

A.I.bility: Eliciting Neurodivergent Funds of Knowledge Through Co-Designing DIY Assistive Technology

Darren (Ren) Butler
ddbutter@andrew.cmu.edu
darrenbutler.github.io
Human-Computer Interaction
Institute
Carnegie Mellon University
Pittsburgh, Pennsylvania, USA

JiWoong (Joon) Jang
jwjang@cmu.edu
Human Computer Interaction
Institute
Carnegie Mellon University
Pittsburgh, PA, USA

Ezra Awumey
eawumey@andrew.cmu.edu
Human Computer Interaction
Institute
Carnegie Mellon University
Pittsburgh, PA, USA

Mia Yancey
miay@andrew.cmu.edu
School of Computer Science
Clemson University
Clemson, South Carolina, USA

Andrew Begel
abegel@cmu.edu
Software and Societal Systems
Department
Carnegie Mellon University
Pittsburgh, PA, USA

Abstract

Expanded coverage and enforcement of Title II has led universities to review institutional accessibility for access barriers that may violate policy. Neurodivergent students are a disability group whose access labor and barriers are sometimes overlooked by universities. We conducted an educational co-design project in an online course with nine autistic community-college students. Students used their lived experience to surface access barriers and prototype DIY assistive technology solutions, with a strong theme around enabling authentic two-way communication in mixed-ability teams. Our findings suggest that educational co-design activities with neurodivergent students can inform disability theory in research and approaches to collective accessibility in universities. We recommend strategies for implementing educational co-design activities with neurodivergent students toward adherence to Title II, including incorporating accessibility projects in computing curricula and highlighting the access labor of disabled students through formal partnerships.

CCS Concepts

• **Human-centered computing** → **Accessibility theory, concepts and paradigms**; • **Applied computing** → **Collaborative learning**.

Keywords

Accessibility, Collaborative Learning, Participatory Design

ACM Reference Format:

Darren (Ren) Butler, JiWoong (Joon) Jang, Ezra Awumey, Mia Yancey, and Andrew Begel. 2025. A.I.bility: Eliciting Neurodivergent Funds of Knowledge Through Co-Designing DIY Assistive Technology. In *Proceedings of the 27th International ACM SIGACCESS Conference on Computers and Accessibility, Workshop: Teaching Accessibility Across Disciplines: Perspectives from ADA Title II (ASSSETS'25)*. ACM, New York, NY, USA, 6 pages. <https://doi.org/XXXXXXX.XXXXXXX>

1 Introduction

On April 24, 2024, the Federal Register published the final rule of the Department of Justice updating its regulations for Title II of the Americans with Disabilities Act (ADA) [1]. This rule emphasizes the need for web content and mobile applications provided by state and local governments, including public higher education institutions, to be accessible to people with disabilities. The expanded coverage of Title II has encouraged universities to expand their efforts in accessibility education [2, 32].

Disabled students practice access labor, the practice of negotiating and seeking equitable access to organizational services, technologies, and resources; However, universities sometimes overlook the access labor and support needs of students with invisible disabilities, such as certain cognitive and developmental disabilities [4]. The university's slow response to access barriers fosters a "Double Hacker Dilemma" [8], in which disabled students must create Do-It-Yourself (DIY) solutions, which are driven by students' lived experiences of disability [25].

As universities adapt to the increased coverage and enforcement of Title II [2, 32], the fund of knowledge [27] disabled students have developed from their lived experiences can inform approaches to accessibility education.

We use the term '*neurodivergent students*' to refer to students whose cognitive processing styles differ from norms constructed socially or culturally, often resulting in unique strengths and challenges [33]. Neurodivergent refers to a wide variety of cognitive

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than the author(s) must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

ASSSETS'25, Denver, CO

© 2025 Copyright held by the owner/author(s). Publication rights licensed to ACM.

ACM ISBN 978-x-xxxx-xxxx-x/YYYY/MM

<https://doi.org/XXXXXXX.XXXXXXX>

and developmental disabilities, including autism, ADHD, and others. 3.2% of children in the United States are autistic [28], and many will pursue and require support in higher education.

We co-design DIY assistive technology with neurodivergent students to identify opportunities to leverage and recognize the fund of knowledge disabled students to bring accessibility education. We discuss how universities can leverage co-design pedagogy to improve accessibility education and support neurodivergent students in adhering to Title II accessibility guidelines and beyond.

