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**SUMMARIES
OF**

LINDA SILVERMAN



KEYNOTE AND WORKSHOPS PRESENTATIONS

- **Upside-Down Brilliance: The Visual Spatial Learner**
- **Social-Emotional Needs of Children with Learning Differences**
 - **Twice Exceptional Learners**
 - **Reversing Underachievement**

Upside-Down Brilliance: The Visual-Spatial Learner

Linda Kreger Silverman, Ph.D.
Gifted Development Center
Denver, Colorado USA

Many teachers try very hard to accommodate the various learning styles of their students, but this can be an overwhelming task, as some of the learning styles inventories and models are quite complicated. As a former classroom teacher myself, I know that there are a limited number of hours in the day, and even the most dedicated teacher cannot plan for all the different learning styles and intelligences of his or her students. Take heart! There's an easier solution.

The visual-spatial learner model is based on the newest discoveries in brain research about the different functions of the hemispheres. The left hemisphere is sequential, analytical, and time-oriented. The right hemisphere perceives the whole, synthesizes, and apprehends movement in space. We only have two hemispheres, and we are doing an excellent job teaching one of them. We need only become more aware of how to reach the other, and we will have happier students, learning more effectively.

I'd like to share with you how the visual-spatial learner idea originated. Around 1980, I began to notice that some highly gifted children took the top off the IQ test with their phenomenal abilities to solve items presented to them visually or items requiring excellent abilities to visualize. These children were also adept at spatial tasks, such as orientation problems. Soon I discovered that not only were the highest scorers outperforming others on the visual-spatial tasks, but so were the *lowest* scorers. The main difference between the two groups was that highly gifted children also excelled at the auditory-sequential items, whereas children who were brighter than their IQ scores had marked auditory and sequential weaknesses. It was from these clinical observations and my attempt to understand both the strengths and weaknesses that the concept of the "visual-spatial learner" was born.

Visual-spatial learners are individuals who think in pictures rather than in words. They have a different brain organization than auditory-sequential learners. They learn better visually than auditorally. They learn all-at-once, and when the light bulb goes on, the learning is permanent. They do not learn from repetition and drill. They are whole-part learners who need to see the big picture first before they learn the details. They are non-sequential, which means that they do not learn in the step-by-step manner in which most teachers teach. They arrive at correct solutions without taking steps, so "show your work" may be impossible for them. They may have difficulty with easy tasks, but show amazing ability with difficult, complex tasks. They are systems thinkers who can orchestrate large amounts of information from different domains, but they often miss the details. They tend to be organizationally impaired and unconscious about time. They are often gifted creatively, technologically, mathematically or emotionally.

Here are the main differences between visual-spatial and auditory-sequential learners:

Visual-Spatial Learners

Are whole-part learners
Are keen observers
See the “big picture”
Learn concepts all at once (“Aha!”)
Think in images or feelings
Solve problems in unusual ways
Often lose track of time
Arrive at correct solutions intuitively
Struggle with spelling
Need to see relationships to learn
May appear disorganized
Learn whole words easier than phonics
Read maps well
Are good synthesizers
May have messy handwriting
Interweave thought and emotion
Learn complex concepts easily, but
may struggle with easy skills

Auditory-Sequential Learners

Learn in a step-by-step manner
Are good listeners
Attend well to details
Learn by trial and error
Think in words or ideas
Are comfortable with one right answer
Are conscious of time
Show steps of work easily
Can sound out spelling words
Excel at rote memorization
Are well organized
Have excellent phonemic awareness
Follow directions well
Are good analyzers
Write quickly and neatly
Compartmentalize thought and emotion
Progress sequentially from easy to
difficult

Parents can tell if they have visual-spatial children by the endless amount of time they spend doing advanced puzzles, constructing with LEGOs, etc., completing mazes, counting everything, playing Tetris on the computer, playing chess, building with any materials at hand, designing scientific experiments, programming the computer, or taking everything in the house apart to see how it operates. They also are very creative, dramatic, artistic and musical.

At the Gifted Development Center, we have been exploring the visual-spatial learner phenomenon for three decades. We have developed strategies for working effectively with these children, guidance for parents on living with visual-spatial learners, and techniques to help visual-spatial students learn successfully through their strengths.

