Twice-Exceptional Children and Youth

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Agenda

2E Case Studies

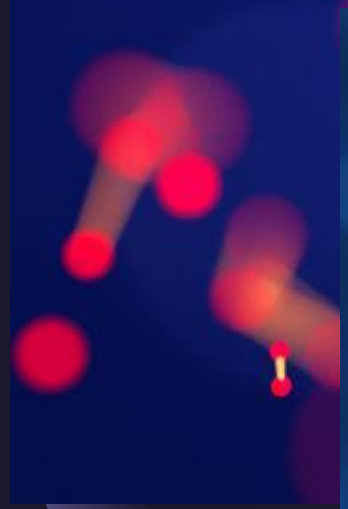
Characteristics

Difficulties in Identification

Educational Programming

Resources

Q&A



Preliminary Comments

- The others: ASD, ADD/ADHD, Behavioural, Emotional
- Masking effect
- The new term: neurodiverse
- We'll be talking about characteristics: No one individual has all of the characteristics.
- One characteristic they all might share is asynchronous development.
- Regardless of the challenge, problems with organizational skills, attention, and low academic self-esteem are very common (Yssel, et al., 2010)
- Educational program should concentrate on both gifts and challenges (ONE IEP)
- Twice-exceptional students usually receive services for one exceptionality, seldom for both, and, unfortunately, it is the strengths that are most often ignored (Yssel, et al., 2010; Baum et al., 2001).

2E* Case Studies

Adam: Hearing disability

Joelle: Vision disability

Ian: Neurological disability

Marcia: Learning disability

* Also known as gifted/disabled, gifted with disabilities, dual exceptionalities, neurodiverse, bright and quirky

Gifted/Hearing disability

-development of speech-reading skills without instruction
-early reading ability
-excellent memory
-ability to function in the regular school setting
-rapid grasp of ideas
-high reasoning ability
-superior performance in school
-wide range of interests
-non-traditional ways of getting information
-use of problem-solving skills in everyday situations

-possibly on grade level
-delays in concept attainment, vocabulary development, and possibly delayed reading
-self starters
-good sense of humor
-enjoyment of manipulating environment
-intuition
-ingenuity in solving problems
-symbolic language abilities (different symbol system)

(Whitmore & Maker, 1985)

Gifted/Vision disability

-fast rate of learning
-superior memory
-superior verbal communication skills and vocabulary
-advanced problem-solving skills
-creative production of thought that may progress more slowly than in sighted students in some academic areas
-ease in learning Braille
-great persistence/motivation to know
-sometimes slower rate of cognitive development than sighted students
-excellent ability to concentrate
-may not understand concepts behind vocabulary

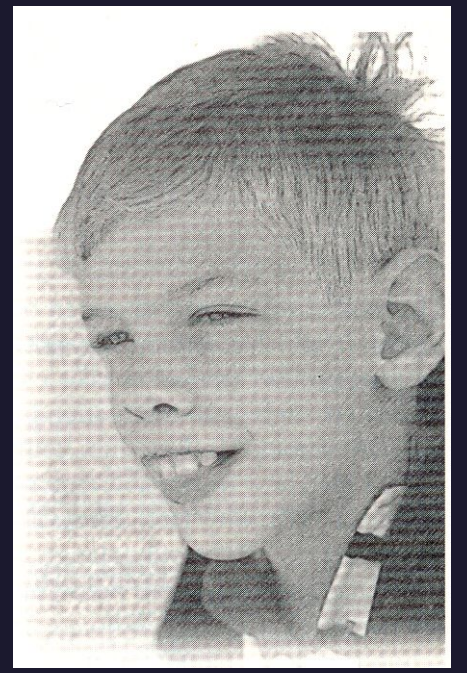
(Whitmore & Maker, 1985)

