

10. A Study on the Use of Digital Technology for Students with Intellectual Disability in Government Schools of Ujjain District

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Abstract:

Digital Technology (DT) is an essential component of teaching and learning in the 21st century. Numerous research studies have shown that the use of DT in classrooms facilitates the teaching and learning process for children with Intellectual disabilities. The study was aimed to assess the use of DT for students with intellectual disability in government schools of Ujjain district, Madhya Pradesh. It was a cross-sectional analytical study. A total sample of 25 participants was drawn through the purposive sampling. Online data was collected by sharing a Google form in Whats app group. Descriptive statistics and the chi-square test were used to analyze data with a value of $p < 0.05$ as significant. The majority of the participants were females. 64% of participants reported using DT in the classroom, with male teachers using it the most (67.7%). However, when it came to using DT for assessment, female participants had a higher percentage (53.8%) than males. The findings of the study revealed a low prevalence of using DT in the classroom. As a result, it is necessary to identify the factors that contribute to it, as well as to develop intervention and training programs to encourage teachers in government schools to use DT.

Keywords:

Digital Technology, Students with Intellectual Disability (ID), Government School teachers.

10.1 Introduction:

Digital Technology (DT) has become an essential component of community, living, and education around the world. According to studies on people with intellectual disabilities, the advancement of DT allows them to improve and facilitate their teaching, learning, and daily lives (Brodin,2010). The term 'Intellectual disability' (ID), formerly known as Mental Retardation, refers to low intelligence or mental ability as well as a lack of daily living skills. People with intellectual disabilities can learn new skills, but it takes them a long time.

Intellectual disability is classified into mild, moderate, and severe levels and is accompanied by limitations in adaptive functioning in at least two areas (communication, self-care, domestic skills, social skills, self-direction, community, academic skills, work, leisure, health, and safety), as well as onset prior to the age of 18 (Bouck,2004). The use of DT in Education to people with ID conduct in their communication, self-independence learning, and general way of living is discussed in this paper.

Nonetheless, the impact is determined by their IQ level. In terms of this, it varies from person to person. However, it is usually mild to severe. Intellectual disability is a chronic condition that lasts a lifetime. However, with proper care and support, children with ID can grow up to lead healthy, happy, and productive lives. As a result, over the last decade, software and ICT applications have been developed to assist people with ID in becoming self-sufficient and expanding their skills and knowledge.

10.2 Purpose of The Study:

The purpose of this study was to assess primary teachers' engagement and ability to use DT in teaching students with intellectual disabilities in government schools of Ujjain District.

10.3 Methodology:

10.3.1 Participants:

There were 25 participants from 10 primary government schools of the Ujjain district female (n = 13, 52 %) and male (n=12,48%) age ranging from 20 to 50 years a mean = 28.28, SD = 5.77

10.3.2 Methods and Instruments:

It was a cross-sectional analytical study that was conducted between October 2023 and November 2023. Purposive sampling was used to collect the sample. A self-administered questionnaire with 9 items about using DT in classroom teaching for children with intellectual disabilities was used.

First and foremost, 60 teachers from ten different government schools in Ujjain, Madhya Pradesh, were notified about the study and survey via mobile phone. They were required to provide informed consent online if they agreed to participate in the study.

Data was collected online in a Google form via social media platforms such as WhatsApp and Telegram. Following data collection, only 25 participants who met the criteria of having enrolled students with disabilities in their classrooms were selected. Descriptive statistics and the chi-square test were used to analyze data with a value of $p < 0.05$ as significant.

10.4 Results:

The response rate of respondents was 100% in the study.

Table 10.1: Showing the Characteristics of Participants(n=25)

| <i>Variables</i> | <i>n</i> | <i>%</i> |
|------------------|----------|----------|
| <i>Age</i> | | |
| 20-35 | 23 | 92 |
| 36-50 | 2 | 8 |
| >50 | 0 | 0 |
| <i>Gender</i> | | |
| Male | 12 | 48 |
| Female | 13 | 52 |

$n = \text{Frequency, Percentage} = \%$

Table 10.1 shows the demographic data for the sample size of 25, which was used to understand the distribution of the respondents' demographic characteristics.

The average age of the participants was 28, 5.77, with a range of 21-45 years. The first variable is gender, with the 20-35 age group accounting for the highest percentage (92%). Gender was the second most important demographic variable, with 52% of respondents being female.