Over a period of nine years, a multi-disciplinary team created the *Visual-Spatial Identifier*—a simple, 15-item checklist to help parents and teachers find these children. There are two forms of the *Identifier*: a self-rating questionnaire and an observer form, which is completed by parents or teachers. The *Visual-Spatial Identifier* has been translated into Spanish. With the help of two grants from the Morris S. Smith Foundation, the two instruments have been validated on 750 fourth, fifth and sixth graders in the U.S. In this research, *one-third* of the school population emerged as strongly visual-spatial. An additional 30% showed a slight preference for the visual-spatial learning style. Added together, nearly *two-thirds* showed a visual-spatial preference. Only 23% (less than one-fourth) were strongly auditory-sequential. These validation studies were conducted in urban and rural settings, in which over 40% of the children were Hispanic. In one study, 69% of Native American children preferred the visual-spatial learning style. This suggests that a substantial percentage of the school population would learn better using visual-spatial methods. It is also likely that indigenous groups throughout the world share this learning style.

Guidelines for Teaching Visual-Spatial Learners (VSLs)

1. Present ideas visually on the chalkboard or on overheads. "A picture is worth a thousand words." Use rich, visual imagery in lectures. Teach whole words that can be pictured before instruction in phonics.
2. Teach the student to visualize spelling words, math problems, etc. An effective method of teaching spelling is to write the word in large, colored print and present it to the student at arm's length, slightly above eye level. Have her close her eyes, visualize the word, and create a silly picture of the word in her mind. Then have her spell it backwards (this demonstrates visualization), then forwards, then write it once.
3. Use inductive (discovery) techniques as often as possible. This capitalizes on the visual-spatial learner's pattern-finding strength.
4. Celebrate intuitive knowing. If the student demonstrates consistent accuracy, allow credit for correct answers, even if he or she cannot show the work.
5. Teach the student to translate what he or she hears into images, and record those images using webbing, mind-mapping techniques, or pictorial notes.
6. Incorporate spatial exercises, visual imagery, reading material that is rich in fantasy, and visualization activities into the curriculum. Spatial conceptualization has the ability to go beyond linear thinking because it deals more readily with immense complexities and the interrelations of systems.
7. Allow the student to use a computer for written assignments. Computer instruction is also recommended, as computers present information visually. Teach the student how to use the keyboard effectively.
8. Avoid drill, repetition, and rote memorization; use more abstract conceptual approaches and fewer, more difficult problems.
9. Teach to the student's strengths. Help the student learn to use these strengths to compensate for weaknesses. Visualization and imagination are the visual-spatial learner's most powerful tools and should be used frequently.
10. Hands-on experiences with manipulatives is essential.
11. Emphasize the fine arts. Art is the sanctuary of the visual-spatial learner.
12. Avoid timed tests. Give untimed power tests. In America, students with severe processing lags can apply to take their college board examinations untimed if the disability is documented through IQ and achievement testing within three years of the exams, and if teachers have provided extended time for tests.
13. Give more weight to the content of papers than to format. The visual-spatial learner usually suffers from deficits in mechanics: spelling, punctuation, paragraphing, etc. Grade content separate from mechanics.
14. Allow the student to construct, draw or otherwise create visual representations (e.g., PowerPoint slides) as a substitute for some written assignments.
15. Be emotionally supportive of the student. Visual-spatial learners are keenly aware of their teachers' reactions to them, and their success in overcoming their difficulties appears directly related to their perception of the teacher's empathy. They flourish when teachers believe in them.

Social and Emotional Needs of Children with Learning Differences

Linda Kreger Silverman, Ph.D.
Gifted Development Center
Denver, Colorado USA

Michael Piechowski: *“Children Who Learn Differently—and Perhaps Better—Have Skills that May Be More Important than the Usual”*

“There are children everywhere who are unable to tell the steps to a solution, yet are able to solve the problem correctly.”

“Some children have an emotional connection to inanimate objects, such as math whizzes who have a personal, affectional relationship with numbers.”