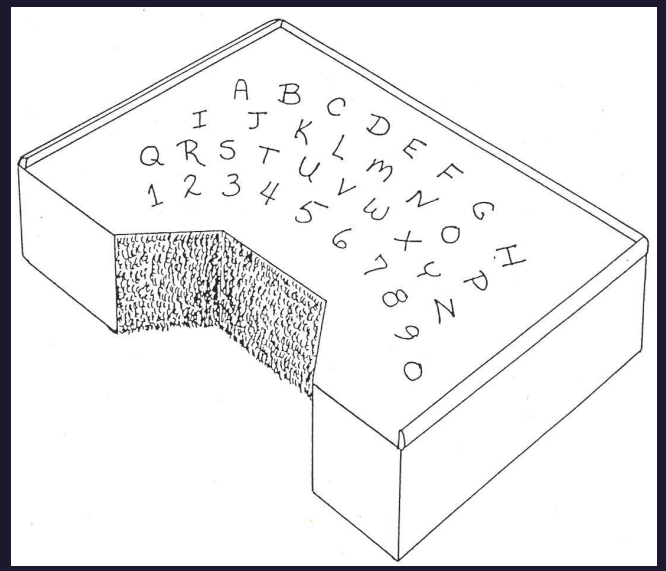
Gifted/Physical or neurological disability

-development of compensatory skills
-creativity in finding alternate ways of communicating and accomplishing tasks
-impressive store of knowledge
--advanced academic skills
-superior memory
-exceptional problem-solving skills
-rapid grasp of ideas
-ability to set and strive for long-term goals

-greater maturity than age-mates (persistence, patience, goal orientation, recognition of limitations)
-good sense of humor
-persistence, patience
-motivation to achieve
-curiosity, insight
-self criticism and perfectionism
-cognitive development that may not be based on direct experience
-possible difficulty with abstractions
-possible limited achievement due to pace of work

(Hokanson & Jospe, 1976; Whitmore & Maker, 1985; Willard-Holt, 1994; 1998)





Gifted/Learning disability

--an outstanding talent, interest or ability; a discrepancy between expected and actual achievement; and a processing deficiency (Maker & Udall, 1997)

Areas of Strength

-exceptional analytic and comprehension skills
-high abstract reasoning ability
-good mathematical reasoning ability
-keen visual memory, spatial skills
-advanced vocabulary
-sophisticated sense of humor

-good problem-finding and problem-solving skills
-grasp metaphors, analogies, satire
-comprehend complex systems
-wide variety of interests
-imaginative and creative
-insightful and unrelentingly curious
-exceptional ability in geometry, science, arts, music
-interest in the "big picture" rather than minute details (e.g., may find it easier to learn the concept of multiplication before learning addition facts)
-ability to compensate for disability

Gifted/Learning disability

Areas of Challenge

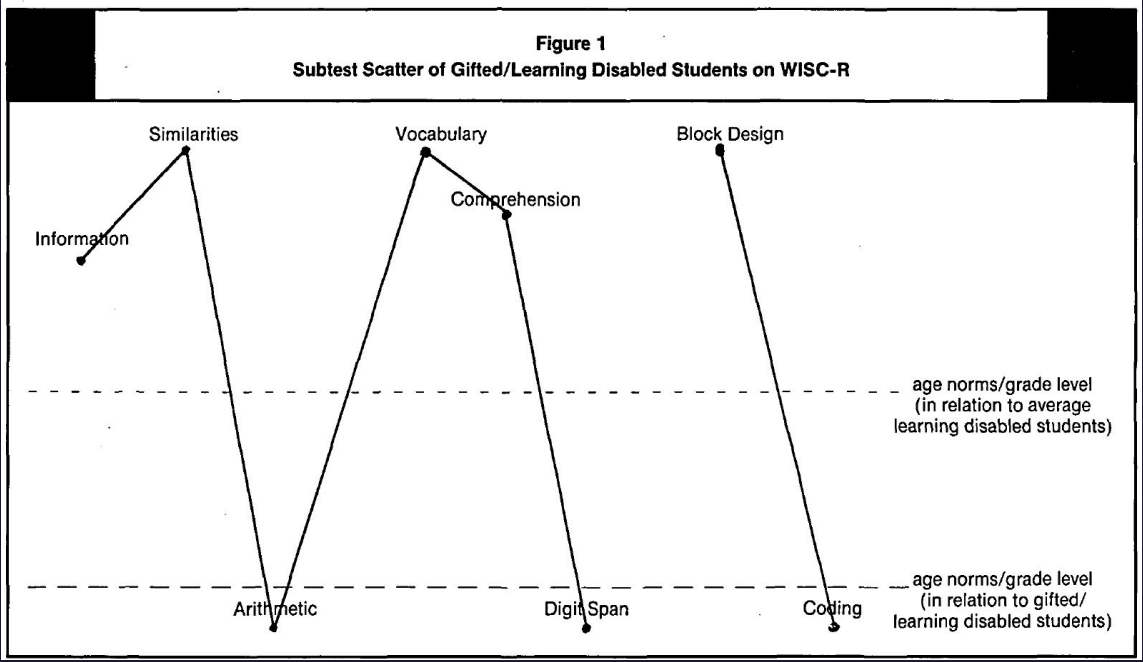
-extremely uneven academic skills
-difficulty with memorization, computation, phonics, reading and/or spelling
-distractible and/or disorganized
-supersensitive
-perfectionistic
-unreasonable self expectations
-high levels of frustration; sense of inadequacy
-often fail to complete assignments

