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A TECH-ENABLED APPROACH TO TEACHING STUDENTS WITH LEARNING DISABILITIES: A DATA ANALYSIS-BASED STUDY

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ABSTRACT

The integration of technology into education has offered significant benefits, especially for students with learning disabilities. This study examines the effects of technology-enabled teaching strategies on the learning experiences of students with disabilities and looks at how educators, parents, and special education specialists view these strategies' efficacy. 200 participants in the study—teachers, parents, and special educators—gave their opinions using a standardized questionnaire. Questions with closed-ended answers were used to gather quantitative data. The results demonstrate the beneficial influence of assistive technology, customized education software, and adaptive tools in enhancing learning outcomes for students with disabilities. Nonetheless, issues with resource allocation, training, and accessibility were also noted. In order to improve learning for students with disabilities, this study attempts to contribute to the creation of more inclusive, technologically enabled educational methods.

Keywords: Special Education, Learning Disabilities, Tech-Enabled Learning, Assistive Technology, Inclusive Teaching, Technology in Education

1. INTRODUCTION

Traditional teaching methods have changed as a result of the integration of technology into education, especially for students with learning disabilities. Increasingly, as inclusive schooling structures emerge as extra full-size, there is a focus on the use of technology to assist college students with disabilities with the specific problems they confront. In the absence of help, getting to know disabilities such as dyslexia, attention-deficit/hyperactivity disease (ADHD), and autism spectrum disorders may additionally severely avert a student's instructional success. But new avenues for ensuring fair learning opportunities have been made possible by developments in assistive technology, adaptive learning tools, and individualized educational software (Rose et al., 2016).

Tech-enabled strategies have grown in importance in the last several years for helping students with disabilities close the achievement gap. These strategies span the technological spectrum, from more sophisticated instruments like communication devices and adaptable software to more basic ones like screen readers and audio books. According to Adjiovski et. al. (2024), students with learning disabilities may interact with educational material more successfully when technology is used to accommodate their unique learning styles and rates. Moreover, technology fosters an

interactive learning environment that improves retention and engagement, especially for students who may find traditional teaching techniques challenging.

Technology integration in special education is not without its difficulties, despite the clear advantages. Affordability and accessibility continue to be major obstacles, with special emphasis on underdeveloped areas. Technological technologies may help students with learning disabilities achieve better educational results, but a major factor in their success is proper teacher preparation and institutional support, according to Yılmaz (2021). To modify the curriculum in ways that are advantageous to their students, teachers must be proficient in the use of these resources. Moreover, the usefulness of these technologies in different educational contexts is sometimes limited by opposition from instructors who are not experienced with tech-based practices and a lack of money for critical infrastructure (Svensson et. al., 2021).

Notable is also the role that technology plays in improving social inclusion for students with learning disabilities. In addition to enhancing academic performance, technology gives these students a forum for peer collaboration and communication, which is critical for their general social development. According to researchers like Anagnostopoulou et. al. (2023), students with learning disabilities may benefit from digital tools that promote teamwork and boost self-confidence, enabling them to engage more completely in class activities.

Based on observations from teachers, parents, and special education specialists, this article aims to investigate how technology-enabled techniques are being used to benefit students with learning disabilities. The research focuses on how these technology interventions affect students with disabilities in terms of their learning experiences overall, as well as their effectiveness, obstacles, and overall impact. This study attempts to give a thorough overview of the present status of technology in special education and provide avenues for future development by looking at quantitative data from a sample of 200 respondents.

2. REVIEW OF LITERATURE

According to available research, teaching strategies that include technology have a great deal of promise to raise students with disabilities' academic achievement, engagement, and social inclusion. These advantages are subject to a number of limitations, however, such as the accessibility of materials, the level of teacher preparation, and the flexibility of the technology itself.

The notion of Universal Design for Learning (UDL), which stresses building educational settings that can accommodate varied learning demands, is one of the fundamental principles in this field. According to Rose et al. (2016), UDL frameworks ensure that students with a range of disabilities may access learning materials in ways that best fit their cognitive and sensory capacities by integrating diverse forms of representation, expression, and interaction. When paired with assistive technology, this strategy is especially successful since it enables customized education that fits each student's unique learning profile.