When children are forced into a mold that doesn't fit, they begin to experience their differences as deficits.

Asynchrony involves uneven development, heightened intensity; greater awareness; vulnerability; frustration and emotional turmoil.

These children have turbulent inner lives: they are plagued by self-doubt, perceptiveness, sensitivity and desperate need for understanding, acceptance, love.

Overexcitabilities make life more complicated, lead to creativity, create greater awareness of suffering, instill high levels of moral concern, and cause intense reactions.

Dabrowski's Overexcitabilities: psychomotor, sensual, imaginal, intellectual and emotional.

Psychomotor OE: rapid speech; excitability; intense physical activity; competitiveness; compulsive talking; impulsive actions; nervous habits; acting out.

Sensual OE: enhanced senses—seeing, smelling, tasting, touching, hearing; delight in beautiful objects, sounds of words, music, form, color, balance; overeating; buying sprees; wanting to be in the limelight.

Intellectual OE: curiosity, keen observation, detailed visual recall, independence of thought (sometimes very critical); preoccupation with logic; thinking about thinking.

Imaginational OE: free play of imagination; magical thinking; capacity for living in a world of fantasy; imaginary companions; mixing truth and fiction; low tolerance of boredom—need for novelty and variety.

Emotional OE: extremes of emotion; somatic expressions (e.g., tense stomach, blushing, sweaty palms, etc.); fears and anxieties; depressive and suicidal moods; attachment to animals; difficulty adjusting to new environments. (Daniels & Piechowski, 2009)

Is it Overexcitability or Sensory Processing Disorder?

Overexcitabilities correlate with giftedness and creativity. However, at times they overlap with traits related to sensory processing disorder (SPD). SPD underlies or co-exists with most learning disabilities.

Short Sensory Profile by Lucy Miller, Ph.D., OTR

Tactile Sensitivity; Taste/Smell Sensitivity; Under-Responsive/Seeks Sensation; Auditory Filtering; Visual/Auditory Sensitivity; Low Energy/Weak Movement Sensitivity

Social Issues of Children with Sensory Processing Disorder

- They avoid the overstimulation of play.
- They avoid sports and attach to computers.
- They circle the playground observing others.
- They avoid rough housing, amusement parks and other children's activities.
- They cannot trust their perceptions.
- They may miss social cues.
- Others may find them annoying.
- They feel safer with adults.

What do these children need most?

- "The emotional connection with the teacher is extremely important"
- "The connectivity bond with the teacher"
- "Knowing that the teacher is on their side"
- "They need to be able to build a bond of trust"
- "Helping them believe in themselves"
- "Being encouragers"
- "Appreciating their quirkiness"

Annemarie Roeper created the Roeper School in Michigan, based on the philosophy of her parents' school in Marienau, Germany. The focus of both schools is not only on academics that lead to success in college, but on experiencing the emotions of fully developed human beings who realize that they have a purpose in life and choose to leave the world a better place than they found it.

"The ability for cognitive learning is in the brain, but the motivation for learning, for inner growth, for self-actualization is emotional."

"A bond must be established between teacher and child. We need to think in terms of human relationships more than strategies."

"If we really listen to the children, we will find an undiscovered gold mine of images, imagination, playfulness, love, and longing. If we ignore this, we might injure their selves." Annemarie Roeper

What Can Help?

- Connectivity – the seventh sense
- Unconditional acceptance

- Recognizing and emphasizing strengths
- Building their self-esteem
- Setting them up for success
- Celebrating their successes
- Identifying and naming feelings
- Identifying causes and solutions
- Learning social skills
- Understanding the importance of exercise and nutrition
- Developing self-advocacy strategies
- Being allowed to release emotions

Stress Book: Students carry the book with them in their book bags; They can write what is bothering them; This venting enables them to clear their heads; Later on, they may cross out or revise what they've written; Teachers and parents read the books.

Julie Halpert

Debby Harris:

- Help them to love **all** of themselves—their *strengths, weaknesses, quirks*.
- Help them to see how all of that has carried them solidly in their lives.
- Hang in there with them; help them believe in themselves by pointing out their abilities.
- Help them realize they are valuable and that they can contribute to the world.
- Parents need to focus on what is **right** with the child instead of what is wrong. They need help adjusting their perceptions.
- Give them the tools to become encouragers, advocates and unconditional lovers of their kids!

