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ADAPTIVE ASSESSMENT TECHNIQUES USED BY TEACHERS OF STUDENTS WITH VISUAL IMPAIRMENT AT PRIMARY LEVEL

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ABSTRACT

The study aimed to determine the adaptive assessment techniques used by teachers of students with visual impairment at primary level. Objectives of the study were; to ascertain the adaptive assessment techniques used by teachers for blind students; to figure out the adaptive assessment techniques used by teachers for low vision students; and to pinpoint the technological tools used by the teachers for the assessment of students with visual impairment. Data for the study were gathered using a survey method, and the research was descriptive in nature. A sample of 50 teachers of students with visual impairment for this investigation was chosen using a simple random sampling method. The researcher created a questionnaire containing 21 statements as a research instrument to get the subjects' perspectives. With the approval of the schools' principal, the researcher visited the special education schools with fifty copies of the research instrument in hand. The researcher personally distributed the surveys and provided directions on how to complete them. Back at the site, all the questionnaires were gathered. The researcher analysed the data using frequency and percentage. The study's findings revealed that almost all of the respondents agreed that testing blind pupils' fine and gross motor skills would help them become better readers. The majority of blind pupils' academic performance was evaluated verbally, and their sensory abilities were upgraded to increase their tactile proficiency. The blind students were permitted to assist the scribe (writer) in attempting a paper. Large print for simple reading, front seating for low vision students to improve listening and comprehension, additional lighting for effective use of vision for reading and writing, and color/contrast material were just a few of the adaptive assessment strategies used by teachers for low vision students. The study looked into the technology resources that teachers were using to evaluate children with visual impairments. The Perkin Brailler was used to provide Braille print for the evaluation of blind students, according to a significant portion of the respondents. Many of the respondents believed that the embossed print provided by the slate and stylus was used to evaluate blind students. Nearly all of the respondents opined that tactile materials, such as tactile books, models, and other items, are utilised to evaluate blind students' conceptual knowledge.

Keywords: *Adaptive Assessment, Techniques, Visual Impairment.*

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INTRODUCTION

Loss of vision, even with the use of corrective lenses, is referred to as a visual impairment. Reduced vision brought on by illnesses, accidents, or inherited eye disorders is referred to as a visual impairment. Due to their visual impairments, students at educational institutions face a variety of difficulties and issues that have a negative impact on their academic performance. Blindness and limited vision are two categories for visual impairment. Students who lose their vision are constrained. For students with visual impairments to succeed academically, the diverse range of issues and challenges that they encounter must be taken into account when developing curricula and instructional systems. Visually challenged students perform poorly academically; they have trouble not just understanding academic concepts but also finishing homework and taking exams. Due to the problems and difficulties these kids face, there is a need for more special needs educators who are skilled and proficient in carrying out their professional tasks (Agesa, 2014).

Legal and educational visual impairments are included in the definition of persons with visual impairments. The measurement of visual acuity and visual field serves as the foundation for legal definition. Visual acuity is the capacity to discern small visual details at a given distance. A field perceived without turning the head or moving the eyes is expressed by a visual field. Blindness is defined as a visual acuity of less than one tenth, or 20/200 or less in the eye of a person with normal vision, or as having no more than 20 degrees of visual field after all corrections. An object can be seen from a distance of two metres (20 cm) for a person with normal vision, and from a distance of 20 cm (20/200) for a person with visual impairment. After all adjustments, persons with low vision have visual acuities between 20/70 and 20/200, and they can only take use of their vision with a range of aids.

Assessment of the learner's needs refers to the systematic techniques of gathering and identifying the needs of the learners. Effective teaching requires an understanding of the needs, backgrounds, and prior knowledge of the students. It is critical for both students and teachers to evaluate the learning needs of the visually impaired students prior to the start of the study plan. This is justified by the fact that it makes it possible to understand the student's academic aptitude, approaches, techniques, and learning preferences. Finding suitable instruments to assist in creating suitable personalised educational programme goals in the vast array of areas affected by a visual impairment is a challenging undertaking. The following list of assessment methods is what we have so far gathered from professionals who work with the blind and visually impaired to measure their pupils' abilities (Ravenscroft et al., 2008).

