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Need and Utilization of Computer-Based Learning for Visual Impaired Children

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Abstract: *The study was conducted to explore Need and Utilization of Computer-Based Learning for Visual Impaired Children Teachers Regarding Computer-Based Learning. A total sample consist 281 of*

Computer-Based Learning that is an effort to increase the Accessibility regulations must be re-examined to ensure equal access to online learning for students with disabilities To exploring Computer-Based Technology for Visual Impaired Children, discussing Benefits, Utilization, and Challenges. Special education teachers were use to computer-assisted instruction to facilitate collaboration, encourage learning, and evaluate achievement. Web-based solutions facilitate distance learning and raise awareness. The goal of descriptive research is to describe the characteristics of the population or subject being studied. The goal of descriptive research is to describe the characteristics of the population or subject being studied Data was collected physically as well as online by utilizing Google forms. After collecting data, SPSS 27 was used to run the different tests alpha Cronbach's, Independent Sample T-Test, Coefficient as the study requirement, and results were tabulated. Computer vision analysis can help study behavior and interaction during diverse group tasks and student teaching. It is highly recommended that the mentoring programs need mentoring programs should launch a guidebook to help students with visual impairments feel empowered and connected. The Study Companion contains practical information and helpful tools.

Keywords: Need, Utilization, Computer-Based Learning, Visual Impaired Children

Introduction

Despite the fact that schools have computer laboratories, children still do not have access to all of the material to which they are entitled. As a party to the UN Convention on the Rights of individuals with

Disabilities, the United States is required by law to provide "information accessibility for persons with Disabilities." Accessible goods and services include everything related to information and communication technology-based applications and services that have a significant influence on business, government, and civil society (Matsuzaki et al., 2020).State Parties must take the appropriate efforts to ensure that individuals with disabilities have equitable access to the built environment, transportation, information, and communications, including ICT and systems. These challenges are exacerbated when these children do not have access to assistive devices. Using the internet as a resource for knowledge, information, and social contact within a certain community has become a relatively popular practice in the previous 10 years. Many blind students in Pakistan lack access to assistive technology, limiting their ability to use publicly available material (Toboso, 2011).Those who are visually impaired will be good equalizers. Because computer and information technologies are being embraced and used in many nations, many people with visual impairments feel they will be able to exercise their rights. Those who are blind or visually challenged lag behind when it comes to computer use. Access to information is critical for persons who are blind or visually impaired. The use of computer and information technology has greatly expanded the opportunities for blind people to participate fully in society. The use of Braille books, talking books, and computers has helped visually challenged persons enhance their reading comprehension. Rapid advances in computer and information technology equipment and technology have increased accessibility and information for the blind and visually impaired in recent years.

Glare-protected is one example Computer displays, specialized software for showing huge printing on normal and/or large monitors with varying color contrast, mouse trails, and computer keyboards (Adetoro, 2023). Close circuit television (CCTV), mobile note-takers, Braille embossers, and augmentative communication devices are among the other advancements. Digital Talking Books (DTBs), particularly among the Digital Accessible Information System (DAISY) and Opera with upgrade Accessible Rich Internet Applications (ARIA) with JAWS, Windows Eyes, and Dolphin Pen, have enabled visually impaired people to use magnified screen reading. Despite these chances and facilities, handicapped people face a variety of challenges, including a lack of financial resources, low reading and computer abilities, and a lack of awareness of their surroundings (Brabyn et al., 2006).When it comes to using technology, the situation is same for persons with vision problems. Visually impaired persons struggle with poorly explained tables and low color contrast in addition to being unable to operate the mouse. When frames are used, blind persons have the most difficulty navigating digital libraries." Because accessible technologies only provide linear navigation inside a single frame at a time, users must frequently retrace a lengthy distance to reach the required destination" (Reed & Curtis, 2012).Pakistani students with disabilities use information and communication technology (ICTs), although the situation in terms of cutting-edge technology is not particularly good. Pupils with visual impairment are not provided access to talking books in classrooms, and they are not trained to utilize these books. Because ICTs were given to children with visual impairments at such

a late time in their schooling, they had trouble using them (MacKinnon, 2011).