Of all 2E children, those with LD are the most vulnerable to misunderstanding, misjudgment, neglect and unintentional abuse. Most are male.

-difficulties with sequential tasks
-gross- or fine-motor difficulties
-lack of organization or study skills
-difficulty with linear thinking
-Poor social skills, withdrawn; more evident in those with challenges in math, visual/spatial tasks, self-regulation, and organization

(Baum, Owen, & Dixon, 1991; Silverman, 1989; Stankovska & Rusi, 2014; Yssel et al., 2010)

Ups and Downs



Summarized from Silverman, L.K. (1989). Invisible gifts, invisible handicaps. *Roeper Review, XII*(1), 37-42.

Potential Strengths
Is extraordinarily capable with puzzles and mazes
Has a sophisticated sense of humor
Has high abstract reasoning ability
Is excellent at mathematical reasoning
Has a keen visual memory
Has an unusual imagination
Is highly creative
Comprehends complex relations and systems
Has penetrating insights
Shows exceptional ability in geometry & science
May have artistic, musical or mechanical aptitude
Easily grasps metaphors, analogies, satire
Has good problem-finding skills

Potential Weaknesses
May have difficulty with phonics
May have difficulty with spelling
May have difficulty with rote memorization
May have difficulty with computation
May perform poorly on timed tests
May seem spacey and inattentive
May have illegible, labored handwriting
May "forget" homework or submit work of poor quality
May act first and think later
May be poor at biology and foreign languages
May doodle during class time instead of listening

Children who have learning disabilities	Gifted underachievers
Perfectionistic	Perfectionistic
Supersensitive	Supersensitive
Lacks social skills	Lacks social skills
Socially isolated	Socially isolated
Has unrealistic self-expectations	Has unrealistic self-expectations
Low in self-esteem	Low in self-esteem
Hyperactive/ Distractible/ Inattentive	Hyperactive/ Distractible/ Inattentive
Has psychomotor inefficiency	Has psychomotor inefficiency
Frustrated by the demands of the classroom	Frustrated by the demands of the classroom
Fails to complete assignments	Fails to complete assignments
Excessively critical of self and others	Excessively critical of self and others
Rebellious against drill and excessive repetition	Rebellious against drill and excessive repetition
Disparaging of the work they are required to do	Disparaging of the work they are required to do
Becomes "an expert" in one area and dominate discussions with their expertise	Becomes "an expert" in one area and dominate discussions with their expertise