The modifications made to assessments for visually impaired pupils enhance their learning. Some visually impaired students may benefit from having the test read aloud by a teacher or member of the instructional support staff and from having the option to respond orally. A popular accommodation that is frequently included in an Individualised Education Plan (IEP) is a scribe. When using a scribe, the student can speak aloud as the scribe records their exact words in response to a short-answer or extended-response test question. Students may use a tape recorder to record their comments if a teacher is not there to record them for later listening by teachers. Using a computer with an enlarged or braille keyboard or a portable notetaker with braille or enlarged text to enter their comments is another approach for pupils to demonstrate their learning. Computer-assisted testing is a third choice. Software for screen magnification and reading aloud on screens is available for students with visual impairments. A braille version of the exam is also suggested as an alternative to a conventional test for students who read braille (Mills, 2022).

A teacher of kids with visual impairments conducts a learning media assessment to identify the mode and format your child will use to read and write. This could comprise large print, audio, digital text, braille, or a combination of methods. Access to reading and writing is also possible through low-vision or assistive technologies. The learning media evaluation will give details on the easily accessible learning resources the student will require in class. Determining if a learner who is blind or visually impaired (B/VI) requires braille training is one of the main goals of the LMA. Please be aware that access to grammar and spelling in braille will be different from how it is in

audio information. a few expert evaluations that are especially related to his visual impairment. The federal law governing special education mandates that they be carried out by the instructor of students with vision impairments. You will better comprehend the specific recommendations made by members of your child's educational team if you are familiar with these assessments and the data obtained from each one. Assessment results should be used to inform recommendations for the child's services (Espanol, 2021).

Students with poor vision could find it difficult to read traditional paper-based assessments and reply to them, as Mills (2022) also noted. When modifying assessment materials for students with visual impairments, the following test design elements should be taken into account: large print, wide line spacing, more space between words, bold text, tactile graphics, streamlined instructions and text, and high contrast between text and background (for example, black text on bright white paper).

Two crucial evaluations that the teacher of children with vision impairments does lay the groundwork for your child's educational course. Other crucial assessments that are unique to visually impaired children include the orientation and mobility assessment (used to determine whether your child needs training in learning to move through the environment) and the assistive technology assessment (used to determine what types of assistive technology may be most beneficial for students).

Low vision pupils may benefit from the modified assessment methods used to enhance their learning. Most assessment accommodations for students of all ages can be simply incorporated to an IEP, 504 Plan, Student Assistance Plan, and other disability accommodations. These included the use of Sharpie pens, coloured paper or filters, large print Arial font, single-sided paper (so that ink does not bleed through), screen readers, time and a half on exams, modified testing software, iPad apps when permitted, adjustable lighting, CCTVs like the E-Bot Pro, large tables, high contrast images, graphs, and maps (Lewis, 2017).

It's crucial to remember that most school systems don't have many psychologists or other professionals with expertise working with pupils who are blind or visually impaired. Compared to kids with other disabilities, there are typically fewer of these students (Corn et al., 1995). Additionally, many of the commonly used assessment tools and tests aren't designed with children with visual impairments in mind; for instance, they might ask your child to respond to pictures or base the expected outcomes on growth patterns that aren't typical for visually impaired kids. Due to the importance of providing suitable assessment processes and aiding in the interpretation of the results, it is crucial that the instructor of children with visual impairments participate in these sorts of evaluations. The fact that parents are a part of their kid's educational team and can provide information about their child if they have issues about the assessment process should also be kept in mind.

Literature Review

The learn strategy used by professionals, parents, and students does not successfully address the special educational demands of visually impaired pupils. Students need specialised equipment and technology in addition to specialised courses, books, and media (including Braille) to enable equal access to the core and specialised curriculum and to offer them the best chance to compete with their peers in school and ultimately in society. In order to provide specialised services that satisfy the particular academic and non-academic curriculum demands of students with vision impairment, there must be an effective personnel preparation programme for their employees (David & Hopwood, 2004). When teaching kids with visual impairments in a regular class, a teacher in a typical school should use caution. Students who are visually impaired have distinct needs, and teachers should develop specific lesson plans or teaching techniques to meet those needs in normal classes (Yasmeen, 1996).

According to Araluce (2002), who was cited by Ghafri (2015), "visual impairment" refers to vision impairment or vision loss. According to Scott (1982), who was cited by Taylor and Sternberg (1989), a student's eyesight has a significant impact on how well they function in school if they have a visual handicap. Similar to this, the definition of visual impairment provided by Carney et al. in

2003 specifies that it relates to a significant loss of vision despite the use of corrective lenses by the wearer. In addition, Patton (2004) noted that a visual impairment is any circumstance in which eyesight cannot be restored to what is regarded as normal. The range of visual impairments is extremely large. The results of an eye disease or condition may sometimes be referred to as "visual impairment." Blindness and low vision are the two main categories for visually challenged pupils in the learning process (Carney et al., 2003). The range of visual impairments is extremely large. The results of an eye disease or condition may sometimes be referred to as "visual impairment." According to Carney et al. (2003), the two main categories for visually impaired students in the learning process are blindness and low vision.

