Accessibility for Children

W3C Community Group

TPAC Break Out Session - September 2022

Google Slides: https://tinyurl.com/A11y4Kids22

Please paste your email into Zoom chat or irc if you would like us to email the slides to you as PowerPoint.

Welcome!

We are the W3C Accessibility for Children Community Group.

- Twitter: https://twitter.com/A11y4K
- LinkedIn: https://www.linkedin.com/company/a11y4kids/

The Chairs of the Community Group will Present at Today's Breakout Session

- Suzanne Taylor, Founder at Things Entertainment
- Maud Stiernet, Owner at alittleliningcomes.com

Outline

- Goals, logistics, safety reminders, code of conduct, participation
- Members & Fields Represented
- Prioritization survey
- FAQ: 6 reasons to consider specific needs 4 children
- White paper Topics preview
- Continuing the conversation

Goals from TPAC Breakout Session Wiki

- Provide an update on the work and goals of the Accessibility for Children Community Group, which has been active for about a year.
- Share the 6 main reasons that children with disabilities will benefit from specific consideration in next-generation accessibility standards.
- Share the main topics and success indicators that we will be exploring and refining in the group's full white paper.

Logistics

- Presentation available here: https://tinyurl.com/A11y4Kids22
- Captioning is available
- Let us know if you have any accessibility needs.

Safety Reminders

While attending TPAC, follow the Health Rules:

- Authorized masks are required indoors at all time (no exceptions)If you need to remove your mask during a meeting, keep it short (but keep enjoying that water/coffee)
- Daily test is expected

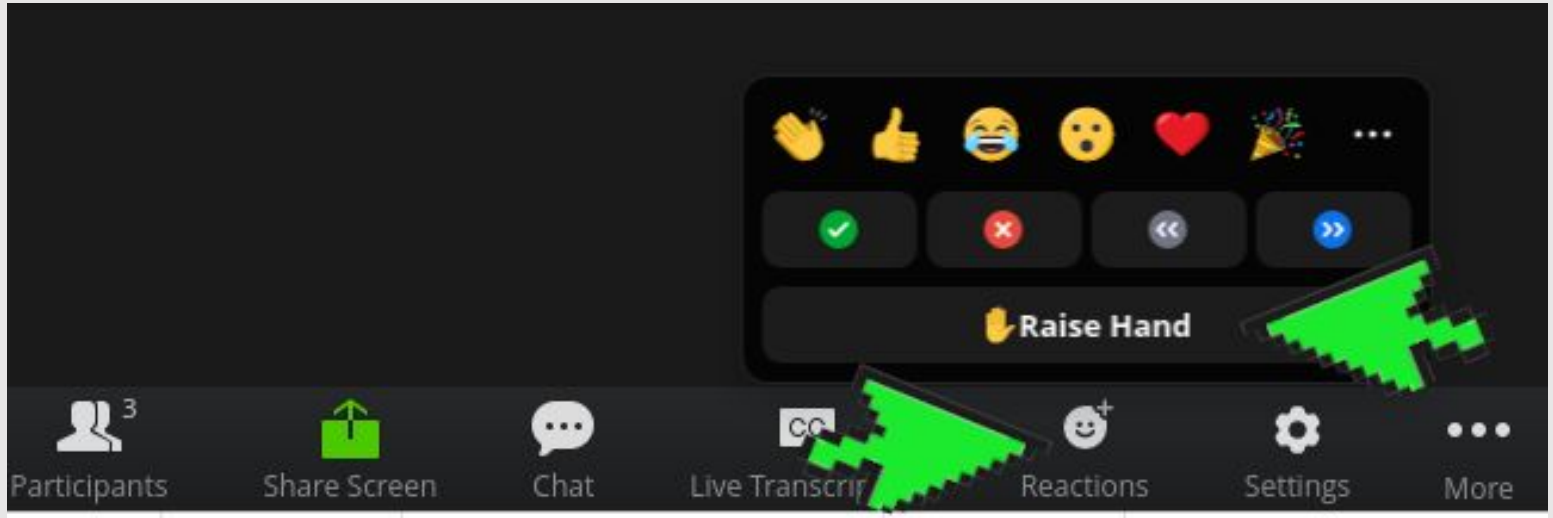
Code of Conduct

- Appreciate and accommodate our similarities and differences, be inclusive
- Have empathy when discussing sensitive issues
- Treat everyone with respect
- Be honest, be truthful
- Be aware of how much time is taken up
- Be sensitive to language differences
- Respect confidentiality and privacy

Participation

Please ask questions or make comments any time

- Raise hand in Zoom
- Or, if you are familiar with IRC:
  - #a11y4kids
  - q+



Update

W3C A11y for Children Community Group

Fields Represented by the Membership

- Accessible Media
  - Education
  - Entertainment
- Children's literacy and language acquisition
- Children's rights
- Communication
- Creative Technology Research Group
- Designer and lecturer - the School of Engineering and Informatics
- Education Assessments
- Fairness and intersectionality researchers
- Game development
- Inclusion of underrepresented minorities in STEM
- Innovation science
- Policy making
- Proof of concept immersive VR / AR environments
- Public Health Agency
- Responsible AI
- UDL and neurosciences (brain labs)
- UX Designers
- Senior researchers / directors

Active Members

- David Boulton, Learning Stewards
- Emeline Brulé, University of Sussex
- Bob Dolan, Diverse Learners Consulting
- Alena Fraser, Government of Canada
- Danielle Guzman-Orth, ETS
- Kelsey Hall, ADP
- Sindhura Jaladhanki, ETS
- Kris Anne Kinney, ETS
- Allison Johnson, Curriculum Associates
- Melissa Malzkuhn, Motion Light Lab at Gallaudet University
- AJ Polanco, ADP
- Caidin Riley, Data Recognition Corp
- Madeleine Rothberg, National Center for Accessible Media at WGBH
- Maud Stiernet, A Little Lining Comes
- Suzanne Taylor, Things Entertainment

Results of Prioritization Survey from March 2022

- Items with the highest score (8.00)
  - Write a FAQs doc or White Paper on Why Children's Needs Require Specific Consideration **(Focus of this presentation.)**
  - Write high level user needs in order to inform other standards, such as WCAG 3 Children's High Level User Needs. (These might be re-framed as Children's Accessibility Rights.)
  - Form positions on key issues and conduct advocacy / awareness (for example, use of AT during assessment)
- Item with the second highest score (7.50)
  - Comment and provide feedback on standards that are being developed such as commenting on W3C's Functional Needs and Natural Language Interface Accessibility User Requirements **(Completed items are listed on this wiki page.)**
- Item with the third highest score (7.00)
  - Write a stand-alone guide to making content/products accessible for children, similar to COGA's document

FAQ: 6 key reasons

To fully serve with children with disabilities, we should consider their needs separately from those of the general population of individuals with disabilities.

