eyes, even when it is abstract or complex. Difficulties with visual processing affect how visual information is perceived or interpreted by the brain; e.g., how learners *visualize* and remember things that they see.

Auditory processing is the ability to analyze or make sense of information taken in through the ears. Difficulties with auditory processing do not affect what is heard by the ear, but do affect how information is perceived and interpreted by the brain; e.g., distinguishing and remembering different sounds, understanding and remembering sound patterns.

Sequential processing is the ability to take in, store, process, and use information in an orderly way; i.e., a filing system that is a part of short-term memory. It is not intelligence in itself, but a building block that supports intelligence and the efficient intake and interpretation of information (just as a filing system is not information but is a process of organizing information). It involves the ability to learn, memorize, organize, and express detailed information.

Conceptual processing is the ability to interpret the total picture and/or perceive patterns. It provides the foundation for higher-order thinking, inventiveness, and reasoning.

Processing speed is the ability to perform relatively automatic cognitive tasks quickly and/or under the pressure of timed conditions. It involves acting or reacting to various situations quickly and efficiently.

Executive functioning involves high-level abilities that influence and manage basic functions like attention, memory, and motor skills. It includes the ability to initiate and stop actions, appropriately monitor and change behavior, and to plan future behavior when faced with new tasks and/or situations.

Learning requires students to attend to relevant stimuli, perceive it accurately, store it in their short-term memories, move it to their long-term memories, retrieve it, and express this knowledge when needed. A critical aspect of these areas of cognitive processing is their impact on student performance. Educators, from their new vantage point as *insightful investigators*, must consider how, and to what degree, students' cognitive processing strengths and weaknesses affect learning and, therefore, teaching techniques. Enhancing teacher recognition of the multidimensional aspects of how the human brain processes information and raising students' awareness about their own unique cognitive processing characteristics can help unconventional learners to achieve their optimal academic levels. In the next section of this paper, I will discuss at what point and to what degree does a deficit in cognitive

processing become a disability? Are there alternative courses of action that can be taken to improve the outcome for these students?

WHO IS THE HIDDEN CHILD?

In this paper's opening scenario, Michael's performance in sports made him feel smart and confident, but in the classroom, these positive feelings fade. What happens to Michael? Does he lose his ability to think quickly and take action? No, the reality is that Michael *is* smart, but his experience in the classroom does not confirm this for him (or his teachers). Michael's inner world is often in conflict with his outer world. His inner world tells him that he can function at a higher level, but his experiences in the outer world tell Michael that he is not capable of performing. Such conflicting messages cause a hidden child like Michael to question who he is and if he is really dumb, especially when he finds himself unable to keep up with his peers when dealing with complex schoolwork and social situations.

The term *hidden child* describes students who may find themselves avoiding the academic and/or social spotlight, either by working twice as hard to get acceptable grades or simply doing as little as possible to stay under the radar of their teachers and peers. In some cases, the frustration caused by the tension between their inner and outer worlds may manifest itself as with further withdrawal or inappropriate classroom behaviors, such as being disruptive or acting silly (another way to stay under the *academic radar*'). If their behavior becomes a barrier to learning, then these students may be identified by the educational system, but not for the *actual* reasons behind their actions. As time passes, their inappropriate behavior may spill over into their social world, causing them to have socialization difficulties. Michael and students like Michael across the educational system need a way to understand why these inconsistencies occur in their lives and how they can take control of their performances in both school and in social situations.

What these students, their families, and their teachers may not recognize is that they may have difficulty in academic situations because they must interpret and process complex auditory or visual information (sensory processing) that is presented to them in a traditional/standardized way and then complete the assignment in a given time period. All of this standardized information must be dealt with using their brains' unconventional processing methods. The reasons for these less-than-obvious learning difficulties or unconventional processing methods may be the existence of differences in one or both sensory processing areas.

Students like Michael are not rarities in our school systems; they exist at every intellectual capability level in virtually every classroom. These students are not disabled, they are unconventional learners hidden under the mass of conventional curriculum, the rush to complete material on a schedule for the entire class, and of unbending application of standardized assessment rules in our schools. These students are hidden because their performance levels are not low enough to qualify for an individualized education plan (IEP); they do enough to get by or they figure out work-arounds so the system does not even notice, let alone adjust to, their unconventional learning process.