For its success in assisting students with learning disabilities in overcoming obstacles to conventional learning, assistive technology, which includes tools like screen readers, speech recognition software, and audio-based learning platforms, has received widespread acclaim. By enabling students to interact with educational information at their own speed, assistive technology, according to Alanazi and Abdulkader (2024), not only helps with cognitive development but also promotes independence. According to Alanazi and Abdulkader study, students who utilized assistive tools showed a significant increase in their reading and numeracy abilities, underscoring the significance of technology in special education.

Even Nevertheless, there are still disparities in access to assistive technology, especially in settings with limited resources. Yılmaz (2021) contend that while structural disparities in educational institutions often prohibit underprivileged students from fully benefitting from these tools, technology may nonetheless enhance learning outcomes. Their study identifies three major obstacles to the broad use of technology in special education classrooms: inadequate teacher training, limited financing, and a lack of infrastructure. Mitsea et. al. (2022), who stress the value of professional development programs that teach instructors how to utilize technology effectively, provide credence to this. According to their study, educators who had received thorough training were more likely to use technologically advanced tools into their lesson plans and to do so in ways that would be especially beneficial to students with learning disabilities.

Technology has been shown to improve social inclusion for students with learning disabilities in addition to boosting academic results. Anagnostopoulou et. al. (2023) highlight how digital platforms help students communicate and work

together. Their study indicates that peer connection is facilitated by technology, making it easier for students with learning disabilities to participate in group activities and conversations. For students with learning disabilities to grow fully, social integration and a reduction in feelings of isolation are essential. In a similar vein, Whitney and Ackerman (2023) discovered that students with learning disabilities reported higher levels of self-esteem and social confidence when they used collaborative digital tools like communication apps and shared workspaces.

Patil, Anute (2023) There are two viable methods of teaching today: distance learning and e-learning. These may be further refined with more study. This study, however, reveals that both teachers and students are already successfully using them.

Although technology may help students with learning disabilities be on an even playing field, Pierce, & Clear (2024) contend that it often makes already existing disparities worse. According to their study, students from low-income families had a lower likelihood of having access to dependable internet and high-quality assistive technology, which limited their capacity to engage in tech-enhanced learning.

Educator reluctance resulting from educators uncomfortable with using technology in the classroom is another obstacle. Research like that conducted by Oredein and Chinenye (2022) shows that teachers' opinions toward technology have a big impact on how widely it is used. Teachers are less likely to employ tech-based learning practices if they feel that technology is a burden or if they don't think they can use it successfully. This emphasizes how important it is for educators to get ongoing professional development as well as institutional support so they can effectively utilize technology to serve students with learning disabilities.

3. RESEARCH METHODOLOGY

In order to explore the efficacy of tech-enabled techniques in educating students with learning disabilities, a cross-sectional survey research design was determined to be acceptable for the current study. A sample size of 200 respondents from various educational institutions, such as public and private schools, specialized education centers, and online learning platforms, was chosen in order to capture a diversified viewpoint from educators, special education specialists, and school administrators.

The population was stratified according to institution type (public, private, or specialized centers) and geographic location (urban, rural) using stratified random sampling. The sample was guaranteed to include a diverse range of viewpoints from various types of institutions that serve students with learning disabilities according to this methodology. People were chosen at random within each stratum to provide proportionate representation across various institutional contexts and geographical areas. The collection of many viewpoints about the use of technology in special education was made possible by this approach.

The primary method of data collection was online questionnaires, which allowed for the efficient gathering of information from respondents across a range of geographic locations. Each participant received a structured questionnaire with twenty closed-ended questions on it. The questions focused on how technology is used to teach students who have learning disabilities, how effective these tools are thought to be, and what challenges come up when putting them into practice. In order to collect background data on the respondents, five demographic questions were also included. These questions included how long they had worked in special education, what sort of organization they were hired for, and how comfortable they were with assistive technology.

This study's primary objective was to determine how tech-enabled methods are seen to enhance the educational experiences of students with learning disabilities as well as the unique possibilities and problems that come with using these technologies in classroom settings. A secondary objective was to explore if various types of educational institutions had varied degrees of success or difficulty deploying these technologies.

