

## **Situation Analysis of Awareness of Assistive Technology of Teachers for Children with Special Needs in Punjab**

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### **Abstract**

The primary goal of this research was to examine the current state of knowledge regarding assistive technology among Punjab educators who work with students who have special needs. The population of the study was honorable teachers of the department of special education Punjab. The questionnaire was established as a tool to record the opinions of the special education teaching staff against the required information. The population sample participated and provided their valuable opinions were 100 teaching staff from all over Punjab. Awareness of teachers towards assistive technology is in appropriated because assistive technology is very expensive and not easily accessible. Due to the unawareness of the teachers about the usage of available assistive technology, our institutions are unable to operate these technologies in daily base studies of children. Assistive technology is very necessary and helpful for a person with a disability. They speed up the working ability of the person and create a proper and easy environment. Key recommendations made by the researchers are aware of assistive technology should be increased and also aware the students about the significance of assistive technology (AT) in the lives of special needs students.

**Keywords:** technology, assistive technology (at), braille, daily living skills, awareness about at, working of at

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## Introduction

Due to the digital revolution, the world of education is facing a major transition. Because of digital revolution "internet era," making use of technology's availability and usability when planning instructional or training programs is both essential and realistic. People with disabilities who utilize the numerous assistive technologies that are now available are able to fully engage in society, join the workforce, and live fulfilling and independent lives. People who use assistive technology have less needs for long-term care, institutional health and support services, and uncompensated caregiving. Illness and disability have already had catastrophic consequences on people, families, and communities; however, these disadvantages are exacerbated in the absence of assistive technology. This is the situation, according to Collins and Halverson (2009).

Students with disabilities must be well prepared for the rigors of higher education, and several types of technology may make this possible. In certain cases, it can save time and money to change appropriate support devices for disabled pupils. If students who suffer from special needs are unable to realize their full potential by ignoring the resources and programs available in order to promote and optimize their success and academic advancement, or at the very least from increasing their trust when performing activities that can be accomplished effectively with low-tech assistive technology (Stodden, Conway, & Chang, 2003).

Students who are struggling academically may find that using technology in the classroom benefits them in a variety of ways. The goal of this research was to see whether utilizing coding software may assist children with writing difficulties improve their written language skills. The study followed seven children with minor differences through three stages: pre-study examination, intervention using a speech processor, and post-study assessment with word prediction software and a word processor. The students continued to write using the word processor for the next three stages (Intervention 1), including the following: They used Outload to create all of their samples, and they combined writing with the usage of word prediction tools to function as co-writers: The quantity of work that was performed for each research throughout the last three weeks. During the first week of class, pupils had no choice but to complete everything manually (baseline) (Intervention two). Only two of the children in the study showed a decline in the number of words they

generated throughout the intervention when compared to the number they made at the start of the procedure, while the other five saw an increase. When there were more members in a group, there were more words stated during the meeting on average. The frequency of misspelled phrases decreased in both the internal and external settings. According to the data, five out of seven pupils took advantage of the opportunity (Cullen, Richards, and Frank, 2008).

For students suffering from learning disabilities, technology has a more than one ability to improve quality of life. The use of technology in education is indispensable; only because schools are not up-to-date will it be a matter of time before they come behind. Is it fair to believe that students will come to school to explore and attract a world without technology? Is it fair to expect students to come to school and discover a world without technology and be drawn to it? Aside from the allure, there's the efficacy of utilizing technology, which has been shown in many trials (Wehmeyer, Palmer, Smith, Davies, & Stock, 2008).

In Pakistan teachers are not much aware of the assistive technology. Because Pakistan is still a growing country and its economy is not so well to adopt assistive technology at big scale but there is a need to create awareness between the teachers of special education so that they could enhance and nourish their knowledge to serve the students with disabilities. The aim of this research was situation analysis of awareness of assistive technology teaching the students with special needs. This will help the teachers to take a step forward toward the technology so that they could efficiently and effectively teach the students with special needs.