FAQ: Why Children's Accessibility Needs Require Specific Inclusion in the Standards

Definition of “Functional Needs” as used in this presentation

- We are using the term “functional need” as defined in current work on W3C Accessibility Guidelines (WCAG) 3.0:
  - https://www.w3.org/WAI/GL/WCAG3/2020/functional-needs/
- Functional needs are characteristics that a user brings with them to any experience, such as:
  - “Use with limited color perception”
  - “Use with limited ability to focus attention”
  - “Use without hearing”

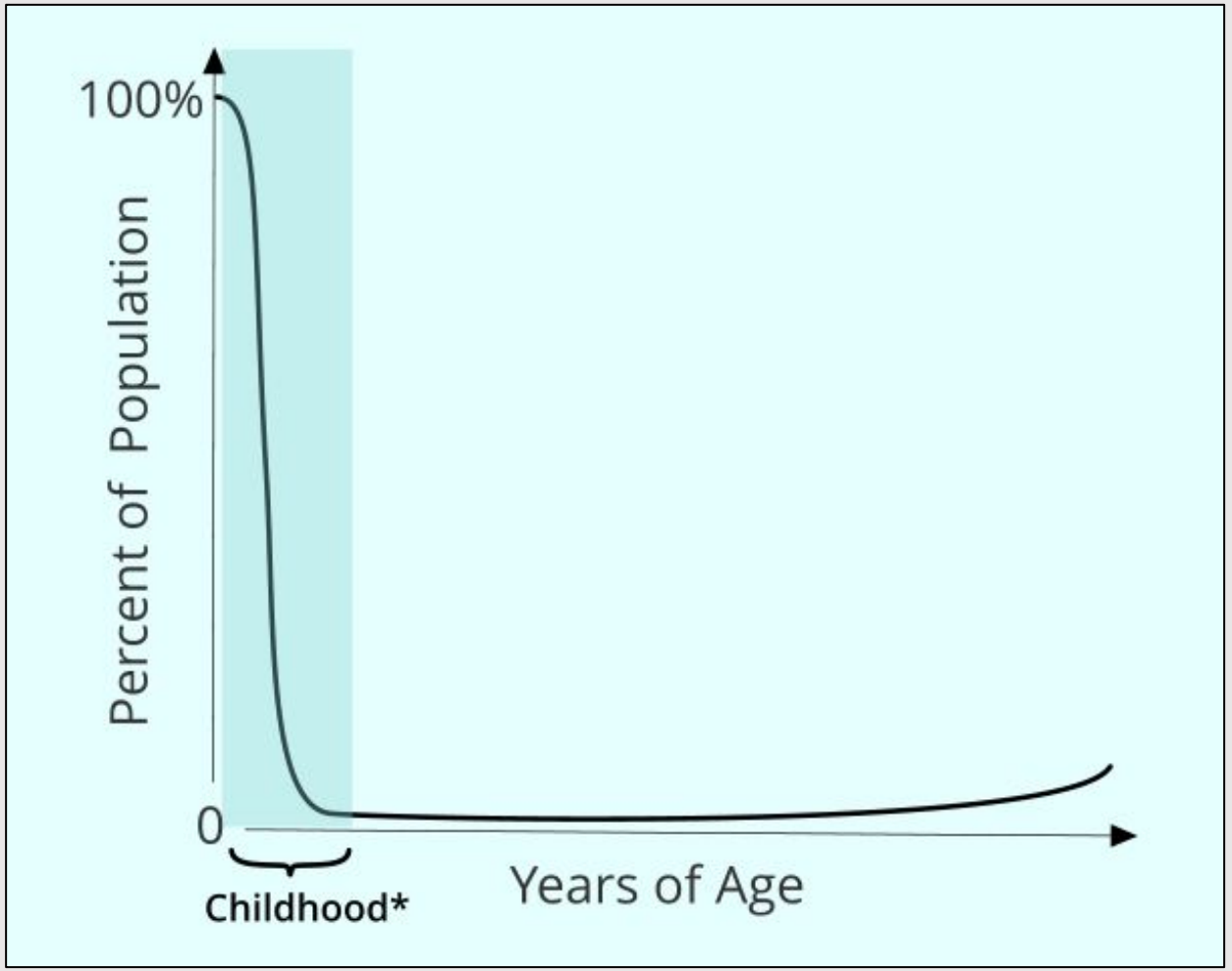
1. Functional needs change rapidly for children.

- An adult with low vision and limited dexterity may choose to use larger tactile solutions
- A child with low vision and limited—but developing—dexterity may benefit in the long term from working with smaller tactile solutions.

2. Combined functional needs are more common in children.

The prevalence of combined disability-related and developmental functional needs is higher in children than in adults.

