Welcome!

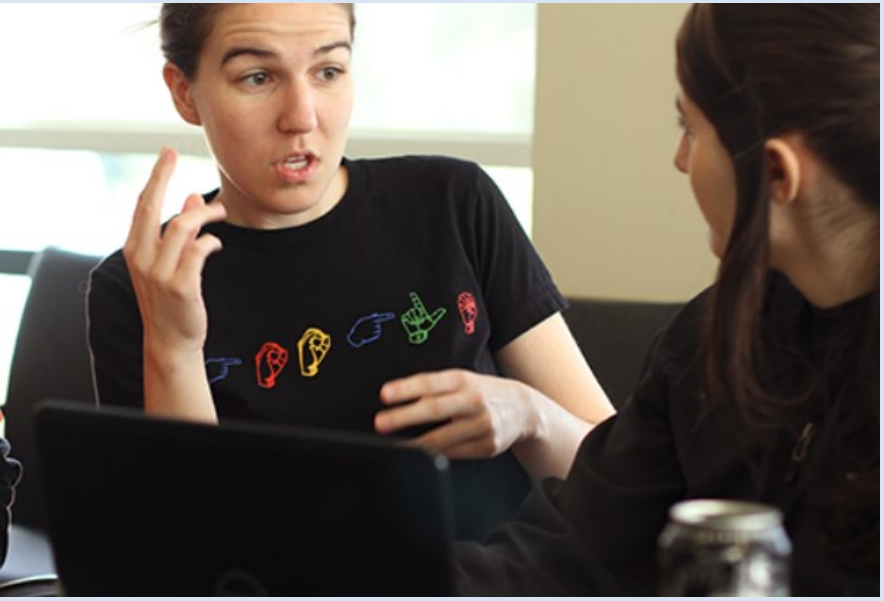


Photo credit: AccessComputing

- Please introduce yourself, organization, and Collaborative in the chat box.
- What experience do you have with accessibility resources in STEM?

November 14, 2018

National Girls Collaborative Project

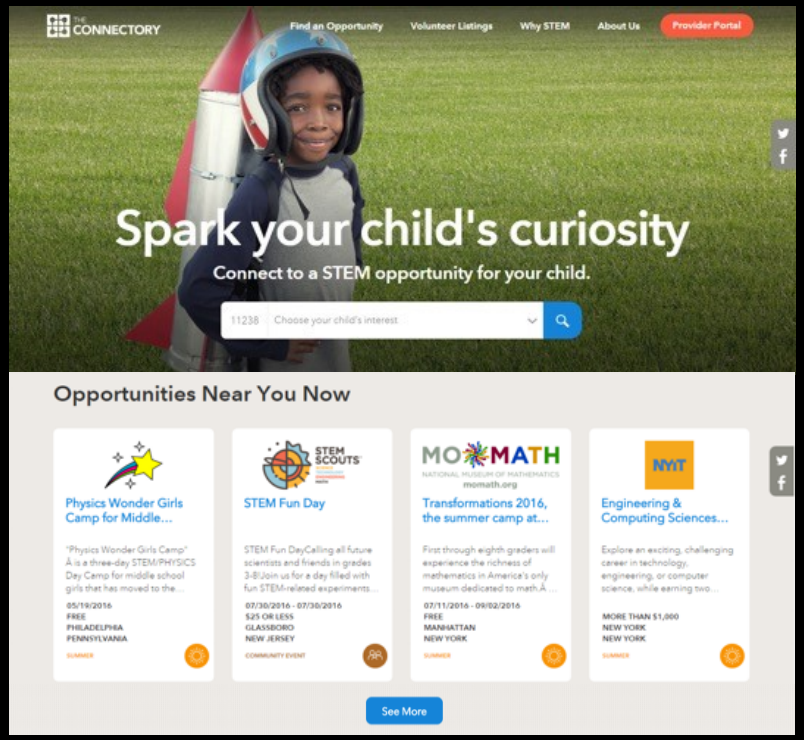
NATIONAL GIRLS COLLABORATIVE PROJECT

Agenda

- The Connectory and AccessComputing CS for All Commitment
- DO-IT, University of Washington
- Tech Kids Unlimited
- Successes and Challenges
- Updates and closing