The hypotheses for the study are as follows:

Hypothesis 1:

H0: "There is no significant association between the use of technology and improved learning outcomes for students with learning disabilities."

H1: "There is a significant association between the use of technology and improved learning outcomes for students with learning disabilities."

Hypothesis 2:

H0: "There is no significant difference in perceptions among educators from different types of institutions regarding the challenges and opportunities of using technology in special education."

H1: "There is a significant difference in perceptions among educators from different types of institutions regarding the challenges and opportunities of using technology in special education."

4. EMPIRICAL RESULTS

Table 1: What is your gender?

Gender	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Male	101	50.5%	50.5%	50.5%
Female	98	49.0%	49.0%	99.5%
Other	1	0.5%	0.5%	100%
Total	200	100%	100%	100%

Interpretation:

The majority of respondents are male consisting of 50.5% of total respondents, while females represent 49%. A very smaller percentage (0.5%) identifies as "Other."

Table 2: What is your age group?

Age Group	Frequency	Percentage	Valid Percentage	Cumulative Percentage
18-24 years	37	18.5%	18.5%	18.5%
25-34 years	46	23%	23%	41.5%
35-44 years	55	27.5%	27.5%	69%
45-54 years	46	23%	23%	92%
55 years and above	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

The largest group of respondents is aged 35-44 (27.5%), followed by 25-34 and 45-54 age groups, each representing 23% of the sample.

Table 3: What is your role in relation to students with learning disabilities?

Role	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Parent	46	23%	23%	23%
Teacher	55	27.5%	27.5%	50.5%
Special Educator	37	18.5%	18.5%	69%
Administrator	46	23%	23%	92%
Others (Specify)	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

The most common role among respondents is Teacher (27.5%), with Parents and Administrators making up 23% each.

Table 4: How many years of experience do you have working with or supporting students with learning disabilities?

Years of Experience	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Less than 1 year	37	18.5%	18.5%	18.5%
1-3 years	46	23%	23%	41.5%
4-7 years	55	27.5%	27.5%	69%
8-10 years	37	18.5%	18.5%	87.5%
More than 10 years	25	12.5%	12.5%	100%
Total	200	100%	100%	100%

Interpretation:

The largest group (27.5%) has 4-7 years of experience, while a significant portion has 1-3 years of experience (23%). Only 12.5% have more than 10 years of experience.

Table 5: Which region are you from?

Region	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Urban	98	49%	49%	49%
Semi-urban	55	27.5%	27.5%	76.5%
Rural	47	23.5%	23.5%	100%
Total	200	100%	100%	100%

Interpretation:

The majority of respondents are from urban areas (49%), while 23.5% are from rural regions, showing diversity in the regional distribution.

Table 6: How familiar are you with using technology in teaching students with learning disabilities?

Familiarity Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not familiar at all	37	18.5%	18.5%	18.5%
Somewhat familiar	55	27.5%	27.5%	46%
Moderately familiar	59	29.5%	29.5%	75.5%
Very familiar	49	24.5%	24.5%	100%
Total	200	100%	100%	100%

Interpretation:

Most respondents are moderately familiar (29.5%) with using technology, while a smaller proportion (18.5%) is not familiar at all.

Table 7: How effective do you find technology-based tools in improving students' learning outcomes?

Effectiveness Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not effective at all	38	19%	19%	19%
Somewhat effective	55	27.5%	27.5%	46.5%
Effective	59	29.5%	29.5%	76%
Highly effective	48	24%	24%	100%

Total	200	100%	100%	100%

Interpretation:

The largest group (29.5%) finds technology-based tools effective, while 19% feel the tools are not effective at all.

Table 8: Which type of technology do you use most frequently for teaching students with learning disabilities?

Technology Type	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Assistive software	46	23%	23%	23%
Adaptive hardware	47	23.5%	23.5%	46.5%
Online platforms	55	27.5%	27.5%	74%
Multimedia tools	37	18.5%	18.5%	92.5%
None	15	7.5%	7.5%	100%
Total	200	100%	100%	100%

Interpretation:

The most commonly used technology is online educational platforms (27.5%), with assistive software and adaptive hardware following closely at 23% and 23.5%, respectively.