## **Statement of the Problem**

The study's goal was to measure teachers' understanding of assistive technology for children with special needs in Punjab. It investigated the implications of assistive technology for a future researcher in the life field.

## **Objective of Research**

The study's objectives were as below:

1. To assess teachers' current awareness of assistance technology for children in Punjab.
2. To emphasize the importance of assistance technology for disabled children.

## **Research Questions**

1. What is the level of awareness of assistive technology for technology for teachers in special education schools?
2. Why AT is necessary for the effective studies of students with special needs?
3. What are the common types of assistive technology that are currently used in special education institutions of Punjab?
4. What are the effects of assistive technology on students with special needs?

## **Literature Review**

### **Assistive technology**

Assistive technology is an adaptive system or service that improves a student's engagement, achievement, or independence due to a disability (AT). Adaptations can range from a basic pencil grip to a complex computer device. The use of AT must be incorporated in a school district's Individualized Education Program (IEP). Any kid with special needs is entitled to a free public education, and it is the IEP team's responsibility to determine what sort of special education services are required to make that a reality for the student. The school board shall provide the appropriate supplies and equipment as the team decides that the student wants AT. The AT skills and knowledge relating to that provision must be learned by staff, teachers and other service services.

The Assistive Technology Act of 1998, which defined the legal definition of the word "assistive technology," made the Technology-Related Assistance Act of 1988 outdated. This established definition is contained in all applicable legislation, such as the Individuals with Disabilities Education Act (IDEA), which was enacted in 2004 and requires proper educational opportunities and support for children with a broad spectrum of exceptionalities (IDEA, 2004).

An assistive technology system is any item, device or product scheme that is used to enhance, sustain or enhance a disabled child's functional capacity whether purchased commercially off the shelf, enhanced or updated. The concept does not involve a surgically implanted medical device or its replacement. (IDEA, 2004).

Raskind (1994) proposes to support students with special needs through text editors, spell correcting applications, evidence editing, brain storming, expression acknowledgement, abbreviation expansions, voice processing, proofreading, visual character recognition systems, and free-form databases. Spellcheckers are supposed to assist students with special needs to correct the spelling problems. Collins (1990) found that the writing skills of students with special needs have been enhanced with word processors. Students were able to increase their written language performance by using speech synthesis and word processing (Brown, 1987).

Mildly disabled students often struggle with one or more facets of the writing process. Sometimes, it is difficult for students to easily organize their ideas (De La Paz & Graham, 1997) and restrict the number of ideas they can submission to paper. According to Graham (1990), some students with minor special needs struggled with the ability to process text because the principles of writing restricted the amount and accuracy of their writing. Composing orally can make it possible to escape issues of transcription and text development (e.g., handwriting, orthographic, and punctuation) for individuals with specific learning needs, enabling them to concentrate on issues such as strategy and content production" (De La Paz, 1999). Both of these items would prevent you from writing (Behrmann & Jerome, 2002).

Barriers to access to assistive products that people with special needs face have not yet been adequately considered. People with ID are also stigmatized and devalued around the world, and health inequities are to blame for at least some of their negative health outcomes. When it comes to using or obtaining health care and assistive products, people with ID are also at a disadvantage. It is not certain how many individuals with IDs worldwide have access to appropriate assistance devices. People who have ID were suggested to have a high level of undiagnostic and error of diagnosis, which means they do not get the correct care, and because of inadequate, or in-existing, health facilities, the need for treatment arises. Healthcare services can be overwhelming to deal with people with the atypical presence of ID. The proper diagnosis and treatment can not only

allow and promote the use of assistive products, but may also change people's lives and opportunities (Boot, Dinsmore, Khasnabis & MacLachlan, 2017).