CSforALL SUMMIT

DETROIT



The Connectory + AccessComputing

+ Largest and most comprehensive free directory of youth-serving STEM program providers and opportunities

+ Accessible programs and opportunities tagged in The Connectory

+ Outreach to accessible Computer Science program providers

DO-IT, University of Washington

Brianna Blaser,
Counselor and Coordinator

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

Including Students with Disabilities in Computing Education

Brianna Blaser
University of Washington
blaser@uw.edu

AccessComputing

- Increasing the participation of people with disabilities in computing fields
- Funded by the NSF
- Based at the University of Washington
  - DO-IT
  - Computer Science and Engineering
  - Information School
- Since 2005

Creating change through

- Institutional change
  - Universities and computing organizations
  - Industry affiliates
- Student support
  - Mentoring
  - Professional development
  - Funding
- Teaching accessibility and universal design

AccessCSforAll

- Led by UW and UNLV
- Works to increase the successful participation of students with disabilities in K-12 computing
- Accessible version of Code.org AP Computer Science Principles
- PD for teachers from schools for the blind, deaf, & learning disabilities


W
Diversity
includes
disability
Access Computing

Ability is on a Continuum

see

hear

walk

read print

write with a pen or pencil

communicate verbally

tune out distraction

learn

manage physical or mental health

Barriers in CS Education and Careers

AccessComputing

- Inaccessible facilities, curricula, and IT
- **Inaccessible programming environments and hardware**
- Inadequate academic supports
- Lack of encouragement and role models
- **Difficulty navigating technical interviews**
- **Disability disclosure**
- Relocation for internships or employment

Approaches to Access

Accommodations	Universal Design
Reactive	Proactive
One student	Benefits multiple students
Disability-specific	Considers multiple aspects of individuals' backgrounds
	Minimizes need for accommodations

Universal Design

The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

UD of Instruction

Gives students multiple ways to:

- Gain knowledge
- Interact
- Demonstrate knowledge

Examples

- Captioned videos.
- Minimize time constraints.
- Speak aloud content.
- Provide corrective opportunities.

Quorum

- Quorum is a computer programming language
- It was originally designed to make programming easier for the blind and visually impaired
- It is used in K-12 schools in approximately 17 states and about half of residential schools for the blind

Basic Features of Quorum

- Quorum is an “evidence-oriented” language
  - Other programming languages are no better than placebo languages
- We have a variety of features:
  - Gaming (audio and visual)
  - LEGO robots
  - Music
  - ECS & CSP curriculum

Resources

- Videos
- Knowledge Base
- Choose Computing profiles
- Individualized support

uw.edu/accesscomputing

accesscomp@uw.edu

Acknowledgements

- AccessComputing and AccessCSforALL are funded by the National Science Foundation (CNS-1539179, CNS-1738252 and CNS-1738259).

Tech Kids Unlimited

Beth Rosenberg,
Co-Founder and Director

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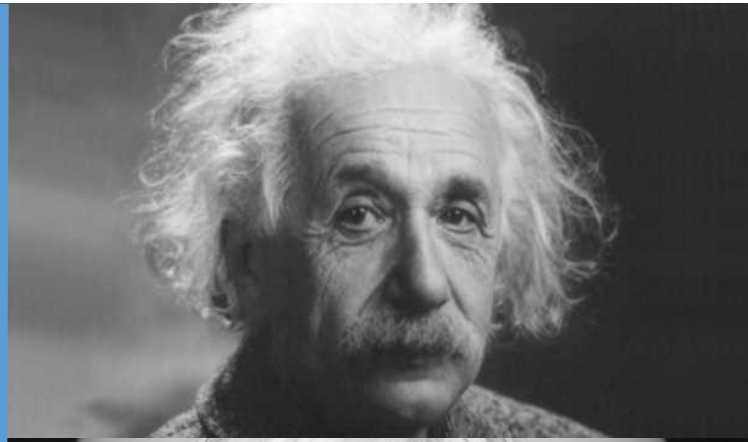
TECH KIDS UNLIMITED