Exercise for Parents:

What qualities do you love most about your child? (Write down three of your child's traits that delight you.)

What qualities trouble you the most about your child? (Write down three of your child's traits that worry you.)

Which qualities do you think about the most? The more you think about the positive qualities of your child, the more positive traits your child will show you.

Mira Halpert:

- Offer them an environment where they feel wanted and connected and a safe place for them to realize success!
- They need to be able to build a bond of trust.
- They need to feel a sense of connection and acceptance.
- Help them feel that they are special.

“When children can truly believe that parents and teachers are on their side, they will be less frequently blocked in using their real abilities.” Annemarie Roeper

Twice Exceptional Children

Linda Kreger Silverman, Ph.D.
Gifted Development Center
Denver, Colorado USA

How is it possible for a child to be both gifted and learning disabled? When giftedness is thought of as learning-abled, it seems incomprehensible that a person could be simultaneously learning-abled and learning-disabled. However, when giftedness is seen as developmental advancement or as advanced abstract reasoning ability or as asynchrony (the discrepancy between mental and chronological age), it becomes conceivable that a bright student may have difficulty reading, writing, spelling, calculating, or organizing. Giftedness can be combined with blindness, deafness, cerebral palsy, other physical handicaps, and psychological dysfunctions. It provides no immunity against physical diseases and accidents that impair functioning.

Early Detection

It is common knowledge that disabilities require early intervention, and early intervention is only possible if there is early detection. While physical impairments may be obvious, learning disabilities are often difficult to detect in the gifted. The greater one's abstract reasoning abilities, the easier it is to design strategies that camouflage the problem. For example, gifted children with serious hearing impairments have been known to read lips so well that the hearing loss was not discovered for many years. Many children with visual weaknesses use verbal reasoning to talk their way through visual tasks. Such compensation strategies cover up the difficulties temporarily, but they do not resolve the issues. At a later point in development, early strategies often fail.

Visual-motor weaknesses are common in gifted boys. They may appear as clumsiness, lack of coordination, poor balance, delayed choice of handedness, poor pencil grip, slow handwriting speed, inability to cross the midline of the body without switching hands, difficulty cutting or drawing simple figures, and avoidance of motor tasks. When any of these difficulties are observed, it is important for the child to be evaluated by a pediatric occupational therapist as early as possible. A program of exercises before the child is seven is likely to prevent problems with handwriting and underachievement down the road.

Gifted children often are allergy-prone, may be colicky babies, and may sustain repeated infections, particularly if they are in day care. Toddlers who have experienced chronic ear infections (more than 9 in the first three years) are at risk for Central Auditory Processing Disorder (CAPD) and attentional issues. Again, early detection and treatment of ear infections can reverse or prevent conductive hearing losses. Infant screening for hearing impairments and amplification of sound (hearing aids) can also prevent cognitive delays. Parents should get down on eye level with their toddlers, get eye contact, and speak loudly and clearly, during and for several weeks after each ear infection. Fluid can remain in the middle ear for up to 3 months after an ear infection if the child has had several months of antibiotic treatment. Auditory processing can be

improved in older children who had chronic ear infections in their early years. Parents can get eye contact and have their children repeat directions. Teachers can sing songs with repeated verses, such as "There Was an Old Woman Who Swallowed a Fly." Games such as "I'm Going on a Picnic" and "Lion Hunt," which require remembering previous items or steps, can be played at home and at school.

Many advanced children become early readers because they are cognitively ready to decode the written word. However, eyesight and cognitive development may not progress at the same rate. Preschoolers are usually far-sighted. Bringing far-sighted eyes into near-point focus sometimes creates slight muscular imbalances that interfere with eye teaming, tracking, binocular fusion, and near-far focusing. These issues are usually resolved with a six-month program of vision exercises practiced faithfully every day. Mathematically talented boys may become myopic at around the age of 8 or 9, and need corrective lenses. Signs that a child may be having vision difficulties include rubbing eyes frequently, holding books close to one's eyes, sitting too close to the television set, squinting to see the chalkboard, missing letters, words or lines in reading, miscounting items, or adding two different columns of numbers. It is important for children to receive regular eye examinations.

