Finding Voice for Students with ASD: Practicing Self-Determination in a Virtual Reality Social Skills Simulator

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Disclaimer: Identity First vs Person First

- Autistic adults vs adults with ASD
- Kenny et al. (2016) UK Survey of 3420 adults
  - Term “autistic” preferred by
    - 61% of autistics
    - 52% parents
    - 38% professionals

Session Assumptions

Researcher Bias:

- Background in special education (SPED)
  - Student-Led IEPs
- Background in virtual reality (VR)

Research Trajectory:

- 14-18 year-old students who meet eligibility for special education services
- Improved “handoff” between K-12 SPED and postsecondary education, work, living

Session Outline

Introductions

Paint a picture for transition

Define the need/concerns

Evaluate solutions (Research + Technology)

Research/Social validity

Who's in the audience? (In what capacity are you primarily here today?)

An autistic/a person with autism

Parent/relative of a person with autism

Friend/advocate of a person with autism

Therapist/psychologist/social worker

Healthcare professional

Educator

University student

University faculty or staff or researcher

Other

When it comes to identifying language, I prefer:

Identity-First ("Autistic individual")	A
Person-First ("An individual with autism")	B
No preference/undecided	C

Pitfalls in the Transition Process

5 Essential Components of Effective Transition Programs

Student-focused planning

Student development

Family involvement

Program structure

Interagency collaboration

Pitfalls in the Transition Process

Poor postsecondary outcomes

- 2 years after high school, less than ½ of students with ASD are in college or work (Shattuck et al., 2012)

Challenges:

- Navigating services
- Diminished persistence towards education/work
- Low self-efficacy behaviors

As a parent or professional, what are your primary concerns with the transition process?

Self-Determination: “Awesome”

Self-Determination (SD): A DIY Construct

The antidote = SD = “believing you can control your destiny”

“The ability to make choices, solve problems, set goals, evaluate options, take initiative to reach one’s goals, and accept consequences of one’s actions” (Rowe et al., 2013b, p. 8)

How do you teach SD?

Curricular Option: Self-Determined Learning Model of Instruction

Explicit instruction - Task Analysis (e.g., tying shoes, driving stick)

Student-Led IEPs

Student-Led IEPs

IDEA 2004: Student participation

Attendance (passive) or participation (active)?

Curricular Options: BellRinger, I'm Determined, ChoiceMaker, Whose Future Is It Anyways?

Task-based instruction, limited teacher instruction/rehearsal

SD remains low

Virtual Reality for Social Skills Training

What types of VR/AR have you used?

Virtual Reality for Social Skills Training

Planes, trains, & automobiles

Medicine, military

Corporate, sales, conflict

Education

Mursion

Promo Video

Mursion Demo from Friday, 9/20/19

Human-controlled Avatars

- Students with moderate & severe characteristics of ASD prefer virtual avatars to humans in social skills training situations, responding more frequently to digital persons than real-life (My TLE, 2014).
- Students also had more sustained (longer) conversations with avatars.
- Baron-Cohen (2006) systemizing theory of ASD: Autistics prefer systems of an avatar.

TeachLivE

Scenario: Practice Job Interview

Nathan has autism and is seeking to improve his communication skills. Mursion's platform provides a supportive space to learn from his mistakes. In these videos Nathan interacts with a Mursion avatar to practice job-interviewing skills. A host avatar, Maia, set up the experience and then Nathan was interviewed by Linda Walker, who was introduced as the manager for a large independent store called, Fresh Foods. In the introduction it was reinforced that this was not an interview for a "real job", but that it was a chance to practice.

Interview First Attempt Interview Second Attempt

Benefits of VR Training

- Low stakes
- Immediate feedback
- Prompting/coaching
  - Visual
  - Verbal
  - Haptic
- Fidelity, emotional buy-in, psychological safety
- Flexible, scaleable
- Practice makes perfect

Benefits of VR Training, continued

- Participate individually or in teams
- Chaining
- Keep emotional variables constant (e.g., facial expressions)
- Multi-sensory
- Augment reality
- Live feedback & analytics
- Remote accessibility

In a word or two, how would you describe your thoughts/feelings on using virtual reality for this purpose?

Area of greatest need: How would you recommend we use this technology to serve students with autism?

The Student-Led IEP Project

Finding Voice for Students with ASD: Practicing Student-Led IEPs in a Virtual Reality Simulator

The Student-Led IEP Project in VR

Hypothesis: Experiential learning in the simulator will outperform business-as-usual video-based instruction of Student-Led IEPs.

Experimental design: treatment/control

Measurement: Task-based checklist

Participants: Transition age (14-18 year-old) students who receive SPED services + interested in improving their IEP skills (i.e. Self-Determination)

References

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Thank you for your interest!

Follow-Up Discussion

- Do VR skills generalize?
- Treatment effect?
- Sustainability?