They also stated that these children are not taught how to use useful communication methods. Pakistan still lacks comprehension of the needs of persons with disabilities. The vast majority of people think that handicap is the result of sin or a divine test. In rural places, the charity model is applied, but metropolitan areas are regarded to have higher levels of awareness and better procedures for individuals with disabilities. Discrimination against persons with disabilities continues to be an issue in many aspects of their life, although this is improving. Due to prejudice, individuals have limited access to information and typically rely on information supplied by their peers in the greater community (Ferri et al., 2020).

Local Scenario

While previous studies provide helpful information, they always highlight Assistive Technology but do not sufficiently discuss computer-based training difficulties. Students may get computer-based training in a number of media, including online courses and videos, which they can access from any digital device. It is recognized as one of the best instances of computer-based training since it allows professionals to improve and polish their abilities regardless of time or location. Phones and other telecommunications items; video equipment and multimedia products available on videotapes, Compact disk (CDs), Digital video disk (DVDs), email, or the World Wide Web; office supplies such as, some have been incorporated by teachers. There are solutions that may be implemented throughout the school, classroom, or community that have an impact on a child's

intellect in contrast to other normal children economically, socially, geographically, and physically.

Research Gap

Consequently, this study investigates the extent to which similarity; observe ability, complexity, and relative advantage of Need and Utilization of Computer-Based Learning for Visually Impaired Children affect teaching and learning of integrated among the visually impaired. Classroom observation gave teachers insight into challenges they experienced when teaching computer-based learning to visually impaired students, instructional approaches and resources utilized in class, students' task performance, and classroom management.

Literature Review

Visual Impairment

The inability to see properly is a pervasive issue that affects a huge section of the global population. Although corrective lenses are the most often used therapy, illnesses and traumas can result in severe or complete blindness (Meadows et al., 2018).

Types of Vision Impairments

Low visual acuity cannot be improved by corrective lenses, surgery, or glasses (Kim et al., 2012).Low vision aids encompass both visual and non-optical assistance, whereas blindness is defined as the inability to see anything (Omarb & Aziz, 2010).

Symptoms Vision Impairments

A legally blind person's eyesight is just 20% as excellent as a sighted person's. Excessive blinking, sensitivity to light, difficulty concentrating, redness of the eyes, eyes that continually moisten, pupils that are white rather than black, and difficulties keeping their

gaze steady on a moving object are all symptoms of baby blindness. In terms of producing superior results, treatment can occasionally beat surgical techniques (Kleege, 2005).

Common types of visual impairment

Loss of Central Vision

The most common cause of blindness is eye injury, which may be repaired if detected and treated early. Blind or visually impaired persons can benefit from assistive technology to enhance their eyesight and contribute to society (Senjam, 2020).

Loss of Peripheral (Side) Vision

Peripheral vision loss can make it harder to move about and impede reading speed because of a focus on individual letters in written text, a condition known as "tunnel vision" (Vater et al., 2022).

Blurred Vision

Blurred vision occurs when something is not distinct and clear, and it might deteriorate over time (Yeomans, 2013).

Generalized Haze

The presence of a film or glare throughout the whole field of view is a defining feature of broad haze. A film or glare created by generalized haze can conceal the entire view (Ranger et al., 2016).

Extreme Light Sensitivity

Excessive light sensitivity might result in blurred or unusable pictures, as well as glare impairment (Digre et al., 2012).

Night Blindness

People who suffer night blindness have difficulty seeing in low-light situations, whether they are outside beneath the moon or stars or inside a movie theater or restaurant (Keimig & Martin, 2010).

Test for visually impairment

Ophthalmologists examine, diagnose, and treat eye illnesses and ailments, as well as provide eye examinations and manage visual impairments (Maggs et al., 2017). In addition to these basic exams, an ophthalmologist may do the following:

Visual Acuity

During an eye exam, an eye doctor evaluates visual acuity and may modify the prescription or propose a new pair (Fong et al., 2002).

Tonometry

The pressure of the internal fluid of the eye can be utilized to diagnose glaucoma. Corrective lenses, eye medications, and surgery are all alternatives for treatment. People who are blind or visually challenged can adapt and discover alternate sources of income. There are Braille and specialist technologies accessible to assist them with academics and homework (Wang et al., 2012).