Although formal access labor [4] often involves navigating institutional processes, the Disability Justice movement offers the concept of *access intimacy* to describe the more profound, relational work of co-creating access based on mutual understanding and interdependence [22]. Our work explores how a pedagogical setting can become a site for fostering such intimacy among disabled students and educators. Because Title II expands obligations for program access (not only web content), instructors across disciplines need classroom-level processes to *find* barriers and *co-create* fixes with students.

2 Background

2.1 Accessing Neurodivergent Funds of Knowledge with Co-Design

Accessibility education in computing raises awareness about the often overlooked challenges of disabled people, such as the lack of appropriate accommodations. This issue often stems from limited concern or awareness about their disabilities. When schools fail to provide necessary accommodations, disabled individuals may feel excluded, leading to negative downstream effects such as feelings of exclusion, lower performance and reduced participation. [33].

When computing classrooms create opportunities for students to reflect on their personal and collective experiences of disability, this can both legitimize and encourage participation for individuals with disabilities [18]. This approach can be understood as a form of epistemic justice, and a form of establishing and normalizing a cripepistemology [17]. However, creating affirming learning environments requires deliberate planning and design.

One approach for fostering these interactions, borrows from *co-design*, which is a form of participatory design (PD) that aims to increase the voice of marginalized groups by fostering knowledge exchange between designers and design partners who will be end users of technology. The goal of this approach is to ensure that users have agency in the design outcomes that ultimately impact them [30]. By positioning neurodivergent students as experts in their own experience, co-design processes challenge the traditional hierarchy of knowledge in the classroom and recognize disability as a site of valuable insight, not merely a problem to be solved [15].

Previous work has explored adapting co-design as formal classroom activities for individuals with cognitive and developmental disabilities [20]. However, work in HCI identified challenges in accommodating a variety of communication and information processing styles. In particular, a persistent challenge is that co-design is often inaccessible to some neurodivergent participants, as this approach often requires individuals to conform to specific thinking and verbal communication standards [3]. When these challenges are

not addressed in participatory design, neurodivergent participants may be excluded [3].

A potential solution to neurodivergent exclusion is codesign may be the *Fund of Knowledge* approach, which asserts that learners already have sophisticated skills and knowledge based on their lived experiences, social circumstances, and privileges [11, 27]. We propose to take a Fund of Knowledge approach to accessibility education by reframing facilitating co-design activities that offer multiple means [12] for neurodivergent students to express their lived experiences.

2.2 Recognizing DIY Tech as Invisible, Yet Valuable Access Labor

Sociologists of labor and system designers recognize that labor can be invisible to those who receive the benefits or products of labor, and that representation of labor impacts the design of work technologies [31]. When planning for restructuring or new technology, visible work is the focus of attention. It is the only work that is seen, so efforts to restructure center on how visible work can be manipulated, redrawn, reorganized, automated, or supported with new technology. Invisible work includes work done in invisible places [23], including behind-the-scenes work that disabled individuals do to participate in mixed-ability environments.

Disabled individuals use assistive technologies in social interactions in central and peripheral roles, adding labor in manipulating assistive technologies, but also in negotiating feelings of self-consciousness with the desire to be independent and productive in work environments [29]. Furthermore, certain barriers are invisible to non-disabled individuals, but impede disabled individuals' independence and integration as equal collaborators [7]. In response to these barriers, disabled and non-disabled collaborators engage in *collective accessibility* [6] by taking active roles in co-creating an accessible environment, which requires communication and relationship building while considering social context, wellbeing, and competing interests. This approach continues a tradition identified in Disability Justice literature in providing *collective access* — a framework that shifts the focus from individual accommodations to community-based solutions and an fostering an interdependent ecosystem for accommodation.

Through collective access, access labor[4] is shared. Although disabled individuals still negotiate and seek equitable access to services, technologies, and resources, non-disabled collaborators acknowledge and act on the need to lower access barriers.

DIY assistive technologies are a form of access labor, in which disabled users customize and repair technologies to their specific needs [4, 25], but can be envisioned as much more. Beyond being a response to institutional failure, the practice of DIY AT can also be seen as a form of design justice [9], where disabled creators reclaim agency from commercial and medical systems. This aligns with calls to move beyond purely functional AT and toward celebratory technologies [5] that prioritize aesthetic and personal expression [24].