Assessment

A factor that prevents accurate diagnosis of twice exceptional children is the prevalent practice of comparing gifted children with the norms for average children. In psychology, as well as in other therapeutic fields, such as audiology, speech pathology, occupational therapy, and optometry, the diagnostic question that is usually asked is, "How does this child's performance compare with the norm?" If the child scores within the normal range, no disabilities are detected. If the child scores below the norms, then intervention is sought to bring them up to the norms for average children. To accurately assess gifted children, it is necessary to ask a different diagnostic question: "To what extent do the discrepancies between the child's strengths and his or her weaknesses cause frustration and interfere with the full development of the child's abilities?" This question focuses the diagnostician on the peaks and valleys of the gifted child's performance rather than comparing the child to peers of average ability. The greater the discrepancies, the greater the likelihood that a child is both gifted and learning disabled, despite the fact that the lowest scores may not be significantly below average.

It is important to look at the strengths of twice exceptional children separately from their weaknesses, rather than averaging their scores. Scores at the 95th percentile and above should be noted as indicative of superior abilities, and low scores should be perceived as real weaknesses, not just "relative" weaknesses if they are within the norms. For example, on a Wechsler test, the highest possible score on each subtest is 19 (99.9th %). A highly gifted child may have 19 on one subtest, such as Vocabulary, and 7 (low average range) on another subtest, such as Coding (which measures eye-hand coordination and speed). The discrepancy between those two scores is 4 standard deviations, the same discrepancy as an IQ score of 130 versus an IQ score of 70. This is more than just a "relative" weakness; yet, this is how most assessments of twice exceptional children are reported. When those two scores (19 and 7) are averaged, the strengths and weaknesses cancel each other out, and the child appears high average (13)

rather than highly gifted and disabled. Interpreting the complex profiles of twice exceptional children requires going beyond the boilerplate textbook interpretations and looking for evidence of strengths and weaknesses in the child's performance at home and at school.

Compensation

We often teach children to compensate for weaknesses, and gifted children learn compensation strategies more quickly than their less capable peers. What we neglect to tell them is that compensation can break down under various conditions. It takes more energy to compensate and when one is fatigued, ill, stressed, dieting too strenuously, or adjusting to a new situation, there may not be sufficient energy to support the compensation strategy. So the individual is likely to experience "good days" when the compensations work well, and "bad days" when they fail. Twice exceptional children and adults often believe that the true level of their abilities is revealed on their bad days, and that they are faking it on their good days. It is important for their self-confidence for them to reverse this impression. They need to understand that their high intelligence is revealed on their good days and that there will be bad days, when their compensations, like bad brakes, fail to support them.

One school psychologist said that she tests a twice exceptional child at two different times of day. She tests for giftedness in the morning when the child is fresh, and learning disabilities in the afternoon, when the child is tired and less able to compensate for weaknesses. New compensations may need to be taught when students enter middle or high school.

Conclusion

Twice exceptional children are often hidden from our view. Their giftedness masks their learning disabilities and their learning disabilities depress their IQ scores so that they appear less gifted than they really are. These children often fall through the cracks of the system, failing to qualify for gifted programs or for special education services. It is necessary that gifted programs become "handicap accessible" so that gifted children with hidden disabilities can gain access to these services. The secrets to reaching twice exceptional children are teaching to their strengths, assistive technology, and accommodations in the classroom, such as untimed tests and shorter written assignments. They blossom and fulfill their potential with supportive teachers.

Suggested Reading

- Baum, S. M., Owen, S. V., & Dixon, J. (1991). *To be gifted & learning disabled: From identification to practical intervention strategies*. Mansfield Center, CT: Creative Learning Press.
- Birely, M. (1995). *A sourcebook for helping children who are gifted and learning disabled* (2nd ed.). Reston, VA: The Council for Exceptional Children.
- Kay, K. (2000). *Uniquely gifted: Identifying and meeting the needs of twice exceptional students*. Gilsum, NH: Avocus.