DEFINING A NEW APPROACH TO LEARNING: "THE UNCONVENTIONAL LEARNER"

Statistics tell us that a significant number of students are struggling to be successful in school. This is no different than in days past, but we now have the capabilities to identify and help students who may process information differently. The difficulties that these students face are often manifested in ways that cause them to be completely overlooked or to be perceived as behavior problems. These students, and often their parents, know that something is not quite right, but they do not understand the cognitive implications. They may not understand, or may choose not to deal with, the situation, not wanting to be stigmatized by the label of learning disabilities, nor is it appropriate to label these students as such. These students may have different approaches to learning, i.e., processing ***differences,*** rather than learning disabilities. Granted, if a student exhibits difficulty in learning that involves understanding or interpreting intricate spoken or written language, then making a distinction between a learning *difference* or a learning *disability* is nuanced. You might say "tomato/toma*ah*to;" there is no definitive difference if a strict interpretation of the traditional definition of learning disabilities is used. It could just be a matter of degree.

However, when educators and the educational system step back from the traditional view and look at these students with a multidimensional lens (e.g., academic, social, emotional, cultural), it becomes apparent that there are dissimilarities between learning *disabled* students and unconventional learners with learning *differences*. Essentially, unconventional learners' processing differences can be

addressed via *conventional* teaching strategies and techniques, in addition to new brain-based strategies tailored to support their individual processing styles.

Educators who learn to recognize students who underperform due to the effect of cognitive processing differences are better positioned to:

a) tactically identify these students for closer observation.

b) monitor their performances in academic environments with a focus on unconventional teaching and learning approaches, and

c) fine tune their classroom diagnostic procedures to meet the needs of these students.

If these distinctions are recognized and such unconventional learners are identified, they can be coached to:

a) understand how their cognitive processing operates differently from the norm,

b) develop personalized targeted strategies to deal with their unique styles

c) use appropriate tools to take advantage of their individual strengths and to offset weaknesses.

Modification of classroom practices by teachers (without formal intervention protocols) to help unconventional learners understand and take charge of improving their own learning processes is a win-win outcome. Without such informal intervention, students with learning/processing differences run the risk of being lost in the educational shuffle or of having their learning/social issues exacerbated until they reach a point where they are classified as having learning disabilities.

Not unreasonably, educators in the past have thought about these students using the paradigm of learning disabilities. It has been only in the last 10 to 15 years that brain research on learning and cognitive processing has started filtering into the classroom. As educators integrate cognitive processing models into their toolboxes, all students will benefit. Educators have long sensed that a learning gap may exist for some of their students, but they were not equipped to identify specific problems, much less provide assistance. With the support of brain-based learning research, educators are now finding methods to fine-tune the diagnostic processes for a greater range of students. One method gaining broad acceptance by educators is a common sense approach to meeting the needs of learners (including unconventional learners) through a process called Response to Intervention (RTI). Response to Intervention is a tiered method of academic intervention designed to provide and measure early and effective assistance to children who have difficulty learning.

As a new mindset emerges about the unconventional learner who does not need a formal IEP intervention but is underperforming relative to their intellectual capacity, the educational system must continue to develop and validate new learning approaches. A critical component to this mindset, however, is the understanding that if an individual possesses unconventional learning characteristics, it does not imply that their intelligence is in question. In fact, the implication is to the contrary; they may have more intellectual ability than they had been credited with, but processing issues interfere with their performance. In many cases, these individuals could have above average intelligence.

When this way of thinking about the unconventional learner is understood and accepted in the educational arena, students and parents (and, no doubt, many educators) who would not have admitted to having difficulties in cognitive processing (due to the stigma attached to such admissions) might feel more comfortable in coming forward for help. Unique or different learning processes should not have a stigma attached to them. If the unconventional learner's intellect is not the question, the issue is how people process information. Successfully navigating a learning curve in any subject area is greatly dependent on the ability to first be able to clearly think and process information, in order to second be able to learn effectively. Processing differences may produce a variety of methods of interpreting and putting information to use (e.g., Albert Einstein, Leonardo da Vinci, Bill Gates, Stephen Hawking, etc., had or have unique ways of processing information and solving problems). At the very least, unconventional learners must be recognized and be addressed in creative ways so that students (and teachers) can understand and positively adjust to their own unique learning approaches.