Limited Dexterity by Age Conceptual Graph

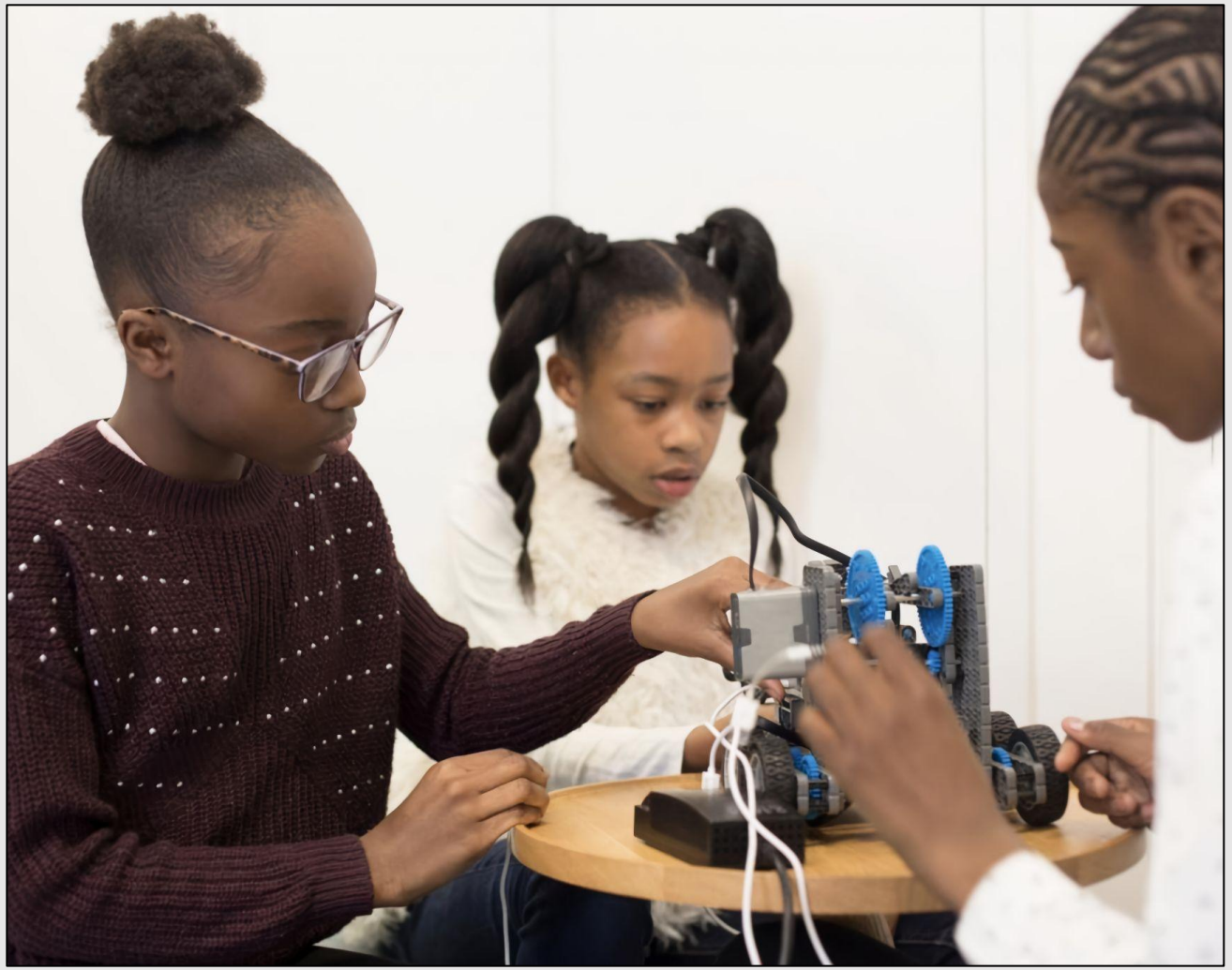


*Graph uses chronological definition of childhood.

2. Combined functional needs are more common in children.

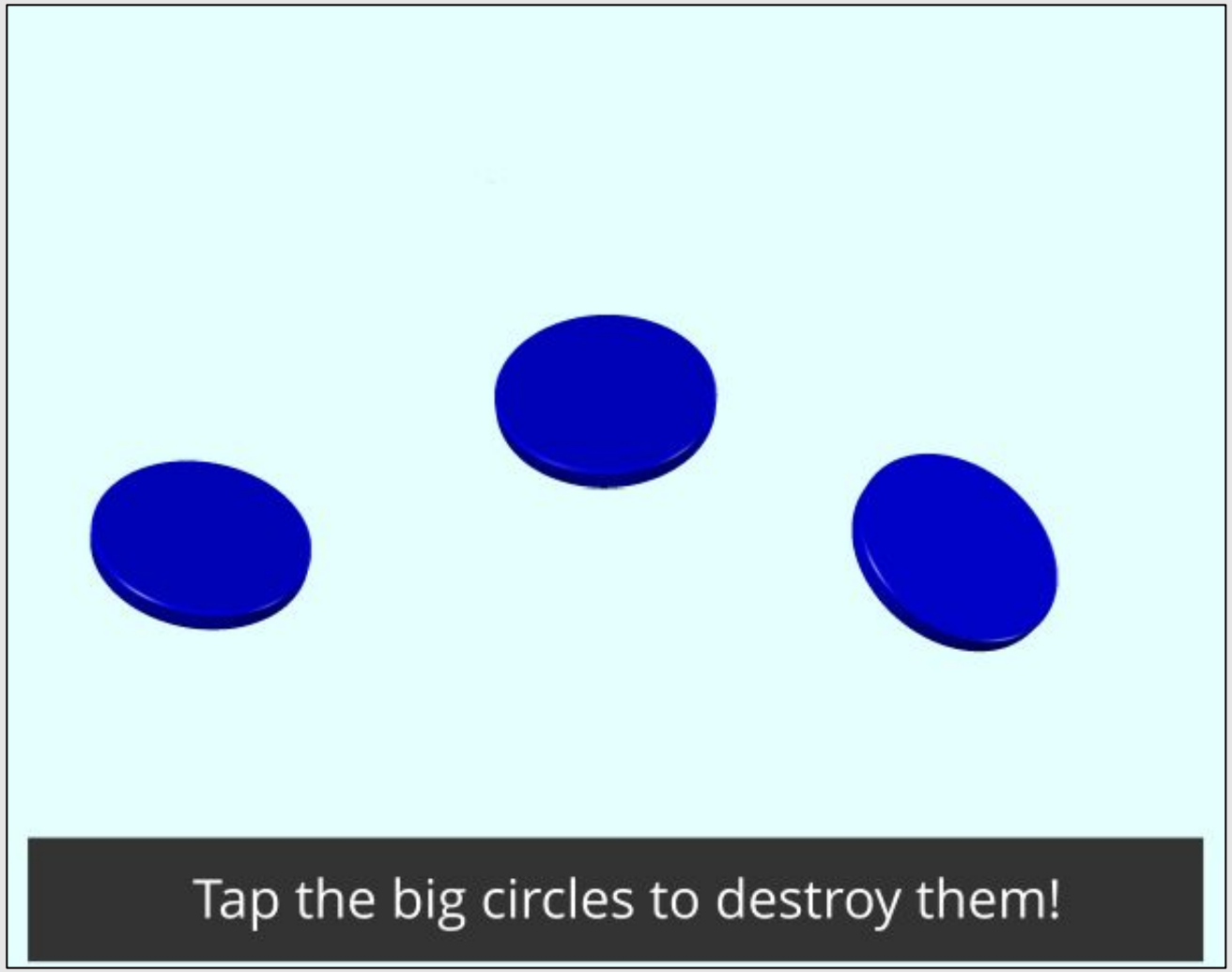
Additional examples:

- Dexterity / Fine Motor Control
- Gross Motor
- Literacy
- Attention
- Speech / Pronunciation
- Social
- Flexibility / Adaptability
- Working Memory
- Problem Solving



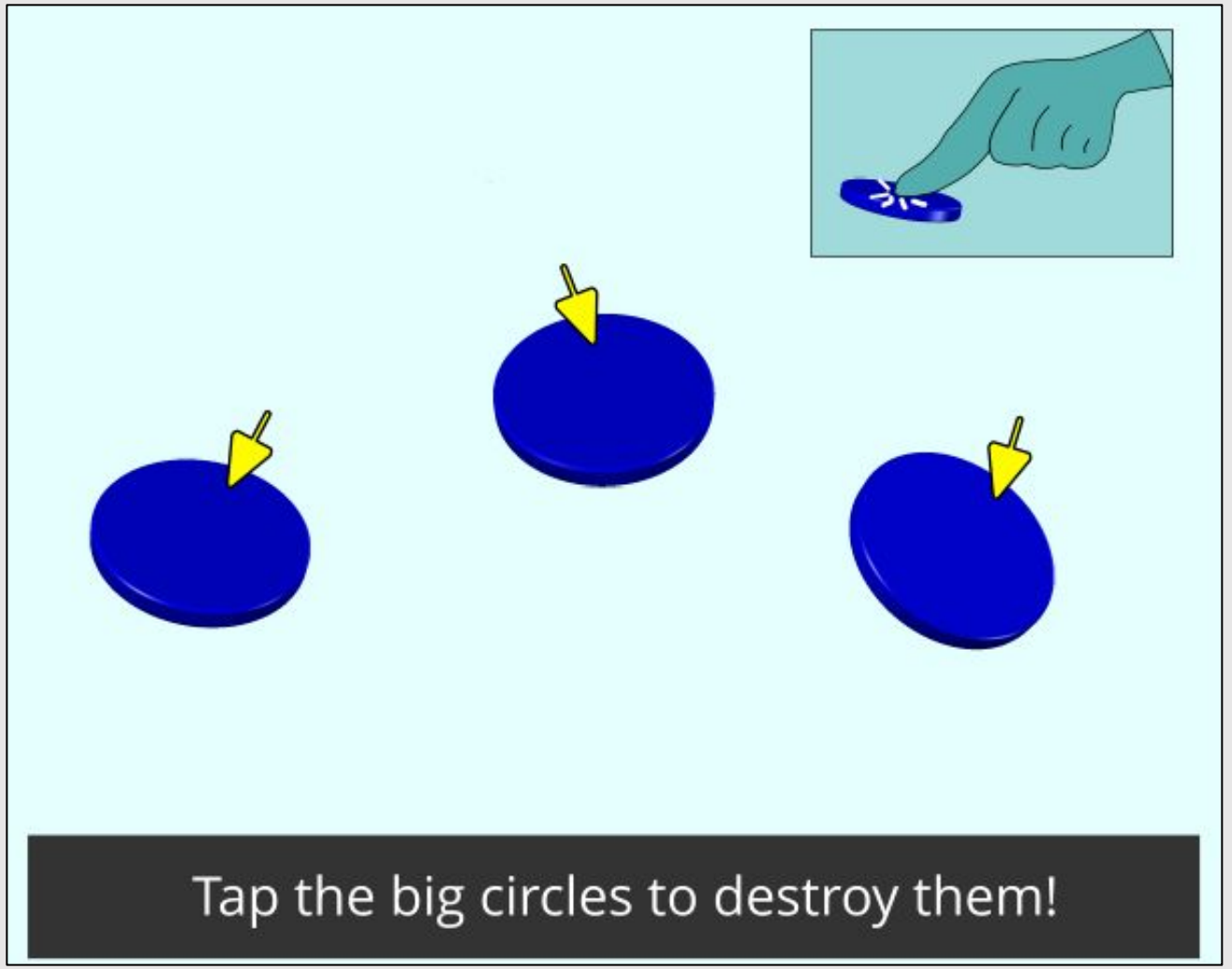
3. Common solutions for adults do not always work well for children.

For example, children may not yet have the reading ability or language development needed to understand captions.



3. Common solutions for adults do not always work well for children.

In some cases, UI arrows, cartoons, animations, tours, and/or symbols would work better than captions.



3. Common solutions for adults do not always work well for children.

In some cases, Sign Language would work better than captions.

