Effect of Assistive Technology on Social Performance of Students with Intellectual Disability

Kalyani.K¹, Dr. Haseen Taj²

¹. Research Scholar, Department of Education, Bangalore University, Bangalore, Karnataka, 560056
². Professor & Dean, Department of Education, Bangalore University, Bangalore, Karnataka, 560056

Abstract

The present study attempts to find the relationship between assistive technology and social performance of students with Intellectual Disability. Further, it tries to explore the differences in social performance, having different levels of assistive technology. 120 Samples were drawn from special school teachers working at intellectual disability special school in Bangalore District. Assistive Technology Scale and Social performance scale developed by the researcher were used to collect data. The statistical analysis was done through computing Mean, SD, Pearson’s Product Moment Coefficient of Correlation and one-way ANOVA. The study showed that there was a significant relationship between assistive technology and social performance of students with intellectual disability. Further, the study also reveals that there was a significant difference in the social performance of students with intellectual disability having high & low; moderate & low assistive technology levels.

Keywords: Assistive Technology, Social Performance, communication, community living and Intellectual Disability
Introduction

Intellectual disability (ID) refers to a developmental problem manifested in children's years of growth (i.e. 0-18 years of age). It is a condition that the intelligence and adaptability of the child are substantially lower than the average level of the child's peers. Further, social performance of students with intellectual disabilities can be characterised as social skills impairments that are typically demonstrated in at least one of three areas, such as the level of social interaction skills of the child, the development and stability of peer relationships and friendships, and the ability of the child to process social information.

On the other hand, Assistive technology (AT) refers to any service or product that can be used by persons with disability to overcome difficulties they may face in carrying out daily activities of their choice that would otherwise be restricted by their impairments. Eyeglasses, hearing aids, pencil gripper, reading pen, talking calculator, wheelchairs, brails and lifts are examples of Assistive technology. However, innovations such as WhatsApp, Skype, Twitter and Facebook are currently inaccessible to most of the people with Intellectual disability. Importantly, assistive technology includes services and the environment in which they operate, including "mainstream technologies and those specifically developed for people with disabilities. (John Owuor, Fiona Larkan & Malcolm MacLachlan,2017)

Need for the study

Children with Intellectually Disability are often at risk for problems in social development. These children lack the social and language skills needed to initiate and maintain relationships. The social repertoires of children with intellectual disability are limited compared to those of normal children. One of the early findings by Guralnick&Weinhouse (1984) and Strain (1984) was that children with intellectual disability initiate fewer social interactions and demonstrate fewer responses to peers when compared to normal children. Hence people with intellectual disabilities are facing several challenges in today's society. The lack of adequate support services, for example, which enables or encourage access to transport, access to information, building access, and communication in different formats and structures result in a situation where people with disabilities are forced to rely on their families. Thus, it prevents them from being socially inclusive and integrated into society. But now a new ray of hope with the emergence of assistive technology which includes virtual technology has paved a way in developing social skill among children with Intellectually Disability.

Assistive technology such as digital technology has been identified as a social inclusion facilitator because it enables real-time resources to be delivered that will allow individuals to learn, work, travel, socialise, shop and connect with the community without being subject to physical barriers. Assistive technologies have also been described as one of the most significant factors that can help to minimise existing social disparities and can be used to facilitate and promote social inclusion and increase people's skills (Manzoor & Vimarlund, 2018).
Evidence of the benefits of community living for people with ID is clear. However without access to assistive technologies, people with IDs can be isolated from the community. They can be excluded and left behind; hence there is a need for action now to stop the growing exclusion of people with ID in community. AT can be mediator for people with ID to achieve not only their rights but also the highest possible quality of life and a sense of participation and belonging in society. Hence this study was attempted to find the relationship between assistive technology and social performance of students with intellectual disability.

**Objectives of the Study**

The present study was undertaken with the following objectives:

1. To find out the relationship between Social Performance (Communication & Social activities and Community Living) of students with intellectual disability and Assistive Technology
2. To find out whether the difference in levels of assistive technology usage would account for the significant differences in the social performance of students with intellectual disability

**Hypotheses**

1. There is no significant relationship between social performance viz., Communication & Social Activities and Community Living of students with intellectual disability and Assistive Technology.

The following minor hypotheses were derived from the above

1.1 There is no significant relationship between Social Performance (Communication and social Activities) of students with intellectual disability and Assistive Technology.
1.2 There is no significant relationship between Social Performance (Community Living) of students with intellectual disability and Assistive Technology.
1.3 There is no significant relationship between Social Performance of students with intellectual disability and Assistive Technology.

2. Levels of Assistive Technology does not account for significant difference in the social performance of students with intellectual disability.

2.1 There is no significant difference in the Social Performance of students with intellectual disability, with high, moderate and low levels of Assistive Technology.

**Sample and Sampling Technique**

The population for the study consists of special educators working in different intellectual disabled special schools. Sample of the present study constitutes the 120 special educators from special schools for intellectual disability in the city of Bangalore. The samples were selected using purposive sampling method.
Tools of the Study

The following research tools were used to collect the data:
1. Social Performance Scale (SPS) developed by the researcher; Kalyani and the guide Dr. Haseen Taj (2019) was used to measure the Social Performance of students with intellectual disability
2. Assistive technology Scale (ATS) developed by the researcher; Kalyani and the guide Dr. Haseen Taj (2019) was used to measure assistive technology of students with intellectual disability.

Statistical Technique used for Data Analysis

The following statistical techniques used for data analysis
1. Karl Pearson’s Product Moment Coefficient of Correlation
2. ‘Oneway ANOVA

Analysis and Interpretation

3. **Null Hypothesis 1:** There is no significant relationship between social performance viz., Communication & social Activities and Community Living of students with intellectual disability and Assistive Technology.

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>df</th>
<th>‘r’ value</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistive Technology with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication &amp; Social Activities</td>
<td>120</td>
<td>118</td>
<td>0.368</td>
<td>**</td>
</tr>
<tr>
<td>Community Living</td>
<td>120</td>
<td>118</td>
<td>0.402</td>
<td>**</td>
</tr>
<tr>
<td>Social Performance</td>
<td>120</td>
<td>118</td>
<td>0.422</td>
<td>**</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level (0.254);

From the above table-1, it can be seen that the obtained ‘r’ values 0.368, 0.402 and 0.422 are higher than the table value 0.254 at 0.01 level of significance. Therefore the null hypothesis was rejected and the alternate hypothesis was formulated that “There is a significant and positive relationship between social performance viz., Communication & Social Activities and Community Living of students with intellectual disability and Assistive Technology.
Null Hypothesis 2: There is no significant difference in the Social Performance of students with intellectual disability, with high, moderate and low levels of Assistive Technology.

Table-2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sources of variation</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F-Value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Performance</td>
<td>Between group</td>
<td>2</td>
<td>2613.775</td>
<td>1306.888</td>
<td>10.033</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Within group</td>
<td>117</td>
<td>15240.816</td>
<td>130.263</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level

It is inferred from the above table 2 that assistive technology from differently levels considerably differs in social performance of students with intellectual disability. The obtained F-value 10.033 was found to be significant at .01 level and hence assistive technology does accounts for significant differences in social performance of students with intellectual disability.

Therefore the null hypothesis 2 is rejected and in its place alternative hypothesis was accepted. i.e., there is a significant difference in social performance of students with intellectual disability with different levels of assistive technology.

Table-3

<table>
<thead>
<tr>
<th>Assistive Technology</th>
<th>Mean Differences</th>
<th>Standard Error</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>High &amp; Moderate</td>
<td>5.130</td>
<td>2.545</td>
<td>NS</td>
</tr>
<tr>
<td>High &amp; Low</td>
<td>13.175</td>
<td>2.972</td>
<td>*</td>
</tr>
<tr>
<td>Moderate &amp; Low</td>
<td>8.045</td>
<td>2.574</td>
<td>*</td>
</tr>
</tbody>
</table>

** Significant at 0.05 level; NS- Not Significant

Further the Tukey post-hoc test revealed that the mean score of students having high assistive technology level(M=71.24) show greater social performance than the students having low assistive technology level (M=58.07)
Further the Tukey post-hoc test also revealed that the mean score of students having moderate assistive technology level (M=63.24) show greater social performance than the students having low assistive technology level (M=58.07)

Conclusion

The study revealed that there was a significant positive relationship between Social Performance (Communication & Social Activities) of students with intellectual disability and assistive technology. Further the study also reveals that there was a significant difference in social performance of students with intellectual disability having high & low; moderate & low assistive technology levels. Hence assistive technology has the potential to enhance social performance which includes socialization and community living for people Intellectual Disability. Comprehensive access to assistive technology can enable students with intellectual disability to interact with friends and family like a normal child. Assistive technology can enhance mobility and access to health and social care services. Assistive technology can improve digital inclusion and enable students with intellectual disability to attend regular schooling instead of isolation in special schools. Assistive technology can also be sued for skills training to include people with Intellectual Disability in the labour market. Various researchers suggested that virtual reality may be a powerful tool to ameliorate the issues with generalizing what is learned during classroom social skills lessons to the real world (Parsons & Mitchell, 2002).

References

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