Impact of vision impairment

Personal impact

Long-term implications of vision impairment include delays in motor, linguistic, emotional, and social development, reduced academic success, and decreased quality of life (Harman et al., 2018).

Economic impact

Globally, the cost of vision impairment is staggering, with estimates putting it at around $411 billion in lost productivity per year (3) This figure is significantly higher than the estimated cost gap associated with meeting the unmet needs of people with vision impairment, which is around $25 billion USD (Montz et al., 2017).

Use of Digital Media in Education

Computer-Based Learning (CBL) is a teaching and learning environment in which computers play an essential role. There have been arguments both for and against CBL, with one in favor being that it produces quick and measurable outcomes. In a more structured setting, teachers may monitor pupils' growth (Pietzner, 2014).

Computer assistive Learning help students of visually impaired

CALL is a popular method of education for foreign language teachers because it allows them to engage their students in activities like viewing films, playing computer games, and browsing the internet in their target language. It also motivates students to participate more actively, allowing for more spontaneous learning (Dina & Ciornei, 2013).

Visual Learning

Students learn best when they can see a visual depiction of the information being taught, therefore visual aids in the classroom are essential. Computers provide instructors internet access, making it easy to employ visual aids (Al Aqad et al., 2021).Language development requires a lot of listening exercise, and CAL may be used to play music or record conversations (Beatty, 2013).Traditional classroom assessments are expected to be replaced with computer-based tests, giving pupils greater personal space and comfort (Russell et al., 2003).Young language learners may be unaware that they are acquiring and retaining more information than they would otherwise by playing computer games and completing puzzles in their target language (Connolly et al., 2011).Web Quests require pupils to do internet searches Alshumaimeri et al. (2012) provide a gratifying

experience in their target language. Computer aided learning (CAL) is developing to incorporate online language courses that may be done at your own speed and time at home (Chapelle & Douglas, 2006).

Advantages of Computer Assisted Learning for Visually Impaired

There are various advantages of employing computer-assisted learning (CAL) in the classroom (Lai et al., 2016).

Consider the following examples of how computer-assisted learning (CAL) may empower your students:

Caters to the Individual

With computer assisted learning (CAL), students may learn at their own speed and at their own time. With computer-based classes or games, each student may have a more personalized experience because they often adjust to the individual depending on their own development rather than a predefined norm (Roschelle et al., 2000).

Promotes Active Interaction and Use of Target Language

It's one thing to memorize a list of verbs or vocabulary items in a classroom, but genuine learning occurs when those principles are applied in the real world. Students who use the target language in a meaningful way are more likely to remember particular words and phrases (Moeller & Roberts, 2013).

It Lets Students See Their Progress

Once again, the sense of accomplishment and delight that comes from attaining goals is crucial in motivating students to continue their study. As a result, cooperative learning (CAL) has shown to be an effective teaching technique. It's easy to see how each pupil has progressed over time. They think they are making progress since they can solve challenges and progress through games and

online courses, which keeps them motivated in learning (Slavin, 2011).

Breaks down Complex Topics into Smaller Pieces

Due to a lack of expertise or training in this area, teachers may struggle to explain complicated ideas for their pupils. In contrast, computer games and lectures achieve this automatically by breaking down the content into smaller chunks that are simpler to learn and retain (Wankat et al., 2015).

Interesting and Engaging

To be honest, a bored student is not the best kind of student. While many students excel in lecture situations, others want more variation to be engaged and attentive. Computer-assisted learning (CAL) is suitable for this goal because it gives each student several opportunities to actively engage in the learning process and retain interest in the content under study. As a result, computer-assisted learning (CAL) is an excellent fit for this application (Shernoff, 2013).

Importance of Technologies

Technology in the classroom provides several advantages, including inspiring students to take an active role in their education, allowing them to develop at their own speed, facilitating group work, and offering access to the most recent research (Ciampa, 2014).

Active Learners:

Engaging the senses is extremely crucial for visually impaired children. A visually challenged student has a more difficult time paying attention during front-of-the-class lectures, whether or not they incorporate graphics (Greenvall et al., 2021).