Case Study: Kendall

As many as 1/3 of students may be visual/spatial learners

Visual-Spatial Learner

Characteristics Comparison

The Auditory-Sequential Learner	The Visual-Spatial Learner
Thinks primarily in words	Thinks primarily in images
Has auditory strengths	Has visual strengths
Relates well to time	Relates well to space
Is a step-by-step learner	Is a whole-part learner
Learns by trial and error	Learns concepts all at once
Progresses sequentially from easy to difficult material	Learns complex concepts easily; Struggles with easy skills
Is an analytical thinker	Is a good synthesizer
Attends well to details	Sees the big picture; may miss details
Follows oral directions well	Reads maps well
Does well at arithmetic	Is better at math reasoning than computation
Learns phonics easily	Learns whole words easily
Can sound out spelling words	Must visualize words to spell them
Can write quickly and neatly	Much better at keyboarding than handwriting
Is well organized	Creates unique methods of organization
Can show steps of work easily	Arrives at correct solutions intuitively
Excels at rote memorization	Learns best by seeing relationships
Has good auditory short-term memory	Has good long-term visual memory
May need some repetition to reinforce learning	Learns concepts permanently; does not learn by drill and repetition
Learns well from instructions	Develops own methods of problem solving
Learns in spite of emotional reactions	Is very sensitive to teachers' attitudes
Is comfortable with one right answer	Generates unusual solutions to problems
Develops fairly evenly	Develops quite asynchronously (unevenly)
Usually maintains high grades	May have very uneven grades
Enjoys algebra and chemistry	Enjoys geometry and physics
Masters other languages in classes	Masters other languages through immersion
Is academically talented	Is creatively, technologically, mechanically, emotionally or spiritually gifted
Is an early bloomer	Is a late bloomer

From Silverman, L.K. (2002). *Upside-down brilliance: The visual-spatial learner*. Deleon Publishing, Inc.

Identifying Characteristics

- Are visual, not auditory
- Are spatial, not sequential
- Are holistic, not detail-oriented
- Are focused on ideas, not format
- Seek patterns
- Are divergent, not convergent
- Are sensitive and intense
- Display variable "asynchronous" development

Challenges in Identifying 2E Students

Standardized Tests

- Require modified administration and method of response
- Require individual administration by a psychologist who knows how to accommodate and interpret results for 2E students
- Norms are likely inappropriate (few comparators, and may need subtests at different levels)
- May require extra time
- Will likely show strengths and weaknesses more extreme than for the general population
- Examples: vocabulary for those with hearing disability may lag and not reflect complexity of thought/understanding; performance measures may be impossible for those with vision or mobility challenges

Observed Characteristics

- Will manifest giftedness in different ways than non-2e students, due to life experience, input and output modalities
- Observers may not notice subtle behaviours or realize how advanced they are for those with disabilities
- Masking effect
- Examples: “advanced vocabulary”

  Hearing: likely behind age-mates due to missing conversations, fairy tales, books

  No oral speech: unable to express

  Vision: may use words (green, perspective in art) but not comprehend the concept

  Learning disability: oral expression unequal to written

Educational Programming

- Be sure to address ALL the exceptionalities, and don't let addressing the giftedness be a reward for working on the challenges.
- Don't only use the giftedness to circumvent the challenges.

⇩(from Invisible gifts summary (Silverman, 1989)

- Get eye contact with the child before giving directions.
- Limit the number of directions presented.
- Use fantasy books rich in visual imagery to enhance interest and ability in reading.
- Have the child discover his own methods of problem solving.
- Give the child advanced, abstract material, even when she has difficulty with easy, sequential material.
- Avoid rote memorization. Use more conceptual approaches.
- Avoid timed tests. If they are required, allow the child to take them at home or alone, trying to beat his own past record, rather than competing with his classmates.
- Use material that has high interest for the child.
- Assure these children that they will get smarter as they get older, and as the material becomes more consistent with their learning style.
- Expose children to role models of successful 2E adults.
- Teach stress management techniques (Nielsen, 2002)

Strategies to enhance giftedness

Strategy	Source
• use a variety of multiple intelligences and learning styles • emphasize critical and creative thinking • provide in-depth explorations within interest areas • arrange mentorships • use interdisciplinary themes • pose real-world problem-based learning experiences • modify assignments to showcase gifts	Nielsen, 2002 (see previous slide)
• allow students to self-select projects	Hua, 2002 ; Nielsen, 2002
• differentiate assessment	Baum et al., 2001
• provide open-ended challenges • offer options to use strengths and preferred learning styles • encourage students to use the methods of practicing professionals	Baum, Owen & Dixon, 1991
• use metacognitive strategies	Hannah & Shore, 2008
• have students set goals and make timelines	Hua, 2002
• use visual imagery, rhythm, and music	Silverman, 1989
• allow different pathways for learning • provide choice, interest, and creative product options	VanTassel-Baska & Stambaugh, 2006