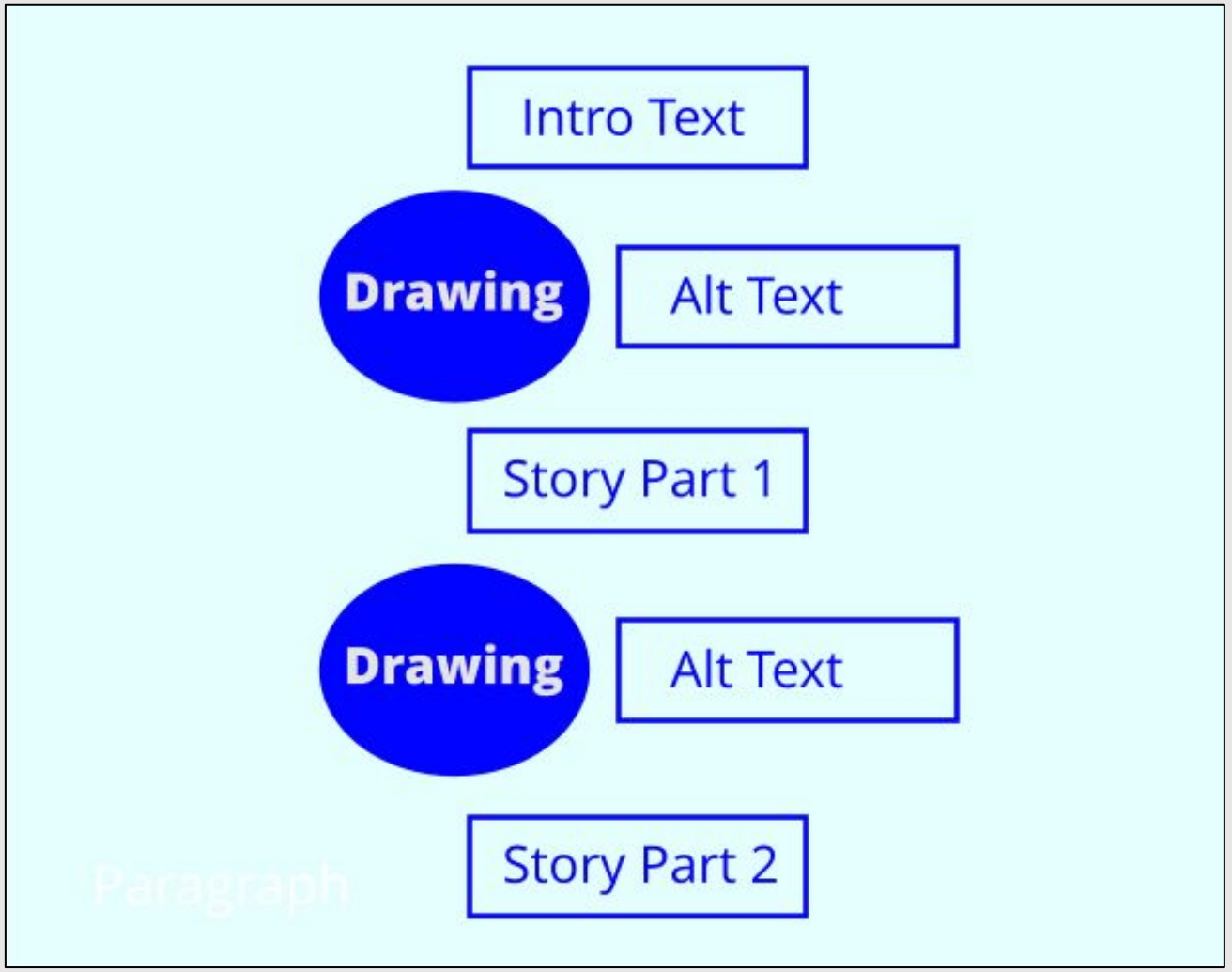
(Of course, all of these can be combined.)

Work of Motion Light Lab at Gallaudet University: Solar System Trailer

3. Common solutions for adults do not always work well for children.

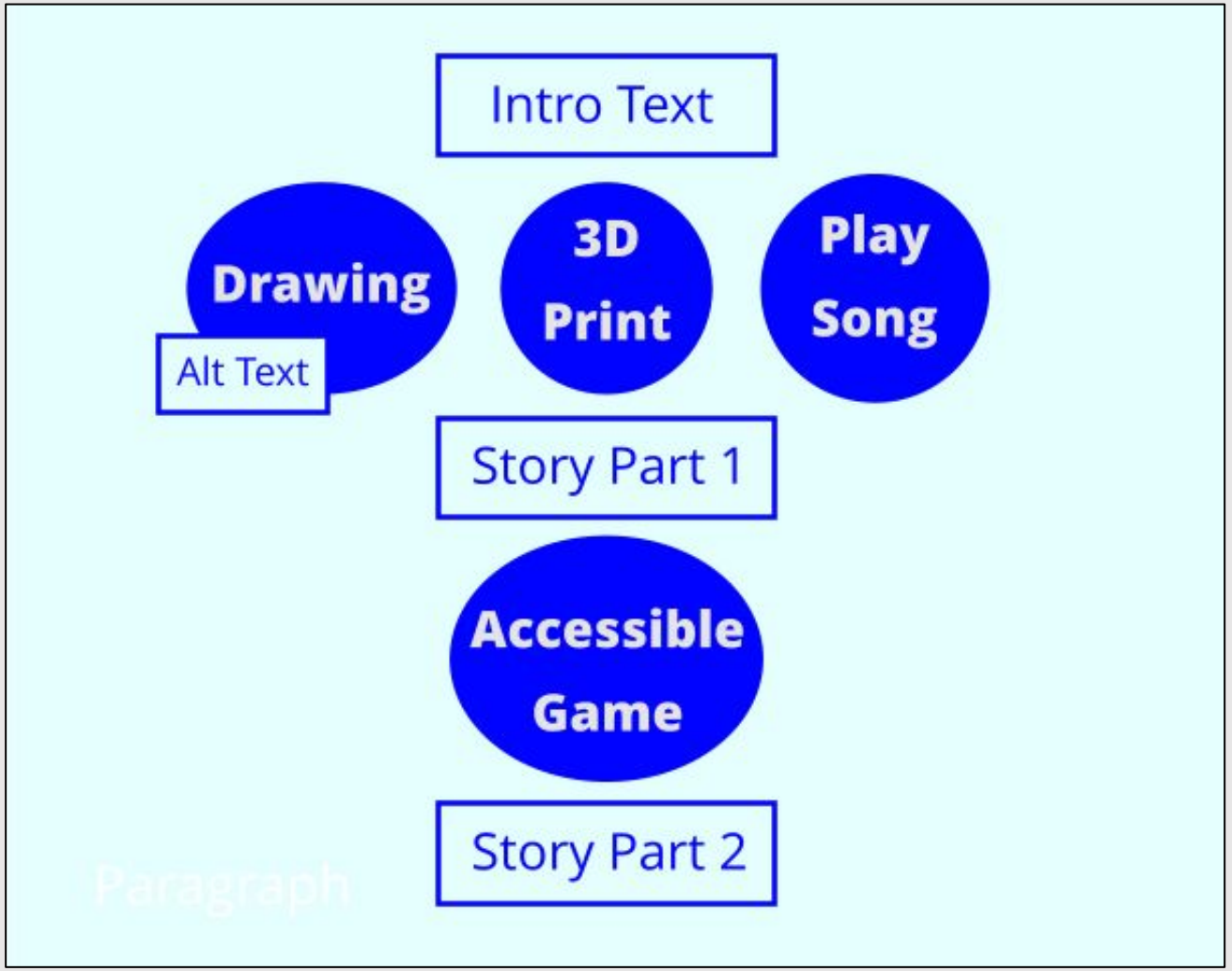
In products designed for children, often the purpose of non-text content is to provide a break from reading and comprehending text.