Individual Pace:

Students, who are blind or visually impaired, like other students, are likely to have areas of competence that need to be enhanced via the use of extra resources and training. A experienced screen reader user may sail through a reading assignment requiring a pace of 600 words per minute, but they may take more time to finish a mathematics project that emphasizes graphics (Jackson & Presley, 2012).

Peer Collaboration:

Technology levels the playing field by allowing students with visual impairments to conduct quick research take notes and participates fully in group activities; also, technology allows students to choose whatever role they want to play in the project (Stefik et al., 2011).

Real World:

Competence in current technical procedures opens up opportunities in jobs that would not have existed otherwise (Brynjolfsson et al., 2012).

Up-to-Date Info:

Do you have a question for me in this day and age of information? Does some study on it using Google When was the last time you consulted a hardback encyclopedia? Traditional Braille products need a large expenditure of both time and money (Shneiderman & Plaisant, 2010).

Fun Factor:

Gaming, or the development of instructional video games, may be utilized to make the process of learning new abilities more pleasurable. Mathematics, physics, and the humanities are just a few examples of academic subjects that have lately extended to include

coding and other physics, Technology, Engineering, and Mathematics (STEM) activities. Students' enthusiasm for studying has been revived as a consequence of innovative teaching tactics and more appealing auxiliary resources (Crager, 2013).

What a Computer Can Do for People with Visual Impairments

People may have avoided using computers owing to a lack of desire or difficulty, but email and Facebook offer simple means to communicate with family and friends. Online newspaper versions contain more information than print editions, and Google News may be set up to provide updates on any topic of interest. Online banking enables financial management, expenditure tracking, and bill payment without having to go via the mail (Young, 2011).For persons who have difficulty seeing ordinary print, book sharing is a free service, and international long-distance fees are no longer a problem when connecting with distant relatives or pen pals online. You may listen to music, search and buy new music, and utilize a screen reader to access entertainment services online or software. Computers may be used to read vital documents, identify cans, cartons, and other goods, as well as employ an image scanner and an optical character recognition (OCR) tool (Wood et al., 2004).

Computers Choice for the Blind

As long as they have the proper software and hardware, a blind person may use practically any computer. Many assistive technologies are available for free or at a very minimal cost; for example, simple speech-to-text programs are routinely found already installed on a range of devices. The high expense of many assistive devices, on the

other hand, puts them out of reach for a huge number of individuals (Koch, 2017).

Computers for the Blind, a non-profit organization that has been in existence since 1995, offers persons who are blind or have visual impairments with access to computers, accessibility software, and training in the use of technology. PCs for the Blind refurbishes donated PCs before installing accessibility software. They are often sold for less than $200 to those with vision impairments (Rayini, 2017).

Non-visual (NV) Access has been a nonprofit organization since 2006, and its open-source screen reader, No visual Desktop Access, is supplied free of charge to anybody who need it. Non-visual desktop access (NVDA) supports over fifty languages and is compatible with a wide range of Windows programs. Although no one computer is ideal for persons who are blind or have visual impairments, you should verify that the device you pick, together with any assistive technology, is capable of satisfying all of your technical needs (Sarwar, 2019).

Research Methodology

Research Design

The main objective of the study is to determine the computer-based learning. The research design for this study is survey research. The researcher uses a quantitative method and questionnaire to collect information about the Need and Utilization of Computer-Based Learning for Visual Impaired Children.

Population & Sample

The study's population will comprise all of Punjab's 281 government special educational institutions (schools, centers), as well as 2406 teachers who educate children with visual impairment in Punjab's special education institutions (primary and middle). The participants in the study were special education teachers from around Punjab.

The sample of study was calculated through online sample calculator and was taken the special education teachers teaching the students with visually impaired in the schools of Punjab special education department. Sample of study was selected using simple random sampling. Sample of the present study comprised of 281 special education teachers who have experience of teaching with visually impaired children in special education schools.