Teaching strategies

- student-centered approach (Schultz, 2012)
- providing classroom organization that is flexible and collaborative to maximize goal-setting, self-direction, group discussion, self-reflection, problem solving, and self-evaluation (Weinfeld, Barnes-Robinson, Jeweler, & Shevitz, 2002)
- providing curriculum and instruction that is inquiry-based with a thinking focus (Weinfeld, Barnes-Robinson, Jeweler, & Shevitz, 2002)
- interest-based learning with authentic curriculum researchers (Baum et al., 2001; Foley Nicpon et al., 2011; Hua, 2002)
- provide for differential pacing in areas of strength and challenge (Willard-Holt, 1999)

From Willard-Holt, C., *Weber, J., *Morrison, K.L., *Horgan, J. (2013). Twice-exceptional learners' perspectives on effective learning strategies. *Gifted Child Quarterly, 57*(4), 247-262. DOI: 10.1177/0016986213501076

Creative Products, A-S

Allegory, advertisement, analogy, activity calendar, analysis, autobiography

Bulletin board, blueprint, banner, booklet

Crossword puzzle, chart, cartoon, computer program, code, collection, characterization, chart story, comparison, construction

Diagram, diary, diorama, debate, demonstration, dictionary, design, dialogue, display, dramatization, drawing

Editorial, experiment, epitaph, exhibit

Fan letter, flow chart, filmstrip, figure, film

Game, garden graph

Hidden word puzzle, hidden animal picture

Illustration, invention, interview

Journal, jigsaw puzzle

Key for classifying, kit, kite

Logic puzzle, lesson, letter, list

Menu, map, mobile, model, mystery, museum, mural, magazine, mask, mosaic

Newspaper, news article

Ode, opera, one person show, observation, outline

Play, poem, poster, parody, photograph, prototype, painting, papier-mache, paragraph, pattern, picture, problem, puppet, puzzle

Quiz, quatrain, quilt, questions

Rebus, recipe, radio show, replica, rhapsody, rap

Simulation, sculpture, satire, slide, story, song, scrapbook, scroll, sequence story, skit, speech, survey, symbol

Help the child compensate

For teachers:

a) provide clear expectations (Pereles, Omdal, & Baldwin, 2009)

b) modify or reduce the number of activities required to meet a standard (VanTassel-Baska & Stambaugh, 2006)

c) help students to develop self-advocacy skills (Nielsen, 2002)

d) give students the opportunity to meet and work with other twice-exceptional students (Nielsen, 2002; Yssel et al., 2010)

e) give concrete examples of abstract concepts (Whitmore & Maker, 1985; Yssel et al. 2010)

For students:

a) use earphones to block out noise when studying (Silverman, 1989)

b) make lists to help remember things (Silverman, 1989)

c) record lectures instead of taking notes (Silverman, 1989)

d) estimate answers before calculating (Silverman, 1989)

e) use multiple modalities for instruction (Nielsen, 2002)

More Compensation Tips

From Baum, S.M., Owen, S.V., & Dixon, J. (1991). *To be gifted & learning disabled.* Creative Learning Press, Inc.

Problem	Compensation Tip
Acquiring information with limited reading skills	Use nonprint experiences Use picture books Use teaching materials that have a visual component
Organizing information	Use graphic organizers, visual models, and recipes Use worksheets with a response format Teach strategies for organizing: webbing, storyboards, Venn diagrams, and matrices
Remembering details and assignments	Use a planner Use mnemonic devices and visual imagery Establish a buddy system
Poor skills in handwriting, spelling and/or grammar	Use a word processor with grammar and spelling checkers
Feeling valued	Provide opportunities for cooperative learning where each member contributes their strength

2E Study

PURPOSE AND METHODS

- Determine teaching strategies that were facilitative of or inhibitive for learning
- Elucidate compensatory strategies developed by participants
- Survey and interview

From Willard-Holt, C., *Weber, J., *Morrison, K.L., *Horgan, J. (2013). Twice-exceptional learners' perspectives on effective learning strategies. *Gifted Child Quarterly, 57*(4), 247-262. DOI: 10.1177/0016986213501076