In this case providing “a text alternative that serves the equivalent purpose” is not possible, and other types of alternatives need to be considered.



A blind student may still just get all text.

3. Common solutions for adults do not always work well for children.



All students get variety.

3. Common solutions for adults do not always work well for children.

Many accessibility solutions require proficiency with assistive technologies, which can take a long time to develop. Children may not always have had the opportunity to access or learn certain assistive technologies, or use those assistive technologies without extra cognitive load.

4. Social considerations can be more important for children.

While a transcript for a video might work well for an adult in the workplace, the same solution can separate a child from their peers and cause a child to miss an important shared experience.

5. Children often have less awareness of and ability to express their needs

For example, while an adult may be delighted to find a long list of accessibility settings for a game, a child may not know which settings would benefit them.

6. Children require independence to play and learn in their comfort zone

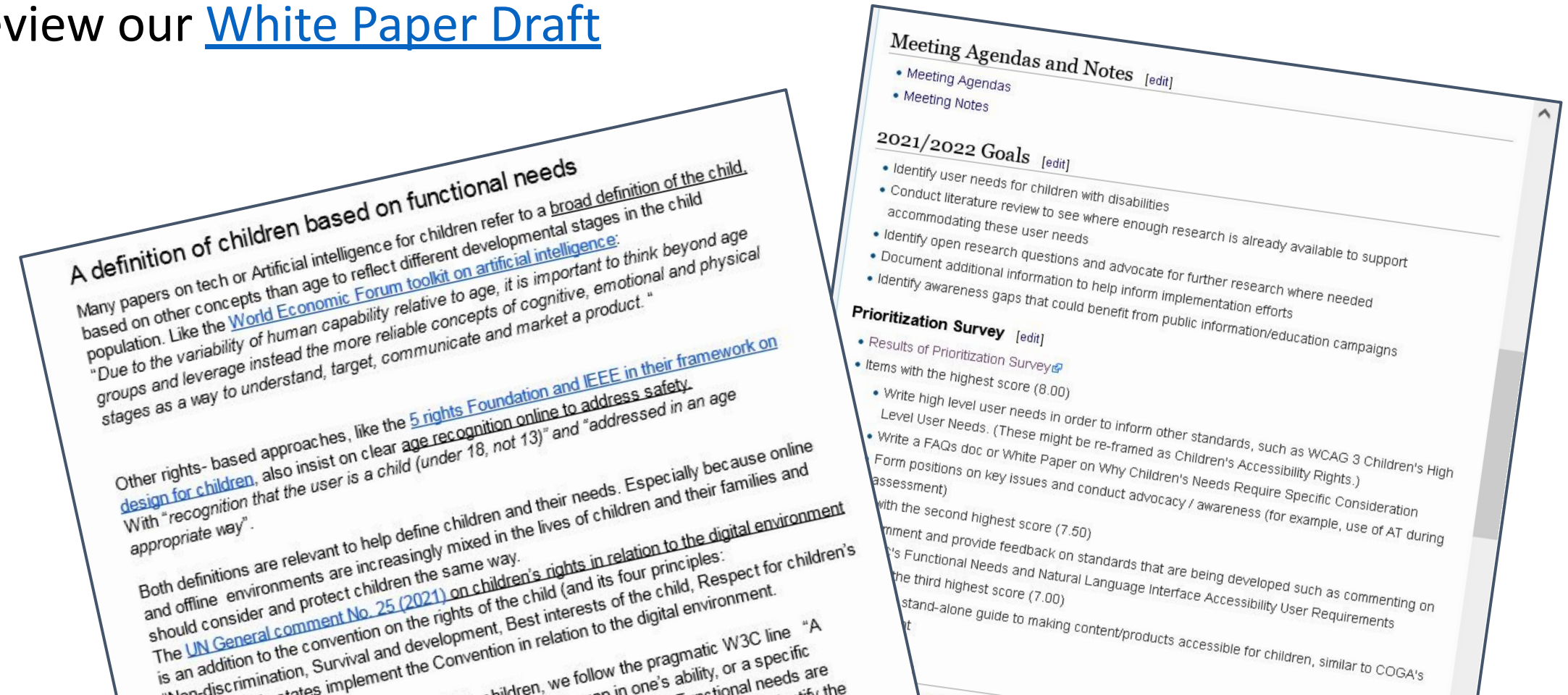
Children must be allowed to play and to act independently. There are circumstances in which children *must* act independently (e.g. emergency situations).

6. Children require independence to play and learn in their comfort zone

At the same time, children require protection. Balancing safety and agency requires specific attention within inclusive contexts and good understanding of their evolving specific needs.

For more info on why Children's Accessibility Needs Require Specific Inclusion in the Standards

- Visit the Community Group's Wiki
- Review our White Paper Draft



Statistics and graphics

“1/3 internet user is a child’ Unicef

“240 million children in the world today have some form of disability” Unicef child disabiity overview

“1/5 children in each of our surveys had any impacting or limiting condition” 2021 Ofcom study in the UK on children and parents media use

“Boys are much more likely to be identified as having SEN (special educational needs) than girls” Unicef (EEASIE data)

Child–Computer Interaction

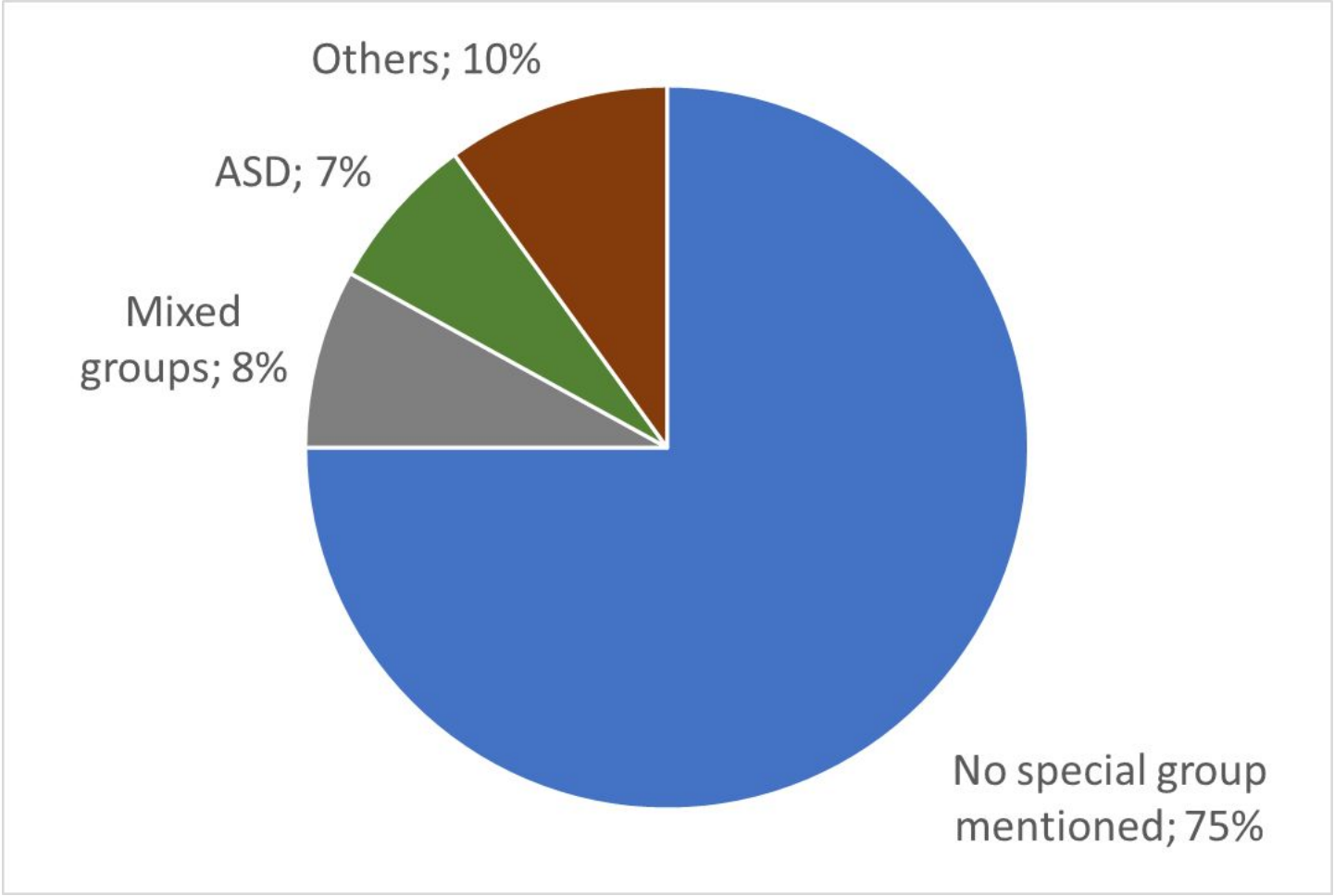
75.3% of papers did not mention a specific developmentally diverse group.

Autism Spectrum Disorder (ASD) is the most frequently represented group within developmentally diverse children, at 7% of papers.