Since its renewal in 1997, the Individuals with Disabilities Education Act has required that adapted technology be included in all students' individualized education plans (IEPs) (IDEA). The regulation was problematic for the education sector for several reasons, the most important of which were as follows: (a) more than 3.8 million children with moderate disabilities have failed since their IEPs were first written (Edyburn, 2004), and (b) teacher training for best practice assistive technology services remained insufficient (Lahm, 2003; Wojcik, Peterson-Karlan, Watts & Parette, 2004).

### **Person with Disability and Assistive Technology**

The Technology Act of 1988 emphasized the vital role that assistive technology (AT) plays in supporting persons with impairments in carrying out their daily activities. As a consequence of the act's passing and the subsequent rise of technology-related services, the general public is now generally aware of how assistive technology may be utilized to enhance the quality of life for persons with special needs (Wallace et al., 1995). As a result of the amendments that were made to the Technology Act in the year 1994, policies were developed for persons with special needs that center on the use of assistive technology (AT) in educational, occupational, and community contexts. This was a deviation from the medical isolationist goals that had been established before (Wallace, et al., 1995). The Technology-Related Assistance for Individuals with Disabilities Act of 1988, as revised in 1994, introduced terminology and/or programs that were specified and expanded upon in the Assistive Technology Act of 1998. The Assistive Technology Act of 1998 was signed into law by President Bill Clinton. The Assistive Technology Act of 1998 became a law on July 1, 1998, after being signed into effect by President Bill Clinton (P.L. 105-394).

An "assistive technology system," as defined by the Technology Act of 1998, is any item, piece of equipment, or product plan used to enhance, maintain, or improve the capacities and functions of disabled people. This term encompasses any object, piece of machinery, or product plan. Disability is a natural reality that does not in any way decrease the self-determination right of an individual. a) be self-sufficient; b) have

autonomy and capacity to take decisions, c) reap the educational benefits, d) seek meaningful employment; and e) to be completely incorporated and included in American society's economic, political, legal, technological, and educational mainstream. Technology has been an important driver of growth in the economy, learning, and new ideas in the United States and around the world. Impact of technology on lives of more than 50 million Americans with special needs is strong evidence of America's leadership in technological development and adoption. Technology has played an important role in the daily lives of all Americans, in both private and public endeavors, in facilitating communication, facilitating commerce, and facilitating education. Any technological innovation will lead to far-reaching implications for disabled Americans. Important improvements have been made, including changes to digital technologies that enable daily tasks to support individuals of any age with special needs, and the creation of supporting technology tools. Such devices and adjustments increase attendance and reduce expenditure on services and events such as early intervention, childcare, rehabilitation and education, healthcare, housing, independent living and leisure activities and other elements of daily life (Abner, & Lahm, 2002).

To better accommodate students with disabilities, the IDEA was revised in 1997 to include AT in the Individualized Education Program (IEP) planning process (IDEA 97). Inclusion and adapted technology (AT) might help many of these pupils greatly improve their abilities (Zhang, 2000). The Education Improvement Act of 2004 stresses the need of providing all students with equal access to a rigorous and challenging general education curriculum in order for them to reach their full potential and become effective leaders.

### **Assistive Technology and How do They Work for Children With Special Needs?**

Assistive technology refers to the tools and services necessary to maximize the involvement and progress of a pupil in a classroom. Any agency that directly helps a disabled child collect, buy or use of an assistive technology device is known as a technology support service. It's a smart thing to classify AT according to the job that the student should do. The following is a selection of possible AT structures. It does not however cover anything available AT options (Network, 2008).

### **Positioning & Seating**

If the chair includes a slip-on surface (like Dycem), students may have additional options for participating in educational activities by using a towel or bolster for support, a modified or replacement chair, a rolling wheelchair, a custom-made wheelchair, a customized desk/table, or head supports (Network, 2008).

### **Activities for Daily Living (ADLs)**

Adaptive feeding utensils, drinking machines that adapt to your needs, dressings that adapt to your requirements, toilet seats with a unique design, adaptations of bathrooms, aids to grooming, feeders that are robotic or mechanical, adapted kitchen utensils helps and supports the people with special needs in everyday activities (Adebisi et al., 2015).