IDENTIFYING THE UNCONVENTIONAL LEARNER

Identification of unconventional learners must be based on a multidimensional approach. “Processing assessment should be multidimensional and should include standardized testing as well as one or more informal methods, such as a review of records, interviews, and observations” (Dehn, 2006, p. 42).

To better understand a struggling learner’s cognitive processing strengths and weaknesses, educators must not only consider the learner’s academic performance and social/emotional IQ, but also their general day-to-day behavior in low stress situations. Examining students in low stress situations can provide a truer reading of the natural abilities that students may possess, such as leadership skills, organizational skills, verbal abilities, auditory skills, and/or sequencing skills. Technology offers educators and parents new ways to assess students' capabilities through, for example, cognitive processing and brain-based gaming techniques. It is also useful to make informal comparisons of learners' work with class averages to identify patterns. The playground is also a great place to observe students whose informal behaviors versus their academic performance may pose questions (and provide answers) for educators.

Questions that educators might ask during the process of determining if a student falls into the unconventional learner category can be found in Milton J. Dehn’s (2006) book entitled *Essentials of Processing Assessment*. It provides teachers and parents with research-based resources needed to begin the identification of cognitive processing deficits. In his book, Dehn referred to resources entitled “Rapid References” that focus on identifying particular processing skills or areas. For example:

1. Rapid Reference 3.1 on page 43 provides teachers and parents with interview questions that target the areas of:

• Attention	• Reasoning	• Planning	• Simultaneous Processing
• Auditory Processing	• Long-Term Retrieval	• Processing Speed	• Successive Processing
• Executive Processing	• Awareness	• Visual Processing	• Short-Term Memory
			• Working Memory

Rapid Reference 3.2 on page 45 provides questions to help identify processing issues by academic skill areas.

2. Rapid Reference 3.3 on page 47 provides questions to help identify difficulties in specific processing areas.

An example of a visual processing issue that educators might consider is the presence of overactive or irregular saccades (involuntary eye movements). Overactive or irregular saccades are not related to intellectual ability; they are a physical issue that influences visual (intake) processing. However, they do affect individuals’ abilities to track smoothly left to right; causing readers to lose their place on a page and/or skipp words and lines while reading or to experience *pattern glare*. Such erratic perception of words and/or lines interferes with pattern recognition and, if left undiagnosed and uncorrected, causes poor fluency and comprehension. This can negatively influence overall academic performance. The behavior that these individuals may exhibit (often due to frustration) resembles those of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactive Disorder (ADHD), possibly leading to misdiagnoses of the causes of academic deficiencies.

Educators are perfectly positioned to take advantage of brain-based research in learning and development. Armed with new understanding of cognitive processing and research-based educational tools, they will be strategically positioned to identify the unconventional learner in their classrooms.

> Many educationally significant, even profound, brain-based discoveries have occurred in recent years, such as that of neurogenesis, the production of new neurons in the human brain. It is … likely that these discoveries would have been ignored if the education profession hadn't been primed, alerted, and actively monitoring cognitive neuroscience research and contemplating its implications and applications. (Phi Delta Kappan, 2008)

ADDITIONAL RESOURCES

The recognition of the existence of unconventional learners and the impacts on them, their families, and the educational system will draw attention to the need for changes that enable these people to develop to their full potential. This will drive the development of new educational tools for

identifying cognitive processing issues in relation to learning. However, educational tools and recommendations focusing on these learners should be research-based and practical in order to make a positive impact on student learning and personal growth.

As mntioned earlier in this paper, Milton J. Dehn's (2006) book, entitled *Essentials of Processing Assessment* is one useful resource in the growing milieu of tools and assessments. Other resource examples are:

Southwest Educational Development Lab (SEDL) published an article entitled "How can Research on the Brain Inform Education?" This article includes a section that provides books about research-based learning and a chart adapted from "Making connections: Teaching and the Human Brain" by Caine and Caine (1990 and discusses the implications for teaching. The books and articles identified in the SEDL article are:

1. Caine, R. N., & Caine, G. (October, 1990). Understanding a brain based approach to learning and teaching. *Educational Leadership, 48,* 2, 66-70.

