Neurodiversity in the Classroom:
Strength-Based Strategies to Help Students with Special Needs Succeed in School and Life

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CI843 Book Study
Chapter 1: Neurodiversity: The New Diversity
Sharon Lindebak

Neurodiversity--paradigm shift in how we think about kids in special education (looks at brain diversity, biodiversity and cultural diversity)

*coined in the 1990’s by a journalist and autism advocate
*used to reflect difficulties people face and positive dimensions of their lives

Positive Niche Construction--practice of differentiating instruction for the neurodiverse brain

Components of Positive Niche Construction

1. Strength Awareness
2. Positive Role Models
3. Assistive Technology/Universal Design Learning
4. Strength-based Learning Strategies
5. Human Resources
6. Positive Career Aspirations
7. Environmental
1. Strength Awareness--looking only at negatives, our ability to differentiate learning effectively is restricted

2. Positive Role Models--brains cells fire not only when we do something, but also when we observe others doing that same thing (mirror neurons)

3. Assistive Technologies/Universal Design for Learning--range of devices and methodologies/designs that improve access for people with disabilities while also benefitting the general public

4. Strength-Based Learning Strategies--not always strategies from a specific list, need to reflect the unique strengths of
5. Enhanced Human Resources--rich network of individuals who support the growth and development of a neurodiverse student (school personnel, teachers, coaches, tutors, parents and more)

6. Affirmative Career Aspirations--helping students to explore careers that suit their strengths can provide a sense of meaning and purpose in life

7. Environmental Modifications--LRE (students need to be educated alongside peers in regular education class) and finding or creating environments where students' cognitive, emotional, social or physical strengths have the best chance of being reinforced (whole school and surrounding community)
Learning disabilities are the most common reason that children are referred for special education services in the United States.

Representing about 5 percent of all students in public schools (U.S. Department of Education, 2011).

The most common form is developmental dyslexia.

Dyslexia- the research "so far seems to show that there does seem to be a 'trade-off' between being able to see the world in this wonderfully vivid and three-dimensional way

An inability to cope with the written word either through reading or writing" (Appleyard, 1997).

The researchers noted that "the compelling implication of this finding is that dyslexia should not be characterized only by deficit, but also talent.

One of the most important ideas for students with learning disabilities to understand there are many individuals in the real world just like them who become successful in spite of (or perhaps because of) their condition.
CONT: Chapter 2. The Multiple Talents of Students with Learning Disabilities
Casey

Assistive Technologies/Universal Design for Learning
- Audio books
- Font sizes can be made larger
- Speech-to-text software

Strength-Based Learning Strategies
- Multisensory strategy
- Provide software that makes use of visual-spatial skills, such as animation or graphic arts programs
- Have students create imaginative pictures of their vocabulary
Affirmative Career Aspirations

- With further technological development we may see opportunity for these creative, visual-thinking persons
- We may soon see crossing over from the arts, their traditional stronghold, to scientific and technical fields that have long been largely closed to them
The amount of students diagnosed with ADHD has increased dramatically: a 21% increase from 2003 to 2007.

Teachers should be focusing on using strategies that focus on student strengths instead of student weaknesses.
- Create an environment that is creative and positive for students with ADHD
- Show students how to become aware of their strengths

The 3 main symptoms of ADHD can be viewed two ways:
- **Negatively**: hyperactivity, distractibility, and impulsivity
- **Positively**: vitality, divergency, and spontaneity

Whether a trait is viewed as positive or negative can be influenced by the environment it is viewed in.
Increasing Value for students with ADHD

- Show students positive role models who have ADHD, give them the idea of being successful.

- Give students possible future career opportunities well suited for people with ADHD: Firefighter, EMT, entrepreneur, journalist, etc.

- Create a system of support, or 'network of human relations'. This could be academic coaches, peer tutors, and teachers.
Assistive Technology

- Some educational software can match the tempo of the ADHD student ("The mind of a child with ADHD jumps from thought to thought")
- Use software that can help with time management, organization skills, and task completion.

Strengths Based Strategies

- Behavior modification systems that offer rewards (could result in a lack of intrinsic motivation)
- Short, dynamic segments; aspects of creativity; frequent 'state changes'; provide immediate feedback; etc.

Environmental Modifications

- Allow students the opportunity to go outside for recess (not inside making up work or assignments)
- Give students errands; two seats across the room from each other to move freely; sit on a large round exercise ball
• About 1 out of every 88 children are affected by autism (1 out 54 boys)
• Autism: neurodevelopmental disorder displaying social impairments, communication difficulties, and restricted, repetitive patterns of behavior
• Spectrum from totally nonverbal to superintelligent highly verbal
• Cause is still unknown but some speculate:
  o resulted from accelerated brain growth
  o genes in the brain express themselves differently on a molecular level
• High heritability
Strength Awareness:
- Particularly skilled at perceiving details (Where's Waldo experts)
- Enhanced perceptual functioning: able to pick out details others miss
- Good at systemizing: doesn't not relate well with people, but love to engage with machines, computer programs, math equations, drawings, or languages

Affirmative Career Aspirations:
- Web designer, accountant, data entry clerk, computer programmer, animal trainer, photographer, etc.

Environmental Modifications:
- Headphones, muffle school bells, install carpeting, rubber cushioning on chairs, weighted vests, rocking chair, swing
Chapter 4 - Continued: The Gifts of Autism
Lana Titus

Positive Role Models:
-Although they may struggle with social interactions, each has unique gifts to share
-Examples: Emily Dickinson, Andy Warhol, Daryl Hannah, Dan Aykroyd, Temple Drandin, etc.

Assistive Technologies/Universal Design for Learning
-Computers: email, social media, and chat rooms make it easier to communicate with people
-Apps. to help with communication: My Talk Mobile (express needs), Stories2Learn (social stories), AutismXpress (helps recognize basic emotions)
-Robots to teach social skills, respond positively during friendly interactions or shutdown in response to negative behaviors
Enhanced Human Resources:
- Teachers find ways to provide positive social interactions
- Behaviorism, using external rewards, for reinforcement
- Look for opportunities to keep interactions going
- Lots of one-on-one time with the student

Strength-Based Learning Strategies
- Provide quiet area & clearly defined space for belongings
- Multisensory learning to teach skills
- Variety of ways to express self
- Model appropriate behaviors through role model, video, etc.
- Board games to practice social interactions
- Bring different machines or devices for them to explore
Chapter 5: The Strength of Students with Intellectual Disabilities

Strength Awareness:
Abilities with:
- music
- images
- nature
- feelings
- social interaction
- physical expertise
-- not IQ scores

Positive Role Models:
- actor/writer Jason Kingsley
- actor/musician/author Chris Burke
- opera singer Gloria Lenhoff
- musician/black belt karate Sujeet Desai
- first to earn degree w/down syndrome Katie Apostolides
- tapestry artist Jane Cameron
- artist Bernadette Resha
- writer/poet Gretchen Josephson
- swam English Channel Karen Gaffney
- mtv Susan Harrington
Chapter 5: Micah

Assistive Technologies/Universal Design for Learning

Basic:
- calculators  - audio books  - computers and apps
- tablets/apps  - smartphones/apps

In addition to the basic:
- Augmented and alternative communication programs
- Wii or XBox Kinect
- virtual reality platforms

Enhanced Human Resources
- paraprofessionals
- relationships with teachers
  - relationships with peers ex: peer groups, buddy groups... extra curricular activities.
Chapter 5: Micah

Strength based Learning Strategies

- The most important thing to keep in mind when working with students who have intellectual disabilities is that they learn best from instruction that is experiential, vivid, hands-on, and down-to-earth.

  - Overly verbal, highly abstract, and unnecessarily complex explanations and instructions are to be avoided.

  - Teach through games
  - Link lessons to personal experiences/real life and relevant
  - Make activities project based
  - Be dramatic/use role play and improvisation
  - Have them make visual representations
  - Develop emotional intelligence through reflection
  - Integrate music into curriculum
Chapter 5: Micah

Affirmative Career Aspirations

- Animal caretaker
- Library assistant
- Mail clerk
- Messenger
- Printer
- Cashier
- Medical technician
- Furniture refinisher
- Photocopier operator
- Grocery clerk
- Sales clerk
- Hospital attendant
- Automobile detail worker

- Store
- Cook
- Clerical aide
Alarming statistics about students with emotional and behavior disorders

* 9-19% of school-age children meet criteria for emotional or behavior disorders, fewer than 1% have been identified and receive services

* The highest rate of dropout for any disability category (50%)

* 25% of public school teachers believe students with emotional or behavioral disorders should be included in the regular classroom

* Only 30% of these students are fully included
Connections between mental illness and creativity/high achievement:

* Children with bipolar disorder scored higher on tests of figural (pictorial) creativity than matched controls (2005)
* Large numbers of actors, poets, presidents, writers, scientists are very open about their emotional/behavioral disorders

Components of positive niche construction for students:

* Network of people who can champion and promote students' emotional well-being and appropriate behavior
  * Team approach is essential—wraparound approach
* Clear expectations for behavior, clearly communicated procedures, well-designed transitions, and fairly implemented consequences for appropriate and inappropriate behavior
* Offer students specific and immediate praise and opportunities to respond to keep them engaged with the content of the lesson
More components of positive niche construction for students:

* provide a "heads-up" about the happenings of the class
* peer-assisted learning strategies, reciprocal peer tutoring and classwide peer tutoring
* also show students how to monitor their own behavior
* help students pinpoint selected behaviors to observe and then assist them in the process of self-recording these behaviors when they occur
* teaching self-talk skills
* encourage their students to develop specific behavioral, academic or personal goals and support them as they take practical steps to achieve their objectives
* opportunities to express their feelings through the arts
* dedicated space, either in the classroom or somewhere else in the school to retreat to when in crisis mode to regain control
A strength-based classroom

• A place where students with all sorts of labels come together
• Come together as equals to form new type of learning environment
• One where there is no such thing as a normal student
• Where each and every learner is viewed as wonderful
The Components of Positive Niche Construction at Henderson Elementary School

**Strength Awareness**

Every child is recognized for his or her positive qualities: academic, social, emotional, or creative

**Assistive Technologies/Universal Design for Learning**

The school collaborated with organizations to incorporate alternative technological approaches into academic subjects
The Components of Positive Niche Construction at Henderson Elementary School

Enhanced Human Resources
comprehensive system of collaboration: Co-Teachers, Paraprofessionals, OT, PT, Speech, Dance and Music Teachers, Visual Artist, Volunteer College Students, and Peer Tutoring

Strength-Based Learning Strategies
Incorporates wide range of strength-based learning strategies to support a broad spectrum of learning needs
The Components of Positive Niche Construction at Henderson Elementary School

Environmental Modifications
Special seat cushions, stools, squeezable objects for discharging motor activity

Positive Role Models and Affirmative Career Aspirations
Professional speakers to model how to be a successful and creative individual with a disability