PARTICIPANTS

Pseudonym	*Gender*	*Age*	*Additional Exceptionality(ies)*
Pablo	Male	12	Emotional & Learning Disability
Bob	Male	16	Asperger's/Autism Spectrum
Travis	Male	21	Learning Disability
Adam	Male	14	Asperger's/Autism Spectrum
Frank	Male	14	Asperger's/Autism Spectrum
Gaston	Female	23	Learning Disability & ADD/ADHD
Edwin	Male	13	Emotional & OCD
Gavin	Male	22	Sensory (Hearing Impairment)
Amanda	Female	23	Learning Disability & ADD/ADHD
Gary	Male	14	Neurological/Physical (CP) & Sensory Disability
Joel	Male	10	Neurological & Emotional
None	Female	22	Neurological & Physical (CP)
None	Male	12	Learning Disability
None	Male	12	Asperger's/Autism Spectrum

Findings-Very Beneficial Strategies

HAVING CONTROL OF YOUR LEARNING

- Know how you'll be marked
- Know how much time you have
- Pursue topics of your interest at your pace
- Have time to think/process
- Use internet to research your topics
- Discuss mark with teacher
- Choose the way you learn
- Confer 1-1 with teacher
- Ask for extra help

COMPLEX IDEAS AND WAYS OF THINKING

- Understand how ideas are connected
- Understand how and why things happen
- Understand complicated ideas and problems
- Analyzing big problems or ideas
- Getting concrete examples to explain abstract ideas

OTHER

- Learning with words
- Explaining your thinking to other students
- Even when you get a good mark, hearing about ways to improve
- Listening to experts talk

Findings-Strategies *Thought* to be Very Beneficial

CHOICE/FLEXIBILITY

- Flexible school schedule that changes with your interests
- Freedom to move around the school/classroom while learning
- Negotiating deadlines
- Freedom to work on an assignment until you decide it is finished
- Freedom to explore a topic even after the class has moved on
- Learning things different from what classmates are learning
- Choosing who will see or hear what you have learned
- Deciding how your work will be marked

OTHER

- Using learning centres
- Being taught metacognitive strategies
- Spending time with peers who are 2E

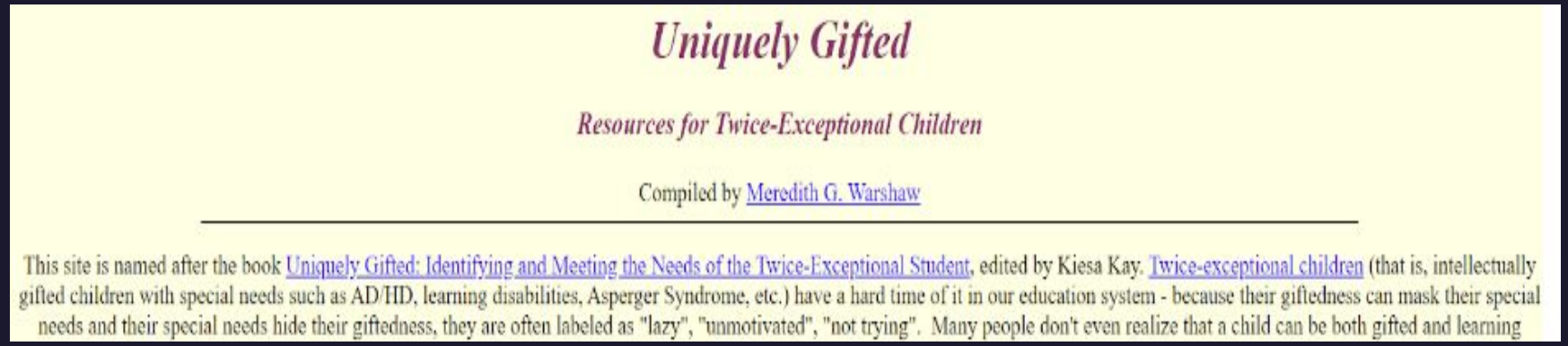
LEARNING FROM EXPERTS

- Talking with experts
- Having a mentor
- Learning by doing research with help from an expert who is not your teacher
- Hearing an expert's thoughts about your work
- Having your work marked in the same way an expert's would be judged