DIY assistive technology projects have yielded benefits such as social inclusion, disability assessment, and inclusive education [5,

13, 14, 26]. Particularly, for neurodivergent individuals, DIY assistive tech projects have supported self-regulation, social interaction ability, and pride in neurodivergent identity [5, 25]. However, DIY efforts of disabled individuals can remain invisible and unrecognized [4, 7, 8], particularly for neurodivergent students who creatively improve collective access through micro-interventions. This creates an impetus to showcase and highlight these examples of creativity and agency by these disabled individuals and give opportunities to share and provide appreciation for their access labor.

Universities are actively seeking collective accessibility solutions to respond to increased convergence and enforcement of Title II [2, 32]. As neurodivergent students navigate university systems through DIY assistive technology and microinterventions, we anticipate that universities can benefit from educational programs that recognize, centralize, and put into effective use the access labor of neurodivergent students, as acknowledging invisible labor can lead to more appropriate design of support systems [31].

3 Method

The study was conducted in partnership with an online program called *Preparing Autistic Students for the AI Workforce (PAS4AI)* [16]. The PAS4AI program has partnered with community colleges, non-profit organizations, and industry partners to teach computational, reflective, and collaborative skills to autistic community college students in pursuit of careers in Artificial Intelligence. We proposed a version of this course where students learn User-Centered Design and Responsible Computing through a curriculum where students co-design Artificial Intelligence (AI) technologies for autistic engineers. We consulted Universal Design for Learning principles [12] to design the curriculum to meet the social-emotional and executive functioning support needs of neurodivergent students.

3.1 Students

The program required that admitted students identify as autistic or having Asperger's Syndrome (medical documentation requested, but not required), continue enrollment in a college in the USA for a 2-year degree (e.g. Associates Degree or Associate of Applied Science), had passed two college classes in programming, and have passed one college level math class in statistics, calculus, or linear algebra. The course was advertised through an online webpage and announcements to community college disability support programs and neurodiversity advocacy organizations.

The student participants ($N = 9$) were enrolled in different community colleges in the United States. Students had 2 to 8 years of pursuing postsecondary education with an average of 5 years. In a self-report demographic survey, students reported they were 20-44 years old (with the average age being 29). Along with Autism, students reported the following co-occurring disabilities: ADHD (6), Major Depressive Disorder (2), Bipolar Disorder (2), Social Anxiety Disorder (1). Demographic data are reported in aggregate to conceal student identities, as the PAS4AI program is small.

3.2 Project Mentors

Four project mentors, including the lead author and a coauthor, helped students implement their ideas, reflect on their lived experiences as neurodivergent individuals, and identify shared experiences. The project mentors consisted of Ph.D. students from computer science departments with teaching and research experiences in Accessibility, Artificial Intelligence, and Human-Computer Interaction. The lead author advised the project mentors on the curriculum, group formation, and activity modification for individual students, and met with students and project mentors three times a week to reflect on program activities.

3.3 Procedure

The curriculum was adapted from an existing Artificial Intelligence course from an educational non-profit. Over 10 weeks, the course covered fundamentals of Python programming, data manipulation, web interfaces, and artificial intelligence concepts such as prompt engineering and AI ethics. The course provided material through Jupyter Notebooks and Digital Whiteboards to facilitate collaborative learning, which is harmonious with co-design activities [19]. In the fifth week of the course, the students organized themselves into teams of 3 with the support from project mentors for the final co-design project.

We used the Stanford Model of Design Thinking [10], which consists of five phases: Empathize, Define the Problem, Ideate, Prototype, and Test to guide activity progression. First, students were introduced to the following design challenge statement relevant to their career interests:

*"More than 5 million Autistic adults live in the United States, many with a strong affinity for computer science. However, due to social barriers, autistic adults experience an unemployment rate of 85%. Supporting inclusive workplaces could provide meaningful employment to Autistic adults and address the AI skills shortage. **How might we use AI to support inclusive workplaces for Autistic engineers?**"*

Students received design workbooks and digital whiteboards with prompts for each step of the Design Process, including interviewing each other about their experiences as neurodivergent individuals, conducting market research, writing concise problem statements, writing user stories and requirements, and prototyping user prompts and interfaces. At the end of the project, students presented a final prototype and submitted their design workbook. These were designed to encourage collective consolidation and metacognitive reflection on student learning. Project mentors also conducted stand-up meetings [10] with students to help identify and remove blockers to student progress. The lead author conducted post-interviews with student participants that lasted approximately 60-90 minutes in which students reflected on their overall experience at the end of the program.

4 Results

4.1 Unveiling Communication Support Needs

Students' work culminated in the completion of final projects which addressed the challenge of making workplaces more inclusive for autistic individuals.

One student project titled, Aut2AllComms focused on decreasing the persistent gap in two-way communication between Autistic and Allistic (nonautistic) individuals. The neurodivergent team behind this project reflected on the challenges they face in communication, and the downfalls of existing tools and interventions for Autistic communication. The members of this group expressed dissatisfaction with the technologies currently available, arguing:

"Current tools often focus only on changing Autistic communication... Autistic employees need support tools that help them communicate authentically."

To offer an alternative to other technologies, students in this project group hoped to develop a new tool which promoted healthier workplace relationships, decreased anxiety felt in difficult conversations for Autistic employees, and promote mutual understanding between Autistic and non-Autistic employees. The features they built into the system was reflected of their personal challenges as autistic individuals as they communicated with Allistic individuals. One team member expressed his challenges and having to devise coping mechanisms based on interactions with Allistic individuals. Reflecting on saying:

*"When dealing with a Allistic coworkers, we had our kind of **defensive postures** and all that stuff." (P8)*

Students built experience-driven, value-sensitive features into the system. For example: The application was designed to offer communication advice to both Autistic and non-Autistic coworkers. It framed communication challenges between individuals as a shared responsibility instead of being a sole issue for autistic users. Students designed the application to allow users to identify themselves as autistic and non-autistic, describe the scenario and miscommunication, and the kind of help needed.

Specifically, students recognized clarification, conflict resolution, accommodation, and requesting help as core areas in communication support between Autistic and non-Autistic workers. Clarification was meant to help with understanding vague feedback; often times, these students required clearly defined instructions to understand what was being asked of them. Accommodations referred to the request for consistent support in the workplace, which, depending on the environment, may not be available without explicit request. Finally, requesting help refers to ad hoc requests for support that might exist outside of what Allistic individuals might expect when interacting with others. At the same time, the students stated that the application was not a replacement for in-person conversations and that users should use their judgment and adapt suggestions based on their specific workplace culture.

During class and post-interviews, participants shared personal perspectives that complemented the accessibility issues tackled by the application. Participants described how the project connected to their personal experiences navigating social environments:

"Any interaction I have with autistic people at an academic level or at a work level is automatically a little bit more... comfortable for me... obviously, because I'm autistic, but... I just feel like I don't need a mask as much... It was just nice to be able to be part of an internship where I didn't have to be thinking about, like, was I misinterpreted? Did they understand the point that I was trying to get to? Did I ask too many questions? Like... That kind of anxiety that comes with being in, like, neurotypical spaces." (P2)

P2 pulled from a fund of knowledge accumulated from reflecting on the difference in comfort they experience in communicating with Autistic versus non-autistic people. They leveraged their experience of anxiety to inform the design of their communication support tool. The participant's fund of knowledge also included the limitation on non-autistic people in building communication agreements with Autistic people:

*"[Neurotypical] people think I'm always being sarcastic, or... I'm joking around when I'm so serious. I tire out of having those conversations for people saying... I'm too direct or too rude. **I'm like, okay, how can I better say this, how can I better word this? They're like, why? I don't have that answer for you,** and I'm like, okay. Alright then, so, what are we doing here? Um, so it was just nice to kind of... Skip all that, go straight into... feeling... More comfortable in my skin." (P2)*

5 Discussion

Students leveraged a fund of knowledge accumulated through their experience of navigating mixed-ability spaces as neurodivergent individuals, including desires and barriers to authentic communication. The students embodied and shared their fund of knowledge through DIY assistive technology with project mentors who served as researchers and educators.

5.1 Leveraging Co-design to Explore Disability Theory

The Aut2AllComms project attributed miscommunication to mismatches in autistic and allistic traits, with both parties being responsible; This aligns with the Double Empathy Problem, a disability theory that asserts mutual challenges in communication and understanding occur due to differences in neurotypes when such autistic and allistic individuals interact with each other [21]. The alignment between participant designs and theory suggest that the co-design philosophy should serve as a probe to explore theories of disability.

The codesign process also highlighted implications for critical theory, as students took a critical perspective on assistive technology by refuting pressure on neurodivergent individuals to conform to neurotypical styles of communication and designing features that encourage neurotypical people to also interpret autistic styles of communication [5, 9, 24].

5.2 Leveraging Co-design for Collective Accessibility in Universities

The co-design activities also served as a feedback mechanism for pedagogy. Project mentors realized that the students required clearly defined instructions to understand what was being asked of them, and adjusted their pedagogy and communication accordingly.

The ability of co-design activities to elicit feedback from neurodivergent participants suggests that co-design pedagogies may serve as a mechanism for collective accessibility in universities as they adapt to changes in Title II. Neurodivergent access labor tends to remain invisible in universities [4]. However, the assistive technology designs created by students highlighted the access barriers they face. From our findings and ongoing analysis of the study experiences and artifacts in DIY assistive technology, we provide

recommendations for implementing co-design pedagogy with neurodivergent students in a manner that acknowledges student access labor and barriers toward collective accessibility.

First, incorporate accessibility projects as culturally relevant computing curriculum in computing courses and extracurricular activities. Student participants engaged deeply in reflection of personal and collective experiences towards the design of assistive technology. As more disabled students enroll in university, spaces that legitimize and celebrate the experiences of disabled students become increasingly important [5, 18]. Future work can investigate the impact of co-design pedagogy on belonging, academic achievement, and persistence.

Second, highlight the access labor contributions of disabled students. Student participants shared their knowledge through presentations and artifacts in a manner that informed theory and pedagogy for project mentors. The results of co-design projects contextualized to specific environments can inform action to systematically reduce access barriers and labor for disabled students. This is a step towards collective accessibility [6], in which universities and students co-create an accessible environment. Future work can explore methods to accelerate knowledge transfer between disabled students and universities.

Limitations. Our study involved a small, computing-focused cohort (N=9) in a single online program, which limits generalizability across institutions and disciplines. The artifacts are early-stage prototypes and reflective analyses; we did not evaluate downstream institutional adoption or learning outcomes beyond the course, nor did we longitudinally track whether student-generated designs were implemented by departments or disability services. Co-design activities were facilitated by mentors with accessibility/HCI expertise, which may not be available in every setting. Finally, online delivery shaped both access and constraints (tool complexity, scheduling), which may differ in in-person contexts. We view these as boundary conditions for replication and as prompts for future work on institutional uptake and impact.

6 Conclusion

This work describes an instructional model in which researchers served as project mentors for students with cognitive and development disabilities who were learning user-centered design (UCD) in an online, collaborative learning setting aimed at teaching computational, reflective, and collaborative skills for the workplace through a process of co-designing DIY assistive technology. We adapted co-design activities for a collaborative learning setting, taking a fund of knowledge approach to technology instruction where students developed identities as technology designers whose opinions and actions were important to building technology for the future. Our findings showed that students leverage a fund of knowledge accumulated from desires and barriers to communicate authentically in mixed-ability spaces. Students leveraged and embodied this fund of knowledge in the design of assistive technology. We recommend that universities explore codesign pedagogy as a pathway to co-create accessible spaces and services with students and adhere new accessibility requirements in Title II.

References

- [1] 2024. Americans with Disabilities Act Title II Regulations. <https://www.ada.gov/law-and-regs/regulations/title-ii-2010-regulations/>.
- [2] Briana Bettin, Joseph Teahen, Isabella Gatti, Andrea Llanas, Tony Garnett, Tim Perr, Leo C. Ureel, and Laura E. Brown. 2025. Legends and Maps: Efforts to Reveal Hidden Curricula Knowledge Within Our Institution and Its Computing Courses. In *Proceedings of the 2025 Conference on Research on Equitable and Sustained Participation in Engineering, Computing, and Technology (RESPECT 2025)*. Association for Computing Machinery, New York, NY, USA, 254–261. doi:10.1145/3704637.3734785
- [3] Filip Bircanin, Margot Brereton, Laurianne Sitbon, Bernd Ploderer, Andrew Azabany Bayor, and Stewart Koplick. 2021. Including Adults with Severe Intellectual Disabilities in Co-Design through Active Support. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21)*. Association for Computing Machinery, New York, NY, USA, 1–12. doi:10.1145/3411764.3445057
- [4] Valeria Borsotti, Andrew Begel, and Pernille Bjørn. 2024. Neurodiversity and the Accessible University: Exploring Organizational Barriers, Access Labor and Opportunities for Change. *Proceedings of the ACM on Human-Computer Interaction* 8, CSCWI (April 2024), 1–27. doi:10.1145/3641011
- [5] Louanne Boyd. 2023. Conceptualizing Celebratory Technologies for Neurodiversity to Reduce Social Stigma. In *Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23)*. Association for Computing Machinery, New York, NY, USA. doi:10.1145/3597638.3614478
- [6] Stacy M. Branham and Shaun K. Kane. 2015. Collaborative Accessibility: How Blind and Sighted Companions Co-Create Accessible Home Spaces. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15)*. Association for Computing Machinery, New York, NY, USA, 2373–2382. doi:10.1145/2702123.2702511
- [7] Stacy M. Branham and Shaun K. Kane. 2015. The Invisible Work of Accessibility: How Blind Employees Manage Accessibility in Mixed-Ability Workplaces. In *Proceedings of the 17th International ACM SIGACCESS Conference on Computers & Accessibility (ASSETS '15)*. Association for Computing Machinery, New York, NY, USA, 163–171. doi:10.1145/2700648.2809864 employ strategies to navigate the conflict between their desires and non-disabled expectations..
- [8] Yoonha Cha, Victoria Jackson, Karina Kohl, Rafael Prikladnicki, André van der Hoek, and Stacy Branham. 2025. The Dilemma of Building Do-It-Yourself (DIY) Solutions For Workplace Accessibility. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, 1–17. doi:10.1145/3706598.3713302
- [9] Sasha Costanza-Chock. 2020. *Design Justice: Towards an Intersectional Feminist Framework for Design Theory and Practice*. MIT Press, Cambridge, MA. <https://papers.ssrn.com/abstract=3189696>
- [10] M. Ann Garrison Darrin and William S. Devereux. 2017. The Agile Manifesto, Design Thinking and Systems Engineering. In *2017 Annual IEEE International Systems Conference (SysCon)*. 1–5. doi:10.1109/SYSCON.2017.7934765
- [11] Norma Gonzalez, Luis C. Moll, and Cathy Amanti (Eds.). 2006. *Funds of Knowledge: Theorizing Practices in Households, Communities, and Classrooms*. Routledge, New York. doi:10.4324/9781410613462
- [12] David Gordon (Ed.). 2024. *Universal Design for Learning: Principles, Framework, and Practice* (1 ed.). CAST Professional Publishing, Lynnfield.
- [13] Foad Hamidi, Melanie Baljko, Toni Kunic, and Ray Feraday. 2015. TalkBox: A DIY Communication Board Case Study. *Journal of Assistive Technologies* 9, 4 (Dec. 2015), 187–198. doi:10.1108/JAT-10-2014-0027
- [14] Foad Hamidi, Sanjay Kumar, Mikhail Dorfman, Fayokemi Ojo, Megha Kottapalli, and Amy Hurst. 2019. SenseBox: A DIY Prototyping Platform to Create Audio Interfaces for Therapy. In *Proceedings of the Thirteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '19)*. Association for Computing Machinery, New York, NY, USA, 25–34. doi:10.1145/3294109.3295633
- [15] Donna Haraway. 1988. Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist studies: FS* 14, 3 (1988), 575. doi:10.2307/3178066
- [16] JiWoong Jang, Ren Butler, Rory McDaniel, Aidan San, D. Matthew Boyer, Somayeh Asadi, Richard Kubina, Taniya Mishra, and Andrew Begel. 2025. Preparing Autistic Students for the AI Workforce. In *Proceedings of the 33rd ACM International Conference on the Foundations of Software Engineering (FSE Companion '25)*. Association for Computing Machinery, New York, NY, USA, 760–771. doi:10.1145/3696630.3727233
- [17] M Johnson and R Mruer. 2014. Cripistemologies: Introduction. *Journal of Literary & Cultural Disability Studies* 8, 2 (July 2014), 127–147. <https://muse.jhu.edu/pub/105/article/548847>
- [18] Mara Kirdani-Ryan and Amy J. Ko. 2024. Neurodivergent Legitimacy in Computing Spaces. *ACM Trans. Comput. Educ.* 24, 4 (Dec. 2024), 49:1–49:28. doi:10.1145/3690651
- [19] Marjan Laal and Seyed Mohammad Ghodsi. 2012. Benefits of Collaborative Learning. *Procedia - Social and Behavioral Sciences* 31 (Jan. 2012), 486–490. doi:10.1016/j.sbspro.2011.12.091

- [20] Rachel Lowy, Khushi Magiawala, Shravika Mittal, Kaely Hall, Jessica Roberts, and Jennifer G Kim. 2024. Research-Education Partnerships: A Co-Design Classroom for College Students with Intellectual and Developmental Disabilities. *Proc. ACM Hum.-Comput. Interact.* 8, CSCW2 (Nov. 2024), 511:1–511:26. doi:10.1145/3687050
- [21] Damian Milton, Emine Gurbuz, and Beatriz López. 2022. The ‘Double Empathy Problem’: Ten Years On. *Autism* 26, 8 (Nov. 2022), 1901–1903. doi:10.1177/13623613221129123
- [22] Mia Mingus. 2017. Access Intimacy, Interdependence and Disability Justice. <https://leavingevidence.wordpress.com/2017/04/12/access-intimacy-interdependence-and-disability-justice/>. Accessed: 2025-8-15.
- [23] Bonnie A. Nardi and Yrjö Engeström. 1999. A Web on the Wind: The Structure of Invisible Work. *Computer Supported Cooperative Work (CSCW)* 8, 1 (March 1999), 1–8. doi:10.1023/A:1008694621289
- [24] Graham Pullin. 2021. Design Meets Disability. <https://mitpress.mit.edu/9780262516747/design-meets-disability/>. Accessed: 2025-8-15.
- [25] Kathryn E. Ringland and Christine T. Wolf. 2021. Creating Assistive Technology in Disabled Communities, Five Years on: A Reflection of Neurodivergency and Crafting Accessible Social Spaces. *SIGACCESS Access. Comput.* 131 (Dec. 2021), 2:1–2:5. doi:10.1145/3507912.3507914
- [26] Kathryn E. Ringland, Christine T. Wolf, LouAnne E. Boyd, Mark S. Baldwin, and Gillian R. Hayes. 2016. Would You Be Mine: Appropriating Minecraft as an Assistive Technology for Youth with Autism. In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '16)*. Association for Computing Machinery, New York, NY, USA, 33–41. doi:10.1145/2982142.2982172
- [27] Jean Salac, Alannah Oleson, Lena Armstrong, Audrey Le Meur, and Amy J. Ko. 2023. Funds of Knowledge Used by Adolescents of Color in Scaffolded Sensemaking around Algorithmic Fairness. In *Proceedings of the 2023 ACM Conference on International Computing Education Research - Volume 1 (ICER '23, Vol. 1)*. Association for Computing Machinery, New York, NY, USA, 191–205. doi:10.1145/3568813.3600110
- [28] Kelly A. Shaw. 2025. Prevalence and Early Identification of Autism Spectrum Disorder Among Children Aged 4 and 8 Years — Autism and Developmental Disabilities Monitoring Network, 16 Sites, United States, 2022. *MMWR. Surveillance Summaries* 74 (2025). doi:10.15585/mmwr.ss7402a1
- [29] Kristen Shinohara and Jacob O. Wobbrock. 2011. In the Shadow of Misperception: Assistive Technology Use and Social Interactions. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '11)*. Association for Computing Machinery, New York, NY, USA, 705–714. doi:10.1145/1978942.1979044
- [30] Laurianne Sitbon and Shanjana Farhin. 2017. Co-Designing Interactive Applications with Adults with Intellectual Disability: A Case Study. In *Proceedings of the 29th Australian Conference on Computer-Human Interaction (OzCHI '17)*. Association for Computing Machinery, New York, NY, USA, 487–491. doi:10.1145/3152771.3156163
- [31] Lucy Suchman. 1995. Making Work Visible. *Commun. ACM* 38, 9 (Sept. 1995), 56–64. doi:10.1145/223248.223263
- [32] Terrill Thompson, Naisha Sinha, Joey Lieng, and Simran Shukla. 2025. Training Students to Support Accessible Web Development in Higher Education: An Experience Report. In *Proceedings of the 2025 Conference on Research on Equitable and Sustained Participation in Engineering, Computing, and Technology (RESPECT 2025)*. Association for Computing Machinery, New York, NY, USA, 222–226. doi:10.1145/3704637.3734775
- [33] Cynthia Zastudil, David H. Smith, Yusef Tohamy, Rayhona Nasimova, Gavin Montross, and Stephen MacNeil. 2025. Neurodiversity in Computing Education Research: A Systematic Literature Review. In *Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education V. 1 (ITiCSE 2025)*. Association for Computing Machinery, New York, NY, USA, 114–120. doi:10.1145/3724363.3729088