2. Fennema, E. Carpenter, T. &Loef Franke, M. (1992). *CGI: Cognitively guided instruction.* Madison: University of Wisconsin, Wisconsin Center for Education Research.

3. Kovalik, S., & Olsen, K. D. (1997). *Integrated thematic instruction: The model.* Kent, WA: Susan Kovalik & Associates.

4. McCarthy, B. (1987). *The 4Mat system: Teaching to learning styles with right/left mode techniques".* Barrington, IL: EXCEL.

5. Marzano, R. (1992). *A different kind of classroom: Teaching with dimensions of learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

Some researched-base commercial products that are on the market are:

1. The See-N-Read™ Reading Tool is a research-based product that helps address weak visual, auditory, and/or low-speed processing. It supports readers who have difficulty with smoothly tracking left to right as they read. Readers who struggle with moving their eyes smoothly from point to point are, in many cases, experiencing overactive saccades (involuntary eye movements). In these cases, erratic and large amplitude eye movements instead of the normal controlled, small amplitude movements occur. This causes readers' eyes to jump around the page, producing word/line skipping and pattern glare (words seem to move on the page). Overactive saccades cause readers to have difficulty staying on a line and to easily lose their place while reading. It is important to note that overactive saccades are a physical issue not associated with the intellectual ability of a reader, but do have significant impact on the orderly and efficient intake or processing of information.

2. The WhisperPhone® is a research-based product that addresses weak auditory processing. Research has shown that users can hear phonemes 10 times more clearly when they are wearing the WhisperPhone® as they engage in learning.

3. The Cognitive Processing Inventory (CPI) is an online assessment tool that has been designed and developed by Scott L. Crouse, Ph.D., NCSP (Nationally Certified School Psychologist). It is designed to provide assessment of information processing skills, evaluation of learning styles and differential diagnoses of specific learning disabilities. The CPI includes six general areas of cognitive processes, which are based on well-researched theories of learning and cognition. The processing areas assessed in the CPI are visual, auditory, sequential/rational, conceptual/holistic processing, processing speed, and executive functioning.

Using research-based tools or assessments along with careful interpretation of the findings and the data that are produced are essential to finding appropriate solutions for struggling learners.

CONCLUSIONS

Education has made great strides in the support of special needs and learning-disabled students in the last 30 to 40 years. Today, educators are better able to identify student needs more precisely due to brain-based research methods and keener diagnostic tools. In order for *obviously-struggling* students to receive extra services from the educational system, they must qualify based on established criteria. These qualifications allow students to receive the help they need to succeed in school. These strides in

educational support have helped countless individuals (and their families) to live more productive and fulfilling lives in our society.

Currently, most educational systems support special needs, LD, regular, and gifted students. However, not all underperforming students are identified and, if they are identified, not all require the high level of support that is provided to true special needs students. Students who fall into the unconventional learner category are significantly overlooked as a group by the educational system. There is little or nothing in the way of identification methods or support mechanisms for the *hidden child,* the child who functions below his or her capability and has a significant barrier to learning, but is not affected enough to be identified as learning disabled. These students must be identified, guided and supported (using empirically based methods) to help them learn to effectively use their unique cognitive processing tool kit.

Educators must be trained to identify *unconventional learners.* They must learn how to diagnose learning processing differences that prevent these students from performing at their optimal levels. The exciting prospect is that unconventional learners can be taught to modify their own learning behaviors and improve their own performances with proper tools and understanding of their processing differences. These students and their families must be encouraged to confidently step forward for help to understand how they learn and thereby recognize that they are capable of performing at higher levels.

Individuals who live their lives, at one moment feeling that they are smart and the next moment feeling that they are dumb run a high risk of failing to reach their full potentials. The amount of energy required to filter through the confusion is often overwhelming and saps their confidence and desire to learn. These students are the unnoticed population whose contributions society risks losing if they come to believe that they cannot compete and instead choose to opt out of the education system.

A new type of learner must be recognized so that our educational system can draw attention to and support the unconventional learner, the learner who is***,*** in fact, the ***hidden child.***

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