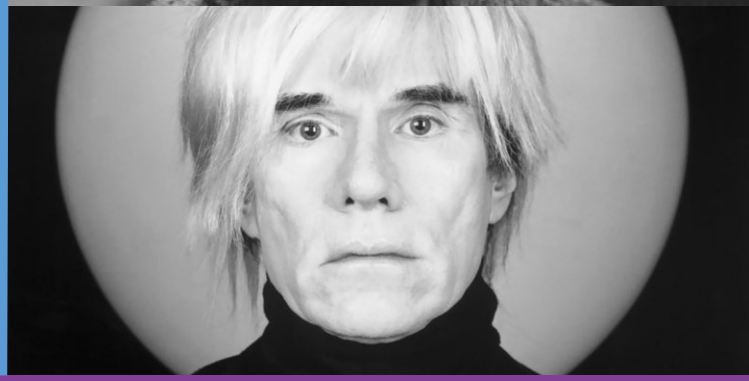
TECHKIDSUNLIMITED.ORG

T3 talented.tech.team

DIGITAL AGENCY

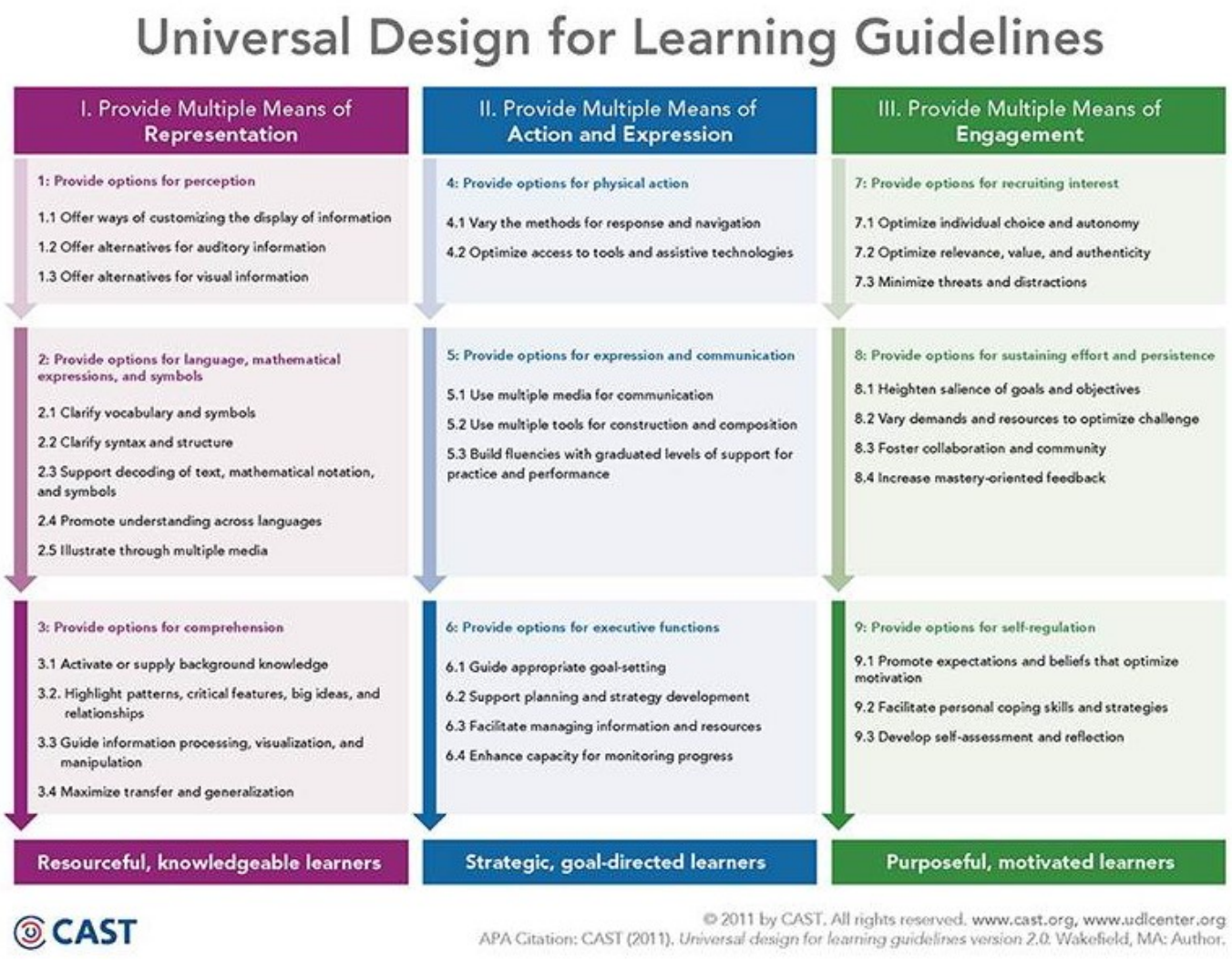




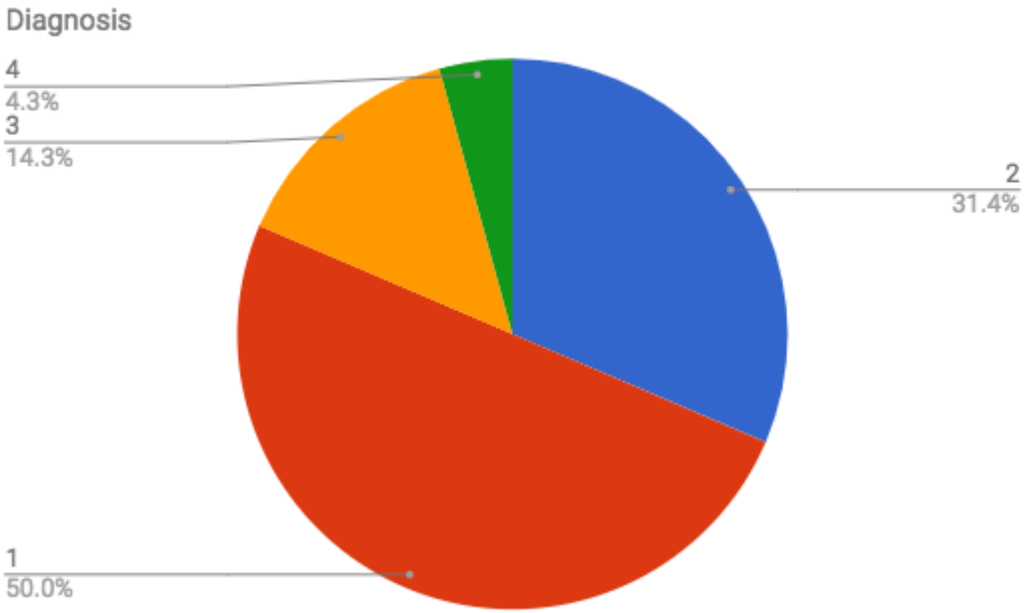



POPULAR CULTURE & AUTISM SPECTRUM DISORDER

- **Core Idea of UDL:** Designing for one type of diversity often has benefits for many types
- UDL is a set of principles for curriculum development that give all individuals equal opportunities to learn.



TKU Student Profile: Focus on ASD and ADHD



1 = Autism Spectrum Disorder
2 = ADHD
3 = BOTH ASD and ADHD
4 = Other diagnoses, no ASD or ADHD

“Symptoms” can become strengths when environments are a “good fit” where students can “learn by doing” tasks they find interesting.

The Need

- Autism costs the nation more than *$35 billion* per year
- *One out of 68 children* is diagnosed as having Autism Spectrum Disorder
- There is a *lack of opportunities* for this population as they reach adulthood
- *Technology jobs* are particularly suited to many individuals on the spectrum, and yet there are few training programs geared to this population
- This is where Tech Kids Unlimited steps in...

TECH KIDS UNLIMITED
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Our Mission

- Teaching computer science principles and technology to students who learn *differently.*
- Empowering and inspiring the next generation of digital natives to learn, create, develop, and share the tools of technology.
- Building students' resumes with an eye towards employment.

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ABOUT US

talented.tech.team
DIGITAL AGENCY
TECHKIDSUNLIMITED.ORG

STUDENT WORK

CareWeaver

Pieced

Shop The Spectrum

Eric’s Viral Video (10 year old TKU Student)

Testimonials

It's a great opportunity for him to have a meaningful and fun activity, especially on the weekends, when he would otherwise be at home alone in his room.