Instrumentation

A self-made questionnaire was developed by the researchers keeping in view the factors effecting need and utilization computer-based learning with visually impaired children and the questionnaire was substantially divided into five parts and having a preliminary section about the demographics of the respondent. The questionnaire was validated by an expert working in the special education department.

Data Collection & Analysis

The collection of data was to be collected personally, by generating online link of Google form. Many statistical tools such as mean, median, mode, frequency distribution, etc. were applied. However, the results were interpreted in the tables given below.

Sample Description based on demographics

Title	Description	Frequency	Percentage
Gender	Male	100	35.6%
	Female	181	64.4%
Age of Respondents	21-30 Y	4	1.4%
	31-40 Y	84	29.9%
	41-50 Y	157	55.9%
	Above	36	12.8%
Designation	SSET	154	54.8%
	JSET	127	45.2%
Qualification	Master	189	67.3%
	M.Phil.	84	29.9%
	PHD	8	2.8%
Place of Posting	School	137	48.8%
	Center	144	51.2%
Area of Posting	Rural	48	17.1%
	Urban	233	82.9%
Division of School	Lahore	28	10.0%
	Multan	52	18.5%
	Rawalpindi	31	11.0%
	Sargodha	26	9.3%
	Bahawalpur	34	12.1%
	DG Khan	38	13.5%
	Faisalabad	27	9.6%
	Gujranwala	14	5.0%
	Sahiwal	31	11.0%
Experience	1-5 Y	58	20.6%
	6-10 Y	135	48.0%
	11-15 Y	76	27.0%
	>15 Y	12	4.3%
Total		281	100%

Part: Need and Utilization of Computer-Based Learning for Visual Impaired Children

Sr #	Statements of Questions	SA	A	UD	DA	SDA	M	SD
1	Engages students and creates active learners.	119(42%)	128(46%)	8(3%)	0(0%)	0(0%)	4.27	0.75
2	Encourages individual learning & growth for students of all learning styles at their own pace.	93(33%)	158(56%)	20(7%)	10(4%)	0(0%)	4.19	0.71
3	Facilitates peer collaboration.	105(37%)	142(51%)	23(8%)	11(4%)	0(0%)	4.21	0.75
4	Prepares students for the real	122(43%)	129(46%)	22(8%)	8(3%)	0(0%)	4.30	0.73

	world.							
5	Provides Access to the most up-to-date information.	102(36%)	137(49%)	24(9%)	18(6%)	0(0%)	4.15	0.83
6	Makes learning fun!	102(36%)	135(48%)	28(10%)	14(5%)	2(1%)	4.14	0.84
7	Sensitize the use of tools in education.	118(42%)	127(45%)	29(10%)	7(2%)	0(0%)	4.27	0.74
8	Provide Understanding of computer-based teaching-learning processes.	111(40%)	120(43%)	39(14%)	11(4%)	0(0%)	4.18	0.81
9	Screen reader for visually-impaired students	159(57%)	102(36%)	0(0%)	4(1%)	0(0%)	4.48	0.67

10	Tape recorder for visually-impaired students	141(50%)	129(46%)	0(0%)	0(0%)	0(0%)	4.46	0.57
11	Computers for visually-impaired students	118(42%)	150(53%)	0(0%)	0(0%)	4(1%)	4.35	0.68
12	Perkins Braille for visually-impaired students	130(46%)	126(45%)	0(0%)	14(5%)	4(1%)	4.30	0.85
13	Closed Circuit TV for visually-impaired students	87(31%)	143(51%)	0(0%)	17(6%)	0(0%)	4.07	0.82
14	Scanner for visually-impaired students	100(36%)	12(43%)	0(0%)	16(6%)	0(0%)	4.09	0.86

15	Braille Embosser for visually-impaired students	103(37%)	135(48%)	0(0%)	4(1%)	4(1%)	4.17	0.81
16	Note Taker for visually-impaired students	107(38%)	146(52%)	0(0%)	2(1%)	4(1%)	4.25	0.75
17	Special software for visually-impaired students	91(32%)	149(53%)	0(0%)	0(0%)	12(4%)	4.09	0.90
18	Pack-Mate for visually-impaired students	115(41%)	122(43%)	0(0%)	16(6%)	8(3%)	4.14	0.97