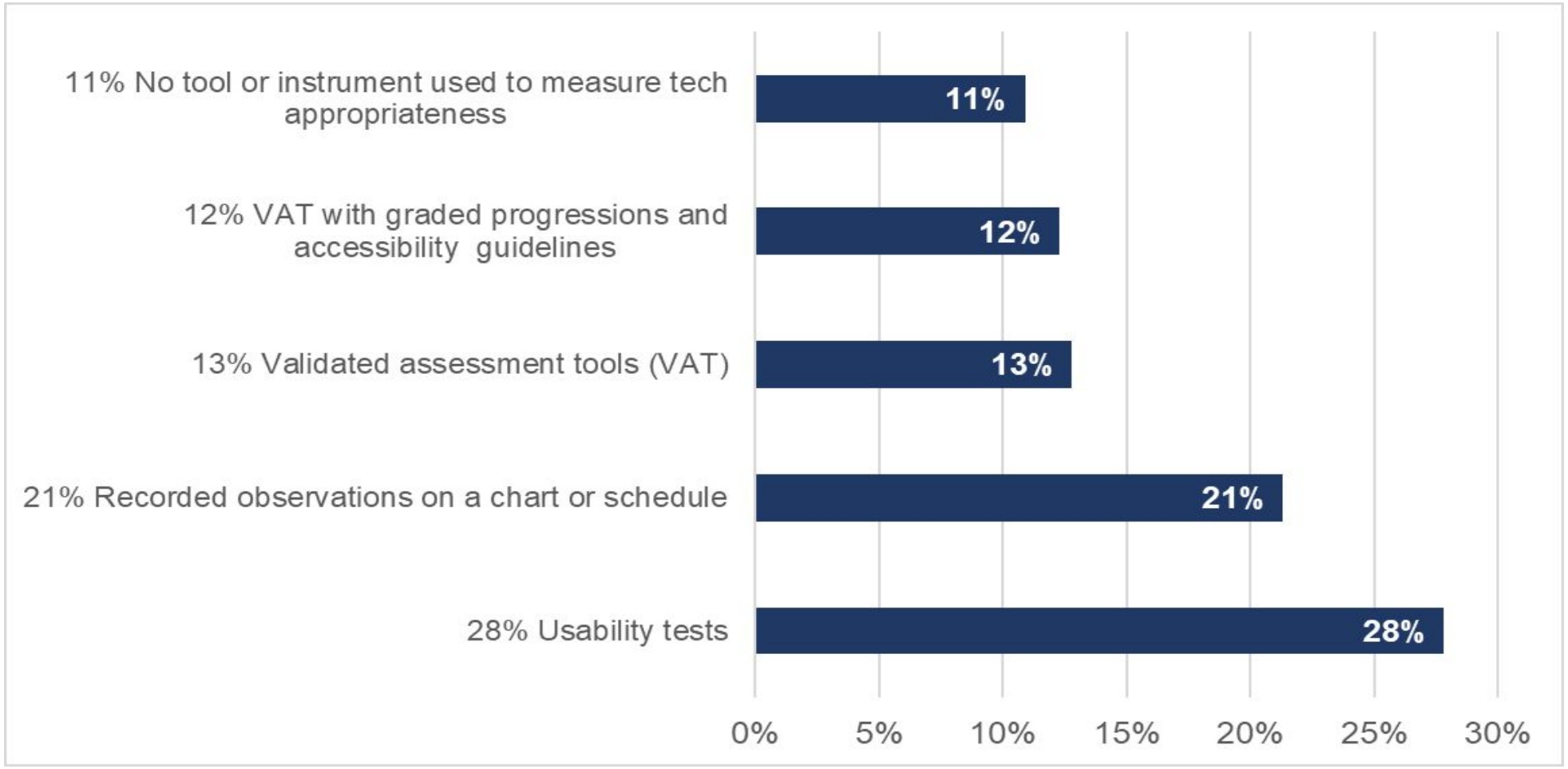
Mixed groups: 8,2%

Others: 2,2%

Source: Science Direct



Monitoring quality/appropriateness of Ed Tech for children



Source: [World Bank]

Research Gaps:

Analytics & guidelines

- Statistics on children with disabilities as users, preferences
- Studies on comparison between children and adults online profiles and habits (Nielsen Norman Group)
- International Statistics on children's accessibility needs and complex support
- Attention and sensory impairment, age ranges (classifications)
- Attitudes or cross cultural practices towards Accessibility, Assistive Technology
- Multiple device guidelines (distance parental guidelines)

Co- design

- Detecting and adapting to students' emotional states
- Assistive robots as mentors (preferences ie/ children prefer machine like robots: UNvoicesofglobalyouth)

Feed-Back

- Context related: Sign language avatars, unaccompanied minors, second language learners…
- Priority : assistance, learning, emotional care
- Monitoring stakeholders mapping, emergency situations,...

Indicators

List of accessibility indicators for children based on their needs and the development of their digital accessibility literacy:

1. Social considerations
2. Balance Safety-agency (in all environments)
3. Impact on children (statistical relevance, scalability …)
4. Awareness assessment (what does the child need to know, how, why)
5. Assistive technology: knowledge present, learning readiness or staged capacity building
6. Complex/ intersectional / evolving needs
7. Transposable (in different contexts)
8. Participation (codesign, feedback, monitoring)
9. Accessibility and learning analytics for children
10. Universal design principles & Accessibility success criteria, usability models referenced

Continuing the Conversation

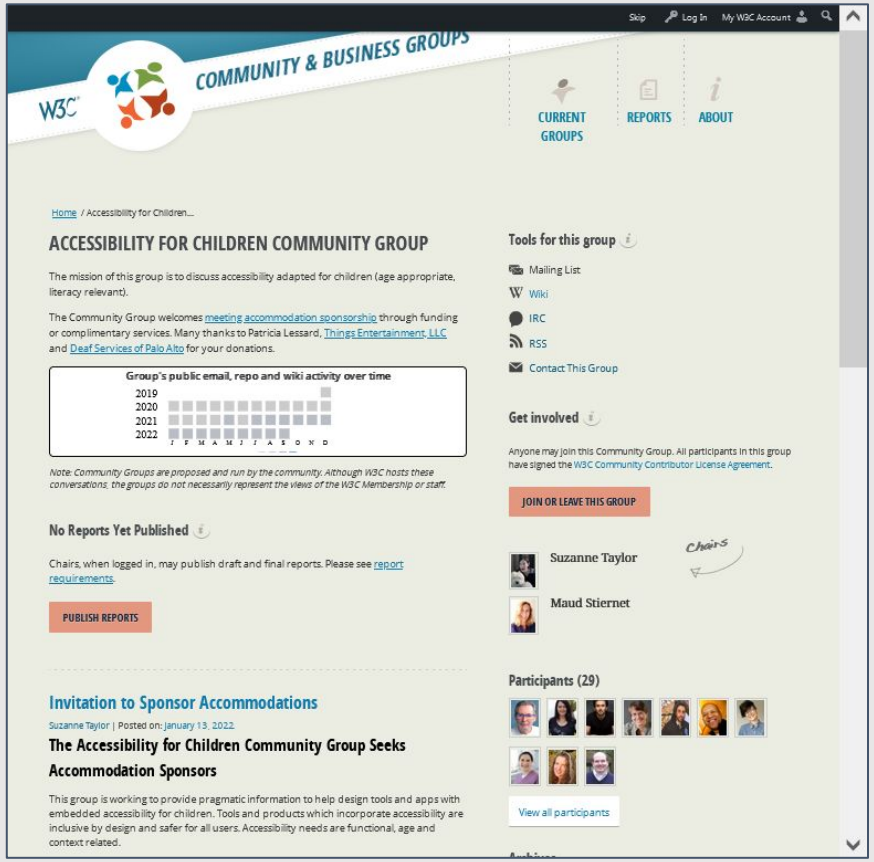
Discussion / Q&A | Recording will be stopped

Let us know how we can help!

The Accessibility for Children Community Group wishes to help Children's Accessibility Needs to be addressed in a wide range of initiatives and documents.

Contact the Chairs:

- Suzanne.Taylor@ThingsEntertainment.net
- Maud.Stiernet@ALittleLiningComes.com



More Ways to Connect:

Follow Us on Social Media

- Twitter: https://twitter.com/A11y4K
- LinkedIn: https://www.linkedin.com/company/a11y4kids/

Join Us in the W3C Community Group
https://www.w3.org/community/accessibility4children/join

Thank you!