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Reversing Underachievement

Linda Kreger Silverman, Ph.D.

Gifted Development Center

Denver, Colorado USA

Characteristics of Underachievers from Whitmore's *Giftedness, Conflict & Underachievement*:

- Perfectionistic
- Supersensitive
- Lacks social skills
- Socially isolated
- Has unrealistic self-expectations
- Is low in self-esteem
- Has psychomotor inefficiency
- Hyperactive
- Distractible
- Chronically inattentive
- Frustrated by the demands of the classroom
- Fails to complete assignments
- Excessively critical of self and others
- Rebellious against drill and excessive repetition
- Disparaging of the work they are required to do
- Become "an expert" in one area and dominate discussions with their expertise

These are also the characteristics of gifted children with learning disabilities. It is imperative to have a comprehensive assessment in order to detect hidden disabilities.

Typical Characteristics of Underachievers: Has a negative self concept; Distrusts others; Has feelings of inferiority; Tends to rationalize errors; Blames others for failure; Avoids responsibility; Socially immature for age; Lacks self-discipline; Does not focus on distant goals; Cannot delay gratification; Has difficulty accepting unpleasant realities; Treats assignments as if they will disappear if ignored; Has few strategies for academic success; Has difficulty being appropriately assertive; Withdraws from stressful situations; Desires immediate results.

Causes of Underachievement

- Fear of failure
- Fear of success
- Fear of lack of acceptance by peers
- Undetected learning disabilities
- Lack of basic skills and study habits
- Inappropriate educational activities
- Lack of opportunity in the society
- Too high expectations of parents
- Too low expectations of parents
- No parental support for education
- Fear of overshadowing parent

- Passive-aggression toward parent
- Low frustration tolerance
- Lack of impulse control
- Lack of competitiveness
- Guilt for being advantaged intellectually
- Interests in activities other than school
- Cumulative deficits and belief in failure

Positive Attributes of Underachievers

- Courageous
- Supersensitive
- Highly creative
- Strong sense of fairness
- Selectively competent
- Witty
- Can hold a great conversation
- Persuasive debating skills
- Vibrant imagination
- Social
- Street smart
- Absolutely endearing
- Intrinsically rather than extrinsically motivated
- On own time schedule
- In a great mood during school vacations
- May show leadership ability
- Idealistic
- Passionate about interests
- Tremendous self-discipline for own agenda

Strategies for Teaching Underachieving Gifted Students

- Early identification
- Individual diagnosis
- Creative interests and passions
- Parental support
- Intellectually challenging classes
- Teaching to the child's strengths
- Teaching to child's learning style

Interviewing Parents

- Did the problem begin before school?
- Is the child difficult to deal with at home?
- Did the child have many ear infections?
- Is there a family history of learning issues?

Interviewing Students

- What are your favorite subjects?
- What classes do you dislike? Why?
- What are your passions?
- What are your aspirations?
- What do you think would make it easier for you to succeed?

The number one complaint of underachieving students is **handwriting** ! What would happen if you let every underachieving student TYPE assignments???

Linda Emerick's Study

The Role of the Teacher

- Cared for and sincerely liked the student as an individual
- Communicated as a peer
- Enthusiastic; knowledgeable of subject matter
- Directly involved students in the learning process

The Role of the Program

- Held high but realistic expectations
- Classes were intellectually challenging
- Advanced coursework
- Independent study

The Role of the Parent

- Maintained a positive attitude toward their child even in the face of academic failure
- Remained calm, consistent and objective
- Did not see underachievement as a permanent pattern
- Supported their child's interests
- Did not make participation in extra-curricular activities dependent on grades
- Placed responsibility for homework directly on their child
- Did not become *The Enforcer*

Characteristics of the Students

- Intelligent
- Creative
- Independent
- Perseverent
- Willing to take risks
- Intense love of a specific area

The Secret to Success

Each student "believed a specific teacher was *the single most influential factor* in the reversal of the underachievement pattern."

You Make the Difference!

Show them that you care about them and they will blossom!