Web Resources

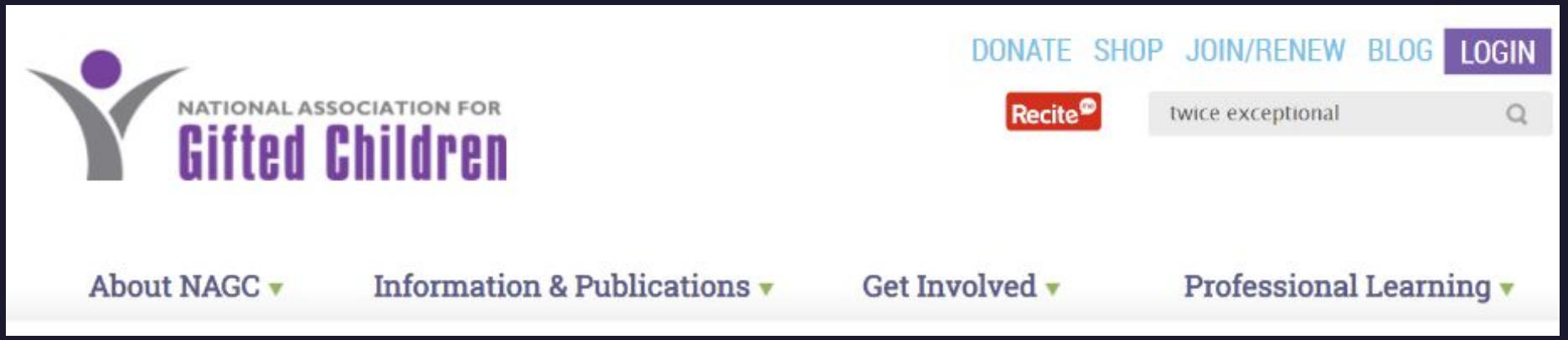
https://www.hoagiesgifted.org/

https://brightandquirky.com/



http://www.uniquelygifted.org/

https://www.2enews.com/



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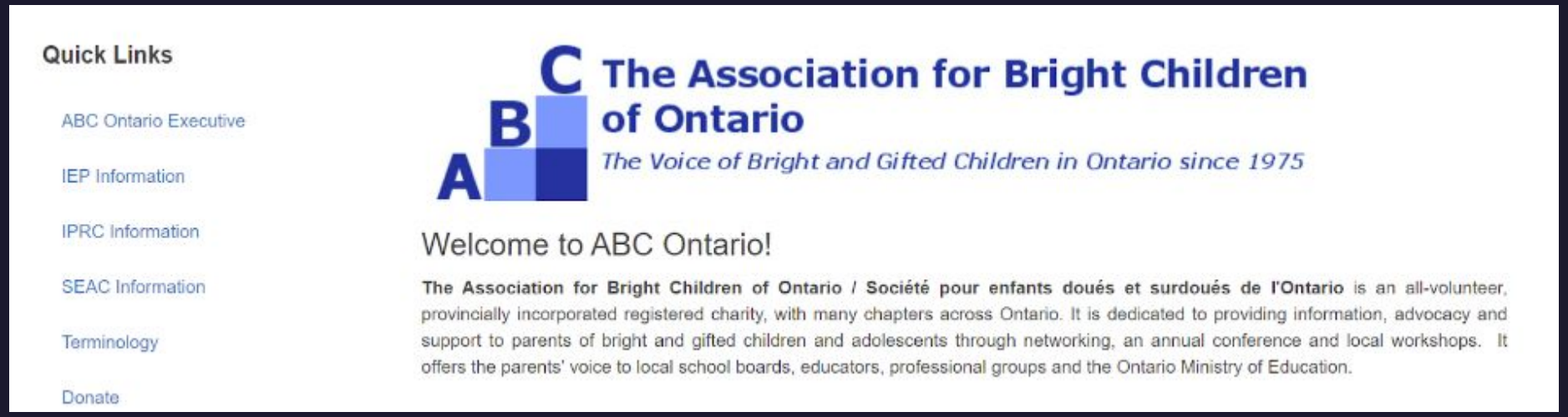

https://www.abcontario.ca/

Thank You

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