Committing to Collaboration: Participatory Approach to Developing Game Design and Employment Workshops for Autistic Youth

O’Brien, S.1, Grossman, E.1, Riccio, A.1, Kilgallon, E., Dwyer, P.1, Delos Santos, J., Kofman, B., Yan, A.1, Hwang-Geddes, L., Shevchuk-Hill, S.1, Dave, S., Gravitch, K.1, Triscarico, N., Batkin, D.1, Hayes, A.1, Rico, J., Koaminoff, K., Leon, B., Malik, A., Thomas, J., Siper, M., Messina, C.1, Williams, D.1, Shibbole, H.1, Muyukian, S.1, Katayamal, S.1, Boyarko, A., Brill, N.1, Batalite, L., Gabel, A., Martin, W.1, Rosenberg, B.1, Hurst, A.1, & Gillespie-Lynch, K.1
1City University of New York, 2New York University, 3Tech Kids Unlimited, 4Education Development Center, 5UC Davis

Background
- Autistic people often face barriers obtaining meaningful employment.1, 2
- Some autistic people have STEM interests and strengths aligned with workforce needs1, 3, 4.
- Together with a participatory team of neurodivergent students, and an ed-tech not-for-profit called Tech Kids Unlimited (TKU), we are iteratively developing game design and employment skills workshops for autistic youth.

Objectives
1. Describe participatory approach to developing workshop learning objectives (LOs) for Year 2.
2. Outline challenges honoring participatory directives.
3. Assess outcomes of workshop participation.
4. Identify instructional strategies that engage autistic youth.

Participatory Team
Who are we?
- Research staff, TKU staff and alumni, neurodivergent high school, undergrad and grad students.
- Students rated engagement after workshop activities, using Survey skills workshops for autistic youth

What do we do?
- To ensure the project is guided by autistic voices, we meet once a month to make key project decisions (e.g., hypotheses, assessments, workshop LOs).
- Key decisions do not move forward without consensus via the AASPIRE voting method.

Methods
Pre-workshop Screener
23 participants were screened for interest in workshop topics, basic tech skills, and rated their interest in learning workshop LOs.

Pre- and Post-Workshop Assessments
22 of 23 students (Mraw = 16.82, SD = 2.24, N of M. = 18, F = 2, non-binary = 2) completed:
- Interview:
  - Pre: Motivations for joining the workshop, job goals, self-understanding, self-advocacy, etc.
  - Post: Feedback on the workshop, job goals, self-understanding, self-advocacy, etc.
- Survey:
  - Self-determination 4, video game design, and career decision-making self-efficacy 5.
- Cambridge Brain Sciences 6 (CBS, see Figure 1):
  - Computerized, game-like tasks measuring cognition and attention.

In-Workshop Assessment
- Probed workshop activities were preselcted and varied across key dimensions:
  - Collaboration (structured vs unstructured), and type (tech only, employment only, hybrid).
- Students rated engagement after workshop activities, using 4 picture scales (e.g., Figure 3).

Participatory Approach
Research Team
- Reviewed employment skills, training literature, and Year 1 student engagement ratings.
- Created a list of game design and employment LOs for Year 2.
Participatory Team
- Rated importance of incoming students learning LOs and proposed changes to LOs.
- LOs updated in line with feedback and Participatory Team re-voted to move forward with LOs.
Workshop Students
- Screener: workshop students rated how interested they were to learn each LO.
Final Learning Objectives (LOs)
- Participatory team and incoming student ratings were well aligned, however, incoming students rated ‘identifying appropriate workplace conversation’ as important to learn.
- Participatory members were concerned that teaching ‘identifying appropriate conversation’ may promote ableism and masking.
- LO was retitled: ‘Understanding Workplace Dynamics’.
- Content focused on (1) pros and cons of disclosing, and (2) asking for accommodations at school/work. Modules were delivered by an autistic researcher.

Results
- Student interest in learning specific LOs was sometimes associated with student-reported engagement in workshop activities (Note: Pre-registered α = 0.01, for all analyses)
  - E.g., Interest in creating websites and troubleshooting were associated with engagement in working on a personal website/devlog (p<0.006).
  - Trend toward structured collaborative activities more engaging than unstructured (p<0.04).
  - No evidence that hybrid activities more engaging than game design/employment only (p>0.21).

Conclusions
Future workshops seeking to improve autistic employment outcomes should incorporate engaging, collaborative, and neurodiversity-affirmative activities for participants to develop their interests and employment skills. We hope autistic people’s employment outcomes in STEM and other settings would thereby improve.

Next Steps
- Actively hire more staff who identify as neurodivergent, so students have access to role models.
- Further centralize participatory voices in the creation and review of staff training and curriculum.
- Increase staff training focused on embedding neurodiversity-affirmative approaches (e.g., valuing all forms of communication) and principles of universal design (e.g., providing individualized support) into our practice.

References