Tables Independent Sample t-tests of Demographics

Table

Comparison of Opinion of Respondents at the Base of Gender (Independent Sample t-test)

Gender	**N**	**M**	**SD**	**df**	**t**	**Sig.**

Male	104	167.01	8.74	279	-0.11	0.916
Female	177	167.13	9.42			

**P > .05 Level of Significance*

Table designates that the empirical information for female *(N=104, M=167.01, SD=8.74)* and for male *(N=177, M=167.13, SD=9.42)* with t-statistics *(t (279) =-0.11, P>.05)* which shows that there is no significant difference in the opinions of female and male respondents about need and utilization of computer-based learning for visual impaired children on basis of gender of participants.

Table

Comparison of Opinion of Respondents at the Base of Designation (Independent Sample t-test)

Designation	**N**	**M**	**SD**	**df**	**t**	**Sig.**
SSET	15	167.0	8.82	279	-0.14	0.89
JSET	12	167.1	9.61			

**P > .05 Level of Significance*

Table specifies that the empirical information for SSET *(N=159, M=167.02, SD=8.82)* and for JSET *(N=122, M=167.17, SD=9.61)* with t-statistics *(t (279) = -0.14, P > .05)* which shows that there is no significant difference in the opinions of SSET and JSET respondents about need and utilization of computer-based learning for visual impaired children on basis of designation of participants.

Table

Comparison of Opinion of Respondents at the Base of Place of Posting (Independent Sample t-test)

Place of posting	**N**	**M**	**SD**	**df**	**t**	**Sig.**

School	138	167.	9.72	279	1.53	0.127
Center	143	166	8.54			

**P < .05 Level of Significance*

Table 4.9 shows that the empirical information for school *(N=138, M=167.9, SD=9.72)* and for center *(N=143, M=166.2, SD=8.54)* with t-statistics *(t (279) =1.53, P>.05)* which shows that there is a no significant difference in the opinions of school teachers and teachers from centers for the need and utilization of computer-based learning for visual impaired children on basis of place of posting of participants.

Table

Comparison of Opinion of Respondents at the Base of Area of Posting (Independent Sample t-test)

Area of Posting	**N**	**M**	**SD**	**df**	**t**	**Sig.**
Rural	54	171.39	9.16	27	3.94	0
Urban	227	166.06	8.87			

**P < .05 Level of Significance*

Table designates that the empirical information for rural *(N=54, M=171.39, SD=9.16)* and for urban *(N=227, M=166.06, SD=8.87)* with t-statistics *(t (279) = 3.94, P < .05)* which shows that there is a significant difference in the opinions of teachers from rural areas and teachers from urban areas regarding to need and utilization of computer-based learning for visual impaired children on basis of area of posting of participants.

Tables (One Way ANOVA) Tests of Demographics

Table

Comparison of Opinion of Respondents at the Base of their Age (One-Way ANOVA)

Age of Respondents	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3102.134	4	775.534	10.506	.000
Within Groups	20373.816	276	73.818		
Total	23475.950	280			

**P < .05 Level of Significance*

Table designates that the empirical information for Between Groups *(Sum of Squares=3102.134, df=4, Mean Square=775.534)* and for Within Groups *(Sum of Squares=20373.816, df=276, Mean Square=73.818)* with One Way ANOVA *(F (280)=10.506, P<.05)* which leads to the decision that there is a significant difference in the opinions of teachers from between groups and within groups regarding need and utilization of computer-based learning for visual impaired children on the basis of age of participants.

Table

Comparison of Opinion of Respondents at the Base of Qualification (One-Way ANOVA)

Qualification	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1563.940	2	781.970	9.921	.000
Within	21912.010	278	78.820		

Groups		
Total	23475.950	280

**P < .05 Level of Significance*

Table indicates that the empirical information for Between Groups *(Sum of Squares=1563.940, df=2, Mean Square=781.970)* and for Within Groups *(Sum of Squares=21912.010, df=278, Mean Square=78.820)* with One Way ANOVA *(F (280)=9.921, P<.05)* which leads to the decision that there is a significant difference in the opinions of teachers from Between groups and within groups regarding need and utilization of computer-based learning for visual impaired children on the basis of qualification of participants.