– Mom of 18-year old TKU student

He has expanded his understanding of coding, website development and video editing - areas he wouldn't have been exposed to without the program.

– Mom of 11-year old TKU Student

I got involved in TKU because I was home doing nothing at all and going to the library every day looking for jobs and doing applications that got me nowhere.

I want to continue to learn more from TKU because I use the computer all the time and I want to be a computer game designer.

– J. TKU Student, 20 years old

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Successes? Challenges?

General NGCP Updates

- CSEdWeek Activities (12/3 – 12/7)
  - Twitter Chat, Wednesday, December 5 at 4:00PM Pacific/7:00PM Eastern (#CSEdWeek)
  - Webinar, Bridging the "Encouragement Gap" in STEM +C , Thursday, December 6 at 1:00PM Pacific/4:00PM Eastern
- 2019 Community Meeting Schedule

Upcoming NGCP Webinars

Design Squad Global Inventing Green: Engage Kids in Hands-on Engineering around Sustainability

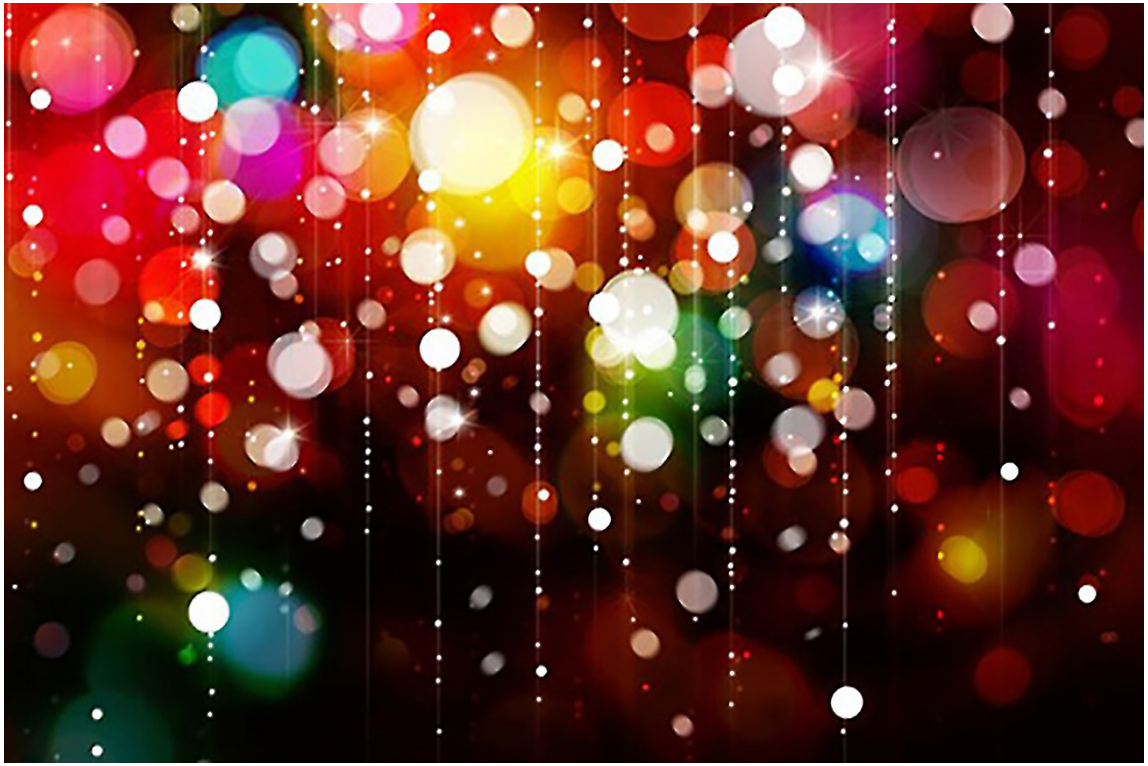
Thursday, January 10, 2019
11:00AM Pacific/2:00PM Eastern

http://ngcproject.org/events

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

Next Collaborative Leadership Teams Meeting: January 2019



Have a safe and joyous holiday season!

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project