### **Controlling the Environment**

Interfaces for device turns (e.g., VCRs, tape recorders), timers for transfer latches, Switches that can be turned on and off in a variety of ways, Switch access through remote control, for battery-operated computers, there is a transfer interface which allows students to operate in the classroom and at home separately (Bouck, & Flanagan, 2009).

### **Mobility**

Walkers, wheelchairs, handrails, engine leisure vehicles, structural changes and adjustments may be useful for students with physical special needs who need assistance navigating to the school and their classes. White canes and electronic imprinting may be required for students with vision impairments to navigate the school (Chmiliar, 2007).

### **Assistive Listening Devices & Techniques**

Assistive listening device, amplification in the classroom, FM radio, display screen flashing, Telecommunications Device for the Deaf (TDD) /Teletypewriter (TTW) and flashing display screens assists students in obtaining educational knowledge by the auditory presentation (Flanagan, Bouck, & Richardson, 2013).

### **Aids to Visualization**

Increased contrast allows students with visual impairments to learn knowledge from educational events. magnified pictures, tactile and auditory objects, audiobooks, Spectacles, low-vision aids, magnifier, wide print books, closed-circuit television (CCTV), video magnifier, screen amplification software, Reader of the screen, Touch or notebook braille, Apps for Braille Interpreter, Printer/pregnant braille, Screen literacy and Readers with optical character (Zhou et al., 2011).

### **Improvement in Communication**

When spoken communication fails, these tools assist students in effectively communicating; 1) photo, phrase, or letter communication boards and wallets, 2) contact-enhancement applications, 3) computer-based communication systems, 4) eye look board, 5) electronic communication devices, 6) clear voice-output unit and 7) speech synthesizers for typing (Network, 2008).

### **Physical Education**

Recreation and Play are all important components of a healthy lifestyle. Toys and games that have been modified, adapted puzzles, battery interrupter turns activations, adapting sport devices, crayon-carrying universal cuff, stickers, enhanced stamping and shearing, drawing arm, beeping balls, painting applications Improve social contact and involvement in recreational activities among students (Network, 2008).

### **Adaptations to reading materials that make them more available**

Adaptations to reading materials that make them more available includes text size and color, spacing, and background color can all be altered, books on tape, CD, or MP3, highlighted text, captured content, electronic textbooks, digital display formats, optical character recognition, Braille books, scanner with talking word processor, Closed-circuit television, talking electronic dictionary and text reader (Maushak et al., 2001).

**Writing**

Text content is created using modified modes like adaptive grips updated pencil, adaptive notebook, slant sheet, typewriter, portable word printer, adaptive lines (e.g., elevated lines, highlighting), walking word processor, computer with word processing and prediction of words (Network, 2008).

**Access to computer**

On a normal computer, a keyboard with built-in usability options may help the disabled person which are arm support, trackball/trackpad, on-screen keyboard with joystick, touch-Screen, application for speech recognition and switching morse code (Network, 2008).

**Methodology****Research Design**

The survey approach will be used for the design of this research study. This kind of research is quantitative by its nature. In order to discover the facts and numbers, a questionnaire was filled out.

**Population & Sampling**

This research study is based on a situation analysis of teachers' understanding of assistive technology for special needs children; our population includes all Punjab Govt. school special education instructors. Simple Random sampling was used. Google form gathered data from 100 government special education instructors.

**Instrumentation**

In Punjab, data were collected via a self-made questionnaire that was uploaded to Google form.

## **Data Collection and Analysis**

The information was gathered with the help of Google Docs, and after that, it was tabulated and analyzed using SPSS. Both descriptive and inferential statistical methods were used in the process of arriving at these results. The demographic items and questions are provided using frequencies and percentages, and the variations in the viewpoints of the instructors are indicated using an independent sample t-test as well as a One-way ANOVA. The results provided the basis for drawing conclusions and making recommendations.

**Table 1**  
*Sample Description Based on Demographics*

<i>Sr#</i>	<i>Description</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
<b>Gender</b>			
1	Male	23	23
2	Female	77	77
	Total	100	100
<b>Designation</b>			
1	SSET	33	33
2	JSET	40	40
3	Educator	6	6
4	Psychologist	2	2
5	Speech Therapist	8	8
6	Other	11	11
	Total	100	100
<b>Area</b>			
1	Rural	31	31
2	Urban	69	69
	Total	100	100
<b>Experience</b>			
1	1 to 5 years	77	77
2	6 to 10 years	16	16
3	11 to 15 years	4	4
4	Greater	3	3
	Total	100	100
<b>Divisions of Punjab</b>			
1	Lahore	9	9
2	Multan	32	32
3	Rawalpindi	3	3
4	Sargodha	4	4
5	Bahawalpur	6	6

6	Dera Ghazi Khan	22	22
7	Faisalabad	9	9
8	Gujranwala	5	5
9	Sahiwal	10	10
	Total	100	100

*Section-1: Awareness of Assistive Technology*

**Table 2**

<i>Sr.#</i>	<i>Statements of Questions</i>	<i>Agree f(%)</i>	<i>Undecided f(%)</i>	<i>Disagree f(%)</i>	<i>M</i>	<i>SD</i>
1	Technology is broadly applicable and simple to replicate and reuse	92(92)	4(4)	4(4)	1.12	0.43
2	Technology is reflected in the machinery or means of producing a specific product	79(79)	11(11)	10(10)	1.32	0.66
3	Assistive technology is an adaptive system that improves a student's engagement in studies	91(91)	7(7)	2(2)	1.16	0.52
4	Assistive technology is any service that improves a student's achievements in academics	97(97)	3(3)	0(0)	1.06	0.34
5	Assistive technology (AT) is an	80(80)	17(17)	3(3)	1.37	0.76

6	<p>amenity that rallies a student's independence due to a disability. Assistive technology device is used to increase or enhance the functional capabilities of a child with disability</p> <p>All students with special needs must have their AT needs to be recognized as part of the IEP planning process, according to IDEA.</p>	87(87)	12(12)	1(1)	1.25	0.65
7	<p>AT can help the student learn how to complete the task and it can help to bypass an area of difficulty.</p>	79(79)	15(15)	6(6)	1.36	0.73
8	<p>AT can help the student learn how to complete the task and it can help to bypass an area of difficulty.</p>	96(96)	2(2)	2(2)	1.06	0.31

## Section-2: Characteristics of Assistive Technology

Table 3

Sr.#	Statements of Questions	Agree f (%)	Undecided f (%)	Disagree f (%)	M	SD
9	Read Aloud is characteristic of AT for VI Childs	78(78)	17(17)	5(5)	1.39	0.76
10	AT provide great support to children with special needs	96(96)	2(2)	2(2)	1.06	0.31
11	AT is flexible enough according to needs of the disabled students	89(89)	8(8)	3(3)	1.19	0.56
12	AT act like eyes for the blind in the case of disabled children	94(94)	5(5)	1(1)	1.11	0.44
13	Fact Mapping is also the feature of AT	74(74)	24(24)	2(2)	1.5	0.85
14	AT is the road to get the aims of life for disabled children	90(90)	7(7)	3(3)	1.17	0.53
15	Without AT it is very difficult to get educate children with special needs	85(85)	7(7)	2(2)	1.22	0.56
16	An adaptive system adjusts itself to suit a particular learner	93(93)	3(3)	3(3)	1.09	0.37

17	Assistive technology is fast and easy to use	91(91)	5(5)	4(4)	1.14	0.47
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*Section-3: Usage of Assistive Technology*

**Table 4**

<i>Sr.#</i>	<i>Statements of Questions</i>	<i>Agree f(%)</i>	<i>Undecided f(%)</i>	<i>Disagree f(%)</i>	<i>M</i>	<i>SD</i>
18	Rolling wheelchairs offer students more opportunities to participate in educational events	87(87)	9(9)	4(4)	1.22	0.59
19	Adaptive feeding utensils allow for self-sufficiency in everyday activities.	89(89)	8(8)	3(3)	1.19	0.56
20	Toilet seats with a unique design Make provisions for self-sufficiency in daily activities.	88(88)	8(8)	4(4)	1.2	0.56
21	Remote control switch access allows students to use equipment in the classroom and at home separately.	89(89)	10(10)	1(1)	1.21	0.6
22	Wheelchairs can be considered for the students with physical special needs to help them navigate the classroom and school environment	92(92)	2(2)	6(6)	1.1	0.36
23	For children with physical	79(79)	9(9)	12(12)	1.3	0.62

24	difficulties, handrails can be considered to assist them in navigating the classroom and school setting. White Canes may be required for students with vision impairments to navigate the school. For students with vision	90(90)	6(6)	4(4)	1.16	0.5
25	impairments, electronic imprinting may be helpful. Assistive listening devices assist students in	90(90)	6(6)	4(4)	1.16	0.5
26	obtaining educational knowledge by the auditory presentation. In the school amplification	93(93)	4(4)	3(3)	1.11	0.42
27	auditory presentation aids students in gaining educational knowledge. Captioning helps	91(91)	5(5)	4(4)	1.14	0.47
28	students gain educational awareness through the auditory presentation. Magnified pictures	84(84)	13(13)	3(3)	1.29	0.68
29	increased contrast allows students with visual	87(87)	10(10)	3(3)	1.23	0.67

	impairments to learn knowledge from educational events.					
30	Increased contrast in low-vision aids helps children with visual impairments to benefit from instructional experiences.	82(82)	5(5)	3(3)	1.11	0.39
31	Braille helps visually impaired pupils to learn through the sense of touch.	93(93)	5(5)	2(2)	1.12	0.45
32	When spoken communication fails, electronic communication devices assist students in effectively communicating.	94(94)	2(2)	4(4)	1.08	0.33
33	Speech synthesizers for texting help students communicate more efficiently.	93(93)	6(6)	1(1)	1.13	0.48
34	Adapted sports equipment improves social contact and involvement in recreational activities among students	97(97)	2(2)	1(1)	1.05	0.29
35	Electronic textbooks make them more available for reading	92(92)	6(6)	2(2)	1.14	0.49

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*Description on the Base of Gender***Table 5***Independent Sample T-Test at the basis of Gender of Respondents*

<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Df</i>	<i>Sig.</i>	<i>t</i>
Male	23	40.1	5.6	98	0.353	-1.2
Female	77	41.9	6.1	39.1		

\*P &gt; .05 Level of Significance

Table indicates the results that there is no significant difference in the opinion of respondents at the basis of gender regarding awareness of assistive technology for the children with special needs in Punjab.

**Table 6***Independent Sample T-Test at the basis of Area of Respondents*

<i>Area</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
Rural	31	40.12	3.3	98	-1.53	0.004
Urban	69	42.13	6.8	97.3		

\*P &lt; .05 Level of Significance

Table indicates the results that there is a significant difference in the opinion of respondents at the basis of area regarding awareness of assistive technology for the children with special needs in Punjab.

**Table 7***One-way ANOVA at the Basis of Designation of Respondents*

<i>Designation</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	104.9	18	5.82	2.78	0.001
Within Groups	169.8	81	2.09		
Total	274.75	99			

\*P &lt; .05 Level of Significance

Table indicates the results that there is a significant difference in the opinion of respondents at the basis of designation regarding awareness of assistive technology for the children with special needs in Punjab.

**Table 8**  
*One-way ANOVA at the Basis of Experience of Respondents*

<i>Experience</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	6.164	18	0.342	0.66	0.838
Within Groups	41.946	81	0.518		
Total	48.11	99			

\*P > .05 Level of Significance

Table indicates the results that there is no significant difference in the opinion of respondents at the basis of experience regarding awareness of assistive technology for the children with special needs in Punjab.

**Table 9**  
*One-way ANOVA at the Basis of Division of Respondents*

<i>Division</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	88.692	18	4.927	0.67	0.835
Within Groups	600.218	81	7.41		
Total	688.91	99			

\*P > .05 Level of Significance

Table indicates the results that there is no significant difference in the opinion of respondents at the basis of division regarding awareness of assistive technology for the children with special needs in Punjab.

## **Findings & Conclusions**

The goal of this study was to determine the extent to which education professionals working in the province of Punjab now have an understanding of additional help. This research used a survey with a Likert scale that had three points to inquire about the use of assistive technologies by instructors, students' perceptions of the benefits of assistive technology, as well as the general influence of the role that assistive technology plays in the lives of students with special needs. After doing this investigation, the researchers came to the conclusion that TA is beneficial since it gives

students the chance to gain new skills. There were a variety of distinct evaluations that were put down. It has been hypothesized that around 92% of educational professionals are familiar with ATI. The experts who were questioned were unanimous in their view that the use of assistive technology would result in an improvement in the academic performance of pupils, with 97% of respondents agreeing with this assumption. The overwhelming majority of the educators and professionals asked expressed the belief that the implementation of the AT would be beneficial to the overall performance of the student. This figure came in at 96%. The vast majority of industry professionals believe that having access to assistive technology is on par with providing a student with a disability with a second pair of eyes. This is because of the positive impact that this technology can have on the student's academic performance (94 percent). When given their opinion, experts unanimously agreed that access technology (AT) is the single most critical aspect in determining whether or not a person with a disability is successful in achieving their life goals. The great majority of industry experts, which accounts for 93% of the total, are of the view that the tactile benefits that braille has to offer are significant for youngsters. The vast majority of instructors, ninety percent, agreed that it is acceptable for students who need the use of a white cane to go about the school premises to bring one with them. When it comes to providing students with access to textbooks, the vast majority of educators believe that making such textbooks accessible online is the best option. This percentage sits at 92%. Ninety-four percent of those who participated in the survey are of the opinion that computer-generated speech is ineffective.

## **Discussion and Recommendations**

The purpose of this study was to investigate the current state of knowledge on assistive technology among teachers of special education in the province of Punjab. The researchers participated in a spirited discussion on the teachers' knowledge of assistive technology and the advantages of using assistive technology in the day-to-day lives of individuals with disabilities, which was led by experts in the field of

special education. According to the findings of the survey, teachers have a good understanding of assistive technology, and the study also found that the use of assistive technologies for disabled students in public places and schools is actively supported. It was unanimously agreed upon by professionals that assistive technology improves the capabilities and productivity of students with disabilities. The requirements of students with impairments may be accommodated well by AT thanks to its adaptability. Without the support of OT or PT, teaching children who have special needs is a very challenging endeavor. At schools and other facilities for students with special needs, a variety of assistive technologies, such as braille and white canes for students who are visually impaired, wheelchairs for students who have physical disabilities, and other helpful technology, are employed. It has been suggested that workshops and seminars on assistive technology for children with special needs be presented to special education teachers who are employed by the special education institution run by the government of the Punjab. This is so that these teachers can gain a greater understanding of the topic. There should be a legislation that requires the free supply of assistive technology and free maintenance of such equipment for children who have special needs. To properly educate students who have unique requirements, there should be an ongoing training program for teachers on how to make use of various forms of assistive technology.

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**Citation of the Article:**

Aftab, M. J., Pasha, S. & Rehman, N. (2022). Situation analysis of awareness of assistive technology of teachers for children with special needs in Punjab. *Journal of Inclusive Education*, 6, 145-169

Received on: 14<sup>th</sup> May, 2022

Revised on: 17<sup>th</sup> Dec, 2022

Accepted on: 17<sup>th</sup> Dec, 2022