Table

Comparison of Opinion of Respondents at the Base of their Experience (One-Way ANOVA)

Experience	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1797.186	3	599.062	7.655	.000
Within Groups	21678.764	277	78.263		
Total	23475.950	280			

**P < .05 Level of Significance*

Table shows that the empirical information for Between Groups *(Sum of Squares=1797.186, df=3, Mean Square=599.062)* and for Within Groups *(Sum of Squares=21678.764, df=277, Mean Square=78.263)* with One Way ANOVA *(F (280)=7.655, P<.05)*

which leads to the decision that there is a significant difference in the opinions of teachers from Between groups and Within Groups regarding need and utilization of computer-based learning for visual impaired children on the basis of experience of participants.

Table

Comparison of Opinion of Respondents at the Base of their Division (One-Way ANOVA)

Division	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1918.244	8	239.780	3.025	.003
Within Groups	21557.706	272	79.256		
Total	23475.950	280			

**P > .05 Level of Significance*

Table indicates that the empirical information for Between Groups *(Sum of Squares=1918.244, df=8, Mean Square=239.780)* and for Within Groups *(Sum of Squares=21557.706, df=272, Mean Square=79.256)* with One Way ANOVA *(F (280)= 3.025, P <.05)* which leads to the decision that there is significant difference in the opinions of teachers from Between groups and Within groups regarding need and utilization of computer-based learning for visual impaired children on the basis of divisionofparticipants.

Findings

The main purpose of this study was to identify Need and Utilization of Computer-Based Learning for Visual Impaired Children. For this reason, a survey was conducted on a five Likert

scale including the computer-Based Learning behind the Need and Utilization. In this study to see the impression of teachers, Ophthalmologist, Optometrists, Occupational therapist, Opticians, were included to pay their significant opinion for identification of Need and Utilization of Computer-Based Learning for Visual Impaired Children. Majority of agreed (84%) that Poor Internet Connection is Challenges while using of Computer-Based Learning. Majority of respondents agreed (81%) that Shortage of Computer-Based technology Technicians is Challenges while using of Computer-Based Learning. Majority of respondents agreed (88%) that Outdated Computer-Based technology Facilities is Challenges while using of Computer-Based Learning. Majority of respondents agreed (88%) that Power Cut off is Challenges while using of Computer-Based Learning. Majority of respondents agreed (89%) that Ineffective Computer-Based technology Training Provision is Challenges while using of Computer-Based Learning. Majority of respondents agreed (80%) that Inadequate Friendly Computer-Based technology Facilities is Challenges while using of Computer-Based Learning. Majority of respondents agreed (84%) that Low level of awareness of Computer-Based technology is Challenges while using of Computer-Based Learning. Majority of respondents agreed (84%) that Mostly students have their own Computer-Based technology which could be used when child is out of school. Majority of respondents agreed (88%) that Economic constraint is Challenges while using of Computer-Based Learning.

Discussion

The study explored the need and utilization of computer-based learning for visual impaired children. It found that there are many low-tech visual aids that can help older adults with visual impairment, such as magnifying glasses, a long cane, glasses, optoelectronic reading systems (i.e., video magnifier), large-print books, audio books, a touch watch, a phone with enlarged buttons, books in Braille, and walking aids. Assistive technology can be simple, like screen magnification, or high-tech, like a refreshable braille display. Government schemes like 'Access to Work' can help meet some of the additional employment costs.

Conclusion

This study discussed the need of computer-based learning for visual impaired children, as well as its benefits, such as improving communication, providing an interactive learning experience, increasing interaction and collaboration, providing an integrated learning environment, and helping to overcome inferiority complex.

Recommendations

1. Further research is recommended at a macro level in line with this study at elementary, secondary and higher secondary classes.
2. Special advocacy and awareness campaign should be launched to increase the awareness about need and utilization of computer base learning's in visual impaired children at school level and provides mentoring programs.
3. Government should take steps to enhance computer base learning for visual impaired children and provide guide for blind students

because guide can help keep blind students on track and make co efficient use of blind student's study time.

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