Table 10.2: Showing the Response of Participants to the DT Use Questionnaire (n=25)

| <i>Sr. No.</i> | <i>Questions</i> | <i>Yes</i> | <i>No</i> |
|----------------|--|--------------|--------------|
| | | <i>n (%)</i> | <i>n (%)</i> |
| 1. | Do disabled students' study in your class? | 22(88%) | 3(12%) |
| 2. | Do students with intellectual disabilities study in your class? | 22(88%) | 3(12%) |
| 3. | Do you use DT while teaching in your class? | 16(64%) | 9(36%) |
| 4. | Do you use DT while teaching all subjects? | 13(52%) | 12(48%) |
| 5. | Are you interested in using DT? | 24(96%) | 1(4%) |
| 6. | Are you able to easily use DT in the classroom? | 20(80%) | 5(20%) |
| 7. | Are all the arrangements related to DT available in your class like laptop, projector, television, audio video aids etc? | 13(52%) | 12(48%) |
| 8. | Do you use DT for assessment in your classroom? | 13(52%) | 12(48%) |
| 9. | Have you been trained in the use of DT? | 16(64%) | 9(36%) |

Table 10.2 displays participant responses to the use of DT in the classroom for children with disabilities or intellectual disabilities.

According to 88% of the teachers polled, their class includes children with disabilities and intellectual disabilities. In terms of using DT in the classroom, 64% of teachers said they do, while 36% said they don't. It means that the vast majority of teachers use DT in their

classrooms to teach disabled students. When asked if they use DT in all subjects, 52% of teachers said yes and 48% said no. Although 96% of teachers expressed an interest in using DT while teaching, only 52% of participants reported the availability of DT resources in their classrooms. Pertaining to the use of DT in student assessment, 52% said yes whereas 48% reported no. With respect to training, 64% of participants reported receiving it, while 36% denied it.

Table 10.3: Showing the association between DT Use and Gender (n=25)

| | <i>Questions</i> | <i>Yes</i> | <i>No</i> | χ^2 |
|---------------|--|--------------|--------------|----------|
| | | <i>n (%)</i> | <i>n (%)</i> | |
| Gender | <i>Use DT during teaching in the classroom</i> | | | |
| | Male | 8(66.7%) | 4(33.3%) | 0.481* |
| | Female | 8(61.5%) | 5(38.5%) | |
| | <i>Ability to easily use DT in the classroom</i> | | | |
| | Male | 11(91.7%) | 1(8.3%) | 0.186 |
| | Female | 9(69.2%) | 4(30.8%) | |
| | <i>Use of DT for assessment in the classroom</i> | | | |
| | Male | 6(50%) | 6(50%) | 0.037* |
| | Female | 7(53.8%) | 7(46.2%) | |

n = Frequency, Percentage = % Min. = Minutes; P ≤ 0.05 = significant, P** < 0.01 = highly significant*

Table 10.3 above illustrates the association between the use of DT with respect to gender. According to the table, males use DT at a higher rate of 66.7% than females at 33.3%. The p-value of 0.0481<0.05 indicates a significant gender difference.

This means that male teachers using it more than females. In terms of the ability to use DT easily in the classroom, male participants have the highest percentage; however, the p-value is 0.186>0.05, indicating a non-significant gender difference. This means that there is no statistically significant difference in DT ability between male and female teachers. In terms of using DT for assessment, female participants had the highest percentage (53.8%) when compared to males. The p-value of 0.037<0.05 indicates a significant gender difference. This means that male and female teachers use DT differently in the classroom for assessment, with female teachers using it more than males.

10.5 Discussion:

The findings of the study indicated that the majority of teachers are using DT in their classrooms for teaching disabled students. These results are consistent with a study conducted by Shikden (2015) which reported that 47% of teachers use assistive technology devices while teaching and evaluating students. In terms of interest in using DT during teaching, most of the teachers have shown interest that is congruent with the findings of another study. In addition, regarding the availability of resources related to DT in their

classrooms 48% of the participants showed negative responses. These results are congruent with a study conducted in Kerala by Savitha and Renumol (2023). In this study, most of the teachers responded that they are using Laptops, projectors, etc. but nobody has mentioned any educational technology tools exclusively designed for SEN children. In terms of gender differences in using DT during teaching, the study's findings are in the favor of male teachers. These findings contradict Millig's (2009) study, which found that female teachers lacked competence in the use of assistive technology devices. This incongruity in findings could be explained by the fact that men spent more time working with children with special needs, which would have increased their proficiency with assistive technology devices.

10.6 Conclusion:

According to research on facilitating the learning process in children with IDs, teaching using DT in all domains based on the child's needs can meet the educational needs of children with intellectual disabilities. The goal of this study was to determine the prevalence of primary school teachers using DT tools in government schools for children with intellectual disabilities in the Ujjain district. The study's findings revealed a low prevalence of using DT in the classroom, as well as limited technology tool resources and insufficient training for teachers to use the tools. The study's findings suggested identifying the factors that contribute to it, as well as developing intervention and training programs to encourage the use of DT among teachers in government schools.

10.7 Limitations and Recommendations:

Despite significant findings, the study includes a small sample of 25 participants and is drawn through purposive sampling which limits the study's generalizability and reduces the accuracy. Future research can be done with a large number of samples using random sampling to increase the accuracy and generalizability of the results. In addition, future research may compare government and private schools, as well as other factors influencing the use of DT in classrooms for children with IDs.

10.8 References:

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