An adaptive evaluation that is customised to each examinee based on how they performed on the assessment's prior items. Item Response Theory (IRT) is the foundation for the majority of adaptive assessments. More specifically, in IRT, item features like item difficulty and examinee ability estimates are scaled along the same continuum. This enables the administration of items that are matched to the estimated ability level (y) of each examinee at each stage of the assessment. As a result, adaptive assessments allow for the administration of items tailored to each examinee's ability (or trait) level, allowing for the generation of more precise examinee ability estimations. For example, if the test taker correctly answers item 1 and their anticipated ability rises, the second item will be more difficult than the first. The third item that will be tested will be administered, and its difficulty level will fall between items 1 and 2, so if the candidate performs poorly on item 2, their estimated ability will also fall. Contrasting adaptive assessments are linear, non-adaptive assessments, in which each examinee responds to a test in a predefined order to the same or equivalent forms. The fact that most of the administered items are geared towards examinees in the middle of the skill continuum is a drawback of non-adaptive exams. As a result, linear tests usually contain a lot of things of average difficulty and a small number of items of lower and higher complexity. Due to the fact that low ability examinees will find objects in the middle of the ability continuum too tough, while high ability examinees will find such items too simple, this makes it impossible to accurately estimate examinees at the extremes of the ability continuum.

According to Conroy (2005), teaching English to visually impaired students is a technique that allows the teacher to integrate strategies including creating, modifying, and adapting classes based on the needs of the students. The utilisation of teaching materials, advanced preparation, and organisation for the learning environment's structure are the three most crucial aspects of teaching visually impaired children. The teaching methods and materials used by EFL teachers in Turkey to instruct both sighted and visually impaired pupils are nearly identical, according to Basaran (2012). Additionally, none of the teachers had any official experience in teaching English to pupils who were blind or visually challenged. They eventually ran into a number of obstacles and issues, and they had no idea how to fix them. The social behaviour and learning techniques of the visually challenged kids vary in the meantime (Efstathiou & Polichronopoulou, 2015).

Additionally, three English teachers in Indonesia shared their experiences in Susanto and Nanda's (2018) article on their methods for teaching visually challenged students. Because it takes extra work to recognise and meet students' requirements, the students claimed that some of their professors lacked the expertise necessary to properly teach them. They also believed that these teachers lacked the desire to see them succeed. Meanwhile, an English instructor by the name of EK noted that learning new words in Braille took more time in the classroom (Topor, I., & Rosenblum et al., 2013). Additionally, it adds a step to the learning process that is not necessary for the kids to acquire the new terms. Students GV, JW, and DS found it difficult to learn new words in Braille (erin et al., 1991). They perceived it to be time-consuming for them as well. We observed that the pupils memorised new words in the classroom and opted to completely stop utilising Braille texts unless the teacher really used the texts. A method of instruction that encourages pupils to master the English language by doing it in a purposeful manner. It imparting knowledge to make the principles of the subject topic clear. Additionally,

Conroy (2005) divided educational methods for visually impaired students into seven categories, including guided reading, entire physical reaction, cooperative learning, learning centres, interactive read-alouds, and writing workshops.

A strategy based on first-language acquisition studies. Students learn their first language through the development of receptive language, body movement to demonstrate their knowledge, and speaking before they are ready. The instruction is carried out by the students, who act in accordance with the teacher's expected movements. While the learner complies with the spoken commands, the teacher gently demonstrates. The teacher adapts this strategy by verbally commanding the anticipated movement while guiding the visually impaired students through the motions. In the first way, the instructor instructs the students verbally to "Stand-up" and helps them do so. Even though the teacher just provides the verbal cue "stand up," the children are able to carry out the action on their own and have a working understanding of the vocabulary (Ferrell et al., 2007).

Cooperative learning, as defined by Johnson, Johnson, and Holubec (1998), as quoted by Ning (2010), is a strategy whereby students collaborate in small groups to maximise both their own and one another's learning. Similar to how Tuan (2010) described cooperative learning, Cooper and Mueck (1990) defined it as a controlled and methodical instructional design in which students collaborate in small groups to accomplish a common objective. Cooperative learning, on the other hand, refers to teaching strategies in which teachers divide their pupils into smaller groups so that they can collaborate to study academic material. Additionally, the task is organised so that each group member is given a special task. They can also be readily included because the individualised planning enables the provision of materials in Braille and large print as required. The teacher preplans based on the ability of the pupils before assigning homework and providing resources. This is why it's crucial for teachers to plan ahead (Slavin, 2011).

Cooperative learning environments in the classroom enable students to develop their skill sets to meet their unique requirements while gaining more expertise in using new ones. These centres are useful for addressing the needs of ELLs who are visually impaired or other students who need more verbal engagement to improve their learning. Elementary schools make use of learning centres. At this level, students can use small machines in a scientific centre and math manipulative in a math classroom to do experiments and apply what they are learning (Tuan, 2010).

Interactive read-along techniques include reading aloud while using expression, a different voice for each character, gestures, and the active involvement of the listeners through speculating, engaging in conversation, and verifying comprehension. By verbally demonstrating, the author helps the reader understand the material. Through the use of voices, this method makes it simpler for kids to listen to and grasp. Additionally, it strengthens the English language model and lowers anxiety, especially for pupils who are visually impaired because they may recognise the characters by the tone of their voice (an aural clue) rather than by depending on visual cues (Cooper & Mueck, 1990).

The encouragement of collaborative learning among students with different learning capabilities and learning needs in an inclusive classroom has been shown to successfully achieve the promotion of academic achievement, a positive attitude towards the subjects, and an improvement in social interaction among the students. When people cooperate with one another, they can find answers to their problems and improve their learning. Working in groups, students can increase awareness of the use of cutting-edge methods and strategies. People gain knowledge about other people's perceptions and opinions when they work together. The lecturers must speak clearly and deal with the students head-on. Teachers should read aloud, provide clear explanations, and avoid using confusing phrases like this, that, or over here. Their voices should also be pleasant and pleasurable to listen to. Teachers must communicate and present information simply. To ensure that students thoroughly understand the class plan, the best teaching approach is to keep track of how well they are doing on their assignments (Mwakyeja, 2013).

Students who are blind or visually impaired write in straight lines using the Braille writing system

(Gompel et al., 2004). Teachers who are skilled and accustomed to writing on straight lines typically have no issues, but those who are inexperienced in this field and lack experience would struggle to do so, making it impossible for them to give the students the knowledge and information they need. As a result, it is crucial that teachers possess the expertise required for instructing, training, and leading pupils with impairments. Working with visually challenged pupils presents particular challenges for teachers. In order to effectively contribute to the improvement of the knowledge and comprehension of the students with disabilities, they must work hard, conscientiously, and creatively with them. They experience fatigue and exhaustion as a result of their hard job tasks. To ensure that their students fully comprehend, teachers are required to prepare lesson plans at home. In educational institutions, students heavily rely on their instructors to help them develop their academic abilities. Teachers themselves encounter difficulties and difficulties in understanding the topics when the explanations are not clear and logical in textbooks. It is obvious that teachers would not be able to help pupils understand a concept if they themselves do not have a better understanding of it. The concepts are learned and understood slowly by vision challenged students. Before entering the classroom, teachers must be well equipped with the necessary knowledge. Teachers must work really hard to help students improve their learning and complete the course content when there are a lot of pupils. In most cases, teachers have difficulty finishing the course material (Yalo et al., 2010).

The kids who are visually challenged might improve their academic abilities with the aid of the resolution solutions. When one has trouble reading printed text, Braille, magnifying glasses, human readers, audio cassettes, scanning, and reading software are used. When these pupils are unable to understand the information displayed on the whiteboard, the instructor or a peer narrator can assist them in learning. When pupils are unable to take notes in class, a laptop computer with screen reading software is used. A human scribe is available to help when they are unable to complete the exam, and a magnifying glass is also used (Sahasrabudhe & Palvia, 2013).

Statement of the problem

The study aimed to determine the adaptive assessment techniques used by teachers of students with visual impairment at primary level.

Objectives of the Study

Researcher intends to explore the following objectives:

1. To ascertain the adaptive assessment techniques used by teachers for blind students.
2. To figure out the adaptive assessment techniques used by teachers for low vision students.
3. To pinpoint the technological tools used by the teachers for the assessment of students with visual impairment.

Research Questions

Following research questions were explored in the study:

1. What kind of adaptive assessment techniques used by teachers for blind students?
2. Which adaptive assessment techniques used by teachers for low vision students?
3. What type of technological tools used by the teachers for the assessment of students with visual impairment?

Research Methodology

The entire research process, from developing research questions to sampling, measurement (such as surveys, scales, and qualitative methods), research design, data analysis, and authoring the research paper, is covered under research methodology. It also discusses the main theoretical and philosophical tenets of research, such as the notions of the reliability of measurements and the validity of research. The current research was conducted using the following methodology.

Nature of the study

The current study has a descriptive focus. The utilisation of adaptive assessment methods by primary school teachers of pupils with visual impairment was investigated using a survey method.

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Population of the study

All of the special education teachers at primary level in public and private special education institutions in district Faisalabad made up the study's population.

Sample of the Study

The most important aspect of the research project is sampling. Sampling is carried out to get quick conclusions from a representative sample of a specific population. For the study, a sample of 50 visually impaired primary school pupils from public and private special education institutions in the district of Faisalabad was chosen. The sample's details are below

Table 1
Sample of the study

Sr. No.	Teachers	Sample size
1.	Senior Special Education Teachers	25
2.	Junior Special Education Teachers	25
	Total	50

Sampling Technique

There are various methods that can be utilised to choose a sample for research. Most often, simple random sampling is employed since it is relatively straightforward and yields objective findings. The teachers of students with visual impairment were chosen as a sample for the study from the chosen public and private special education institutes at the primary level using a simple random sampling technique.

Research Tool

It is true that no method of data collection is ideal in and of itself. However, the researcher collected data using a questionnaire as a study method. Following thorough literature reviews, discussions with the supervisor, and collaboration with faculty members while keeping the study's goals in mind, all the questions were created. All of the questions have definite answers. All of the inquiries related to the methods of adaptive assessment employed by primary school instructors of pupils with visual impairment. Twenty-one
questions made up the survey, which was created to gather information from the special education teachers of students with vision impairment. The survey used a five-point Likert scale as its foundation.

Validity and Reliability of Research Tool

To investigate the adaptive assessment methods used by teachers of students with visual impairment, there was no available standard research tool. With the assistance of her supervisor, the researcher framed a questionnaire as a result. The researcher's research supervisor worked with her to improve the questionnaire. To validate the questionnaire, all of the unnecessary and out-of-context questions were eliminated, the essential additions were made, and it was guaranteed that all of the statements with objectives were relevant.
With the aid of Chrombach's alpha, the research tool's dependability index was calculated. The questionnaire's usefulness for use in the research was demonstrated by the reliability index score of r=0.71, which was quite high.

Collection of Data

To accurately capture the facts, data collection requires a very methodical and careful methodology. The gathering of data is a crucial step in the research process. For the purpose of gathering information from the special education teachers of students with vision impairment, the researcher created fifty copies of a questionnaire. The researcher individually approached the

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teachers at each public and private special education facility serving pupils in the district of Faisalabad who have visual impairments in order to collect data. One by one, the researcher gave fifty questionnaires to special education teachers. The researcher was present while the respondents' data was being collected. The researcher personally collected the completed surveys from the site and kept them in a file for data analysis.

Data Analysis

The research supervisor received the collected data for further use and execution. The required guidance from the supervisor was obtained before the data was tallied and the frequency and percentage distributions were examined.

Results and Discussion

It was a study of the adaptive assessment methods used by primary school instructors of visually impaired students. The collected facts of the were tabulated and analyzed using frequency and percentage statistics.

Section-A Adaptive assessment techniques used by teachers for blind student

Table 2

Fine motor skills of blind students are assessed to improve their reading ability.

Response	Frequency	Percentage
SA	16	32
A	33	66
UN	1	2
DA	0	0
SDA	0	0
Total	50	100

Table 2 exhibited the analysis of the statement that fine motor skills of blind students are assessed to improve their reading ability. It was noted that 98% of the respondents agreed with the statement that fine motor skills of blind students are assessed to improve their reading ability, 2% disagreed while 0% remained undecided. It indicated that almost all the respondents viewed that fine motor skills of blind students are assessed to improve their reading ability.

Table 3

Gross motor skills of blind students are assessed to enhance their writing skills y.

Response	Frequency	Percentage
SA	11	22
A	29	58
UN	3	6
DA	7	14
SDA	0	0
Total	50	100

Table 3 exhibited the analysis of the statement that gross motor skills of blind students are assessed to enhance their writing skills. It was noted that 80% of the respondents agreed with the statement that gross motor skills of blind students are assessed to enhance their writing skills, 14% disagreed while 6% remained undecided. It pointed out that majority of the respondents viewed that gross motor skills of blind students are assessed to enhance their writing skills.

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Table 4
Sensory skills of blind students are improved to enhance their tactile proficiency.

Response	Frequency	Percentage
SA	15	30
A	22	44
UN	4	8
DA	5	10
SDA	4	8
Total	50	100

Table 4 exhibