The Use of Everyday Technologies by High School Students with Autism to Support Independence

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Introduction
The majority of students with Autism Spectrum Disorder (ASD) are leaving high school ill prepared and that technology is becoming more portable, less expensive, and more widely available, makes it an attractive potential support. Previous studies of the technology use by adolescents with ASD focused primarily on discretionary use (Kuo et al., 2013; MacMullin, Lunsky, & Weiss, 2015; Mazurek et al., 2012; Shane & Albert, 2008). This mixed methods study investigated the use of everyday technologies as a support tool by high school students with ASD.

Objectives
1. To gain a first-person account of technology use
2. To find out what forms of tech teens w/ASD are using
3. To find out what purposes teens use technology
4. To find insights into perceptions of the benefits and barriers of tech use

Methods

Phase 1: Quantitative Survey
- Characteristics: Survey N=243, Interviews N=10
  - Gender Male: 84%
  - Age: mean=17, range 14-22
  - Race White: 74% (Hispanic 17%)
  - Income >$99k: 52%
  - IQ >70: 78%
  - Standard Diploma Track: 61%

Phase 2: Qualitative Interviews
- Sample: A stratified and convenience sample of students with Autism Spectrum Disorder, N=10

Phase 3: Integration
- Data collection through interviews

Phase 4: Integration
- Data analysis

Survey Results

84% of teens with ASD bring technology to school
97% of teens with ASD use technology at school

Technology Use Overall

<table>
<thead>
<tr>
<th>Technology Use</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video calls</td>
<td>20%</td>
</tr>
<tr>
<td>Facebook</td>
<td>49%</td>
</tr>
<tr>
<td>Email</td>
<td>66%</td>
</tr>
<tr>
<td>Text</td>
<td>65%</td>
</tr>
<tr>
<td>Phone</td>
<td>80%</td>
</tr>
</tbody>
</table>

Barriers to Technology Use

<table>
<thead>
<tr>
<th>Barriers to Technology Use</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology can distract me</td>
<td>57%</td>
</tr>
<tr>
<td>Not allowed to use in all classes</td>
<td>43%</td>
</tr>
<tr>
<td>There are not enough people to help me learn to use tech</td>
<td>31%</td>
</tr>
<tr>
<td>Using tech is hard</td>
<td>28%</td>
</tr>
<tr>
<td>No wifi access</td>
<td>8%</td>
</tr>
</tbody>
</table>

98% of teens with ASD indicate they are good at using technology

“I think technology is the best industrial thing in our world because it gives us joy and curiosity into great things.” - Student Respondent, Survey

Technology Use at School

Types of Technology At School

<table>
<thead>
<tr>
<th>Type of Technology</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart phone</td>
<td>26%</td>
</tr>
<tr>
<td>Tablet</td>
<td>24%</td>
</tr>
<tr>
<td>Game device</td>
<td>24%</td>
</tr>
<tr>
<td>iPod or MP3/4</td>
<td>22%</td>
</tr>
<tr>
<td>Laptop</td>
<td>20%</td>
</tr>
<tr>
<td>Cell w/o internet</td>
<td>10%</td>
</tr>
</tbody>
</table>

At School

89% Turn in assignments
86% As a class
61% As a research tool
56% As an alarm

Conclusion
Practitioners/parents should leverage the use of everyday technologies to:
- Improve organizational skills
- Promote independence
- Reduce anxiety and stress
- Enhance social/communication opportunities

Researchers:
- Need for efficacy studies for the above uses

Limitations:
- Self-report only
- Lack of diversity in sample

References

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