outl:er

RESEARCH & EVALUATION
CEMSE | UNIVERSITY OF CHICAGO

Sarah Wille, Senior Researcher

"*Learning Differences*": Students with learning disabilities and/or an Attention Deficit/Hyperactivity Disorder (ADHD))

Include **in STEM+C broadening participation efforts:**

✧ Equity
✧ Innovative contributions to STEM+C

Common Learning Disabilities
(*The State of Learning Disabilities,* 2014)
- Dyslexia (specific to reading)
- Dyscalculia (specific to math)
- Dysgraphia (specific to writing)

Associated Deficits & Disorders
- Auditory Processing Deficit
- Visual Processing Deficit
- Executive Functioning Deficits
- Attention Deficit/Hyperactivity Disorder (ADHD)

National Center for Learning Disabilities, Inc.
The power to hope, to learn, and to succeed

Learning Disability Diagnosis, Causes & Treatment

55% WRONGLY BELIEVE THAT CORRECTIVE EYEWEAR CAN TREAT CERTAIN LDs.

43% INCORRECTLY THINK THAT LD IS CORRELATED WITH IQ.

34% BELIEVE LD CAN BE CAUSED BY TOO MUCH SCREEN TIME (INCORRECT!);

22% BELIEVE A CAUSE IS POOR DIET (WRONG!);

24% WRONGLY BELIEVE A CAUSE IS CHILDHOOD VACCINATIONS (NOT SO!).

76% CORRECTLY BELIEVE GENETICS CAN CAUSE LD.

Dyslexia, Dysgraphia, Dyscalculia, Dyspraxia

IMPORTANT DEFINITIONS:
DYSGRAPHIA: DIFFICULTY WITH HANDWRITING
DYSCALCULIA: DIFFICULTY WITH MATH
DYSPRAXIA: DIFFICULTY WITH MOTOR SKILLS

THESE 3 LDs ARE MOST OFTEN CONFUSED AS AN AUTISM SPECTRUM DISORDER, DIFFICULTY WITH EMOTIONAL CONNECTIONS, AND AN ANXIETY DISORDER, RESPECTIVELY

80% ACCURATELY DEFINE DYSLEXIA

NEARLY **20%** THINK THAT DYSCALCULIA IS A FEAR OF NUMBERS

23% THINK THAT DYSPRAXIA IS AN ANXIETY DISABILITY

General Knowledge of Learning Disabilities

??? 2/3 DO NOT KNOW WHAT DYSGRAPHIA, DYSCALCULIA, & DYSPRAXIA ARE. MOST HAVE HEARD OF DYSLEXIA THOUGH (91%).

84% SEE LD AS A GROWING ISSUE IN THE US.

1/3 DO NOT KNOW ABOUT THE LDS OF WHOOPI GOLDBERG, BRUCE JENNER, ANDERSON COOPER, RICHARD BRANSON, AND TOMMY HILFIGER. (ALL HAVE PUBLICLY DISCLOSED THEIR LD.)

Life with a Learning Disability

30% ADMIT TO MAKING CASUAL JOKES ABOUT HAVING A LD WHEN SOMEONE MAKES A READING, WRITING OR MATHEMATICAL MISTAKE.
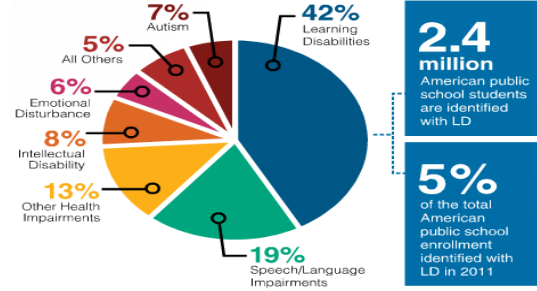
NEARLY 1/3 BELIEVE THAT IT IS APPROPRIATE AND LAWFUL FOR AN EMPLOYER TO ASK AN INTERVIEWEE IF THEY HAVE A LD, WHICH IS IN FACT AGAINST THE LAW.

OVER 1/3 OF PARENTS (37%) SAY THAT THEIR CHILD'S SCHOOL INADEQUATELY TESTS FOR LD.

45% OF PARENTS OF CHILDREN WITH LD SAY THAT THEIR CHILD HAS BEEN BULLIED IN THE PAST YEAR.

FOR MORE INFORMATION REGARDING LEARNING DISABILITIES, PLEASE VISIT WWW.LD.ORG

Special Education Students: 2011
By Disability Category

- **7%** Autism
- **5%** All Others
- **6%** Emotional Disturbance
- **8%** Intellectual Disability
- **13%** Other Health Impairments
- **19%** Speech/Language Impairments
- **42%** Learning Disabilities

2.4 million American public school students are identified with LD

5% of the total American public school enrollment identified with LD in 2011
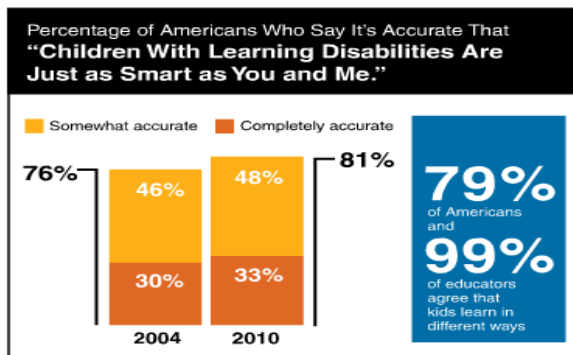
Source: IDEA Part B Child Count, Ages 6–21. Does not include Developmental Delay category (allowable to age 9).

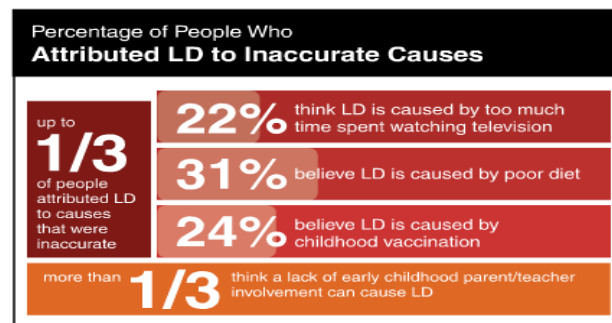According to Sheldon Horowitz, Director of LD Resources at the National Center for Learning Disabilities,

"Learning disabilities are not a prescription for failure. With the right kinds of instruction, guidance and support, there are no limits to what individuals with LD can achieve." *The State of Learning Disabilities*, 2014.

Percentage of Americans Who Say It's Accurate That "Children With Learning Disabilities Are Just as Smart as You and Me."

Somewhat accurate   Completely accurate

76%   81%
46%   48%
30%   33%
2004   2010

79% of Americans and 99% of educators agree that kids learn in different ways

Source: Tremaine Foundation, 2010

Percentage of People Who Attributed LD to Inaccurate Causes

up to 1/3 of people attributed LD to causes that were inaccurate

22% think LD is caused by too much time spent watching television
31% believe LD is caused by poor diet
24% believe LD is caused by childhood vaccination
more than 1/3 think a lack of early childhood parent/teacher involvement can cause LD

Source: 2012 Survey of Public Perceptions of LD, NCLD

Bringing AP Computer Science Principles to Students with Learning Disabilities And/Or ADHD: The Hidden Underrepresented Group

Work in collaboration with Wolcott learning specialists, teachers, & students to:

- Identify challenges students with learning differences engaging in CS

- Identify possible solutions

- Test specific adaptation and accommodations in lessons from2 AP CSP curricula – *Beauty and Joy of Computing* for NYC (BJC4NYC) and Code.org's *CSP*

WHEN IT COMES TO HIGH SCHOOL, ONE SIZE DOES NOT FIT ALL.

Wolcott School is a college prep high school for students who learn differently, providing an engaging academic experience tailored to students' strengths.
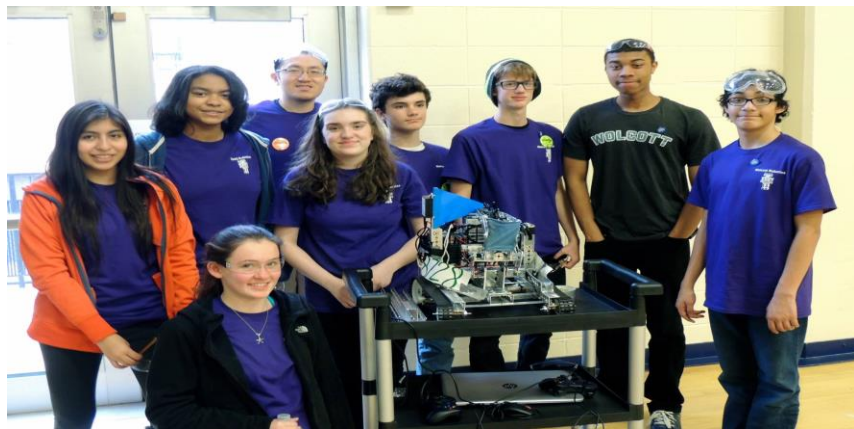*Open House for Prospective Families, Sunday, November 3 at 2pm.*

Wolcott School 524 N. Wolcott Ave, Chicago
Contact Admissions, rspiro@wolcottschool.org
312.610.4900 | wolcottschool.org

WOLCOTT SCHOOL

Take Action:

Talk about **students with learning differences** (learning disabilities and/or ADHD) as an important dimension of **STEM+C broadening participation.**

Recap:

- **5 – 20% of students in the U.S. have a learning difference.**

- **They are as intelligent as you.**

- **Their unique contributions to our nation's STEM+C efforts are critical.**