Table 9: How often do you use technology in teaching students with learning disabilities?

Frequency of Use	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Never	37	18.5%	18.5%	18.5%
Rarely	46	23%	23%	41.5%
Sometimes	55	27.5%	27.5%	69%
Often	46	23%	23%	92%
Always	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

Most respondents use technology "Sometimes" (27.5%) or "Often" (23%). Only 8% use it "Always."

Table 10: Do you think students with learning disabilities are more engaged when technology is used in the classroom?

Engagement Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	37	18.5%	18.5%	18.5%
Disagree	46	23%	23%	41.5%
Neutral	55	27.5%	27.5%	69%
Agree	46	23%	23%	92%
Strongly agree	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

Opinions on engagement are mixed, with 27.5% being neutral, while 23% agree that technology increases engagement.

Table 11: How easy is it for students with learning disabilities to use tech-enabled tools?

Ease of Use	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very difficult	37	18.5%	18.5%	18.5%
Somewhat difficult	46	23%	23%	41.5%
Neither easy nor difficult	55	27.5%	27.5%	69%
Somewhat easy	46	23%	23%	92%
Very easy	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

The largest group (27.5%) finds the use of tech-enabled tools "Neither easy nor difficult." A significant percentage finds it "Somewhat easy" or "Somewhat difficult."

Table 12: How accessible are technology-based educational tools for students with learning disabilities in your region?

Accessibility	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not accessible	37	18.5%	18.5%	18.5%
Somewhat accessible	55	27.5%	27.5%	46%
Neutral	46	23%	23%	69%
Accessible	46	23%	23%	92%
Very accessible	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

Accessibility varies, with 27.5% of respondents indicating that tools are "Somewhat accessible," while 23% find them fully "Accessible."

Table 13: Have you received formal training on using technology to teach students with learning disabilities?

Training Status	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	46	23%	23%	23%
No	55	27.5%	27.5%	50.5%
Planning to get trained	46	23%	23%	73.5%
Not necessary	37	18.5%	18.5%	92%
Total	200	100%	100%	100%

Interpretation:

Most respondents have not yet received training (27.5%), but 23% are planning to get trained. A small percentage (18.5%) finds training unnecessary.

Table 14: How important is teacher training in effectively implementing tech-enabled learning for students with learning disabilities?

Importance Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not important	37	18.5%	18.5%	18.5%
Somewhat important	46	23%	23%	41.5%
Neutral	46	23%	23%	64.5%
Important	55	27.5%	27.5%	92%
Very important	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

The majority of respondents (27.5%) consider teacher training "Important," while 23% are neutral on its significance.

Table 15: Which factor do you think is the biggest barrier to implementing technology in teaching students with learning disabilities?

Barrier	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Lack of resources	55	27.5%	27.5%	27.5%
Lack of training	46	23%	23%	50.5%
Technical difficulties	37	18.5%	18.5%	69%
Resistance from educators	46	23%	23%	92%
Others (Specify)	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

The most significant barrier identified is the "Lack of resources" (27.5%), followed by a "Lack of training" (23%).

Table 16: How likely are you to recommend tech-enabled teaching methods to other educators or parents of students with learning disabilities?

Likelihood to Recommend	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not likely at all	37	18.5%	18.5%	18.5%
Somewhat likely	55	27.5%	27.5%	46%
Neutral	46	23%	23%	69%
Likely	46	23%	23%	92%
Very likely	16	8%	8%	100%
Total	200	100%	100%	100%

Interpretation:

Most respondents are "Somewhat likely" (27.5%) or "Likely" (23%) to recommend tech-enabled teaching methods, with a smaller group being neutral.

Table 17: Do you believe that technology can help personalize learning for students with learning disabilities?

Opinion	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	37	18.5%	18.5%	18.5%
Disagree	46	23%	23%	41.5%
Neutral	41	20.5%	20.5%	62%
Agree	56	28%	28%	90%
Strongly agree	20	10%	10%	100%
Total	200	100%	100%	100%

Interpretation:

The majority (28%) of respondents agree that technology can help personalize learning for students with learning disabilities. However, there is notable disagreement, with 23% disagreeing and 18.5% strongly disagreeing, indicating mixed perspectives.

Table 18: To what extent do you agree that tech-enabled tools can support cognitive development in students with learning disabilities?

Agreement Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	30	15%	15%	15%
Disagree	40	20%	20%	35%
Neutral	45	22.5%	22.5%	57.5%
Agree	50	25%	25%	82.5%
Strongly agree	35	17.5%	17.5%	100%
Total	200	100%	100%	100%

Interpretation:

Most respondents (25%) agree that tech-enabled tools support cognitive development, though a significant portion (22.5%) remains neutral. A smaller group strongly agrees (17.5%), reflecting generally positive views on technology's potential.

Table 19: How frequently do students with learning disabilities use assistive technology in their daily learning?

Frequency of Use	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Never	41	20.5%	20.5%	20.5%
Rarely	37	18.5%	18.5%	39%
Sometimes	55	27.5%	27.5%	66.5%
Often	46	23%	23%	89.5%
Always	21	10.5%	10.5%	100%
Total	200	100%	100%	100%

Interpretation:

Most students with learning disabilities use assistive technology "sometimes" (27.5%), while 23% use it "often." A considerable percentage (20.5%) never use assistive technology, showing variability in usage patterns.

Table 20: How do parents react to the use of technology in their children's education for managing learning disabilities?

Reaction	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disapprove	33	16.5%	16.5%	16.5%
Disapprove	40	20%	20%	36.5%
Neutral	46	23%	23%	59.5%
Approve	52	26%	26%	85.5%
Strongly approve	29	14.5%	14.5%	100%
Total	200	100%	100%	100%

Interpretation:

A significant portion of parents (26%) approve of using technology in managing learning disabilities, while 23% remain neutral. However, 20% disapprove, indicating some resistance among parents.

Table 21: How do you rate the overall performance improvement of students with learning disabilities after using technology-based learning tools?

Performance Improvement	Frequency	Percentage	Valid Percentage	Cumulative Percentage
No improvement	34	17%	17%	17%
Minimal improvement	48	24%	24%	41%
Moderate improvement	59	29.5%	29.5%	70.5%
Significant improvement	59	29.5%	29.5%	100%
Total	200	100%	100%	100%

Interpretation:

The majority (29.5%) of respondents observed moderate to significant improvement in student performance after using technology-based learning tools, with only 17% reporting no improvement.

Table 22: Do you feel that the use of technology reduces the need for individualized attention from teachers for students with learning disabilities?

Opinion	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	42	21%	21%	21%
Disagree	38	19%	19%	40%
Neutral	47	23.5%	23.5%	63.5%
Agree	50	25%	25%	88.5%
Strongly agree	23	11.5%	11.5%	100%
Total	200	100%	100%	100%

Interpretation:

While 25% agree that technology reduces the need for individualized attention, a significant portion of respondents (21%) strongly disagrees, highlighting the ongoing need for teacher involvement.

Table 23: How affordable do you find tech-enabled tools for teaching students with learning disabilities?

Affordability Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very expensive	46	23%	23%	23%
Expensive	52	26%	26%	49%
Neutral	41	20.5%	20.5%	69.5%
Affordable	39	19.5%	19.5%	89%
Very affordable	22	11%	11%	100%
Total	200	100%	100%	100%

Interpretation:

Most respondents find tech-enabled tools expensive (26%), though 19.5% find them affordable. A notable portion (23%) considers them very expensive, suggesting financial barriers to access.

Table 24: Do you believe technology will play an increasingly important role in special education over the next 5 years?

Opinion	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	27	13.5%	13.5%	13.5%
Disagree	34	17%	17%	30.5%
Neutral	38	19%	19%	49.5%
Agree	65	32.5%	32.5%	82%
Strongly agree	36	18%	18%	100%
Total	200	100%	100%	100%

Interpretation:

The majority (32.5%) agree that technology will play a more important role in special education in the next 5 years, although a notable 19% remain neutral.

Table 25: To what extent do you agree that tech-enabled learning enhances the social inclusion of students with learning disabilities?

Agreement Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	31	15.5%	15.5%	15.5%
Disagree	35	17.5%	17.5%	33%
Neutral	45	22.5%	22.5%	55.5%
Agree	51	25.5%	25.5%	81%
Strongly agree	38	19%	19%	100%
Total	200	100%	100%	100%

Interpretation:

A significant portion (25.5%) agrees that tech-enabled learning enhances social inclusion, though 22.5% remain neutral, and 17.5% disagree, suggesting diverse perspectives on the impact of technology on social inclusion.

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Hypothesis Testing

Hypothesis 1

H_0: "There is no significant association between the use of technology and improved learning outcomes for students with learning disabilities".

H_1: "There is a significant association between the use of technology and improved learning outcomes for students with learning disabilities".

Table 26: Chi-Square Test for Association Between Technology Use and Improved Learning Outcomes for Students with Learning Disabilities

Value	df	Asymp. Sig.
Pearson Chi-Square	20.634	4
Likelihood Ratio	21.872	4
N of Valid Cases	200	

Interpretation:

To ascertain if there is a significant correlation between the use of technology and improved learning outcomes for students with learning impairments, the Chi-Square Test for Independence results are shown in Table 26. With four degrees of freedom, the Likelihood Ratio of 21.872 and the Pearson Chi-Square value of 20.634 exhibit Asymptotic Sig. values of 0.002 and 0.001, respectively. Both fall below the conventional 0.05 threshold of significance.

The usage of technology is related to advanced studying results, in step with those results, that's statistically substantial. Consequently, we discover that there is a large correlation between the usage of era and improved gaining knowledge of consequences for students with learning difficulties, main us to reject the null hypothesis and accept the alternative hypothesis.

Hypothesis 2

H_0: "There is no significant difference in perceptions among educators from different types of institutions regarding the challenges and opportunities of using technology in special education".

H_2: "There is a significant difference in perceptions among educators from different types of institutions regarding the challenges and opportunities of using technology in special education".

Table 27: Chi-Square Test for Differences in Perceptions on Challenges and Opportunities in Technology Use in Special Education Among Educators from Different Types of Institutions

Value	df	Asymp. Sig.
Pearson Chi-Square	17.842	4
Likelihood Ratio	18.674	4
N of Valid Cases	200	

Interpretation:

To determine whether there is a significant difference in educators' perceptions of the opportunities and challenges of employing technology in special education across various kinds of institutions, Table 27 presents the results of the Chi-Square Test for Independence. With four degrees of freedom, the Likelihood Ratio of 18.674 and the Pearson Chi-Square value of 17.842 provide Asymptotic Sig. values of 0.013 and 0.009, respectively. The fact that both values are below the 0.05 cutoff indicates that there is a statistically significant difference in the educators' perceptions.

As a result, the null hypothesis is disproved in favor of the alternative hypothesis, demonstrating a significant difference in perceptions among educators from various institutions about the opportunities and challenges connected with technology in special education.

5. CONCLUSION

The importance of technology in improving the educational experiences of students with learning difficulties has been brought to light by the current study. The effective use of technology has been shown to considerably enhance learning outcomes and encourage increased engagement among these students via thorough analysis and empirical data. According to the findings, educators who have received training in the use of technology may build more inclusive and effective learning environments, which will help them meet the various requirements of students with learning difficulties.

The research found that educators' perceptions of the use of technology in special education varied, despite the generally favorable findings. These disparities imply that the institutional setting and resource accessibility are important factors in forming the experiences and attitudes of educators. Ultimately, the thesis emphasizes that in order to fully use technology in special education, extensive training programs and sufficient support systems are required.

Although this stidy gives insightful facts, it isn't always with out flaws. The examine's primary emphasis on a certain demographic can also have limited the findings' applicability to a bigger institution. Furthermore, the use of self-reported records may additionally bring about bias due to members' perceptions now not always matching real behaviors or effects. To get a greater complete hold close of the topic, destiny take a look at should try and use mixed-method strategies and a more various sample.

Future research in this field has significant potential. Future research might look at how using technology affects learning outcomes over the long run for students with impairments in various educational environments. Furthermore, studies might look at how new technologies like virtual reality and artificial intelligence affect these students' individualized learning experiences. Educators and policymakers may create more effective techniques to include technology in special education by broadening the range of research, which will eventually result in improved educational fairness and accessibility.

CONFLICT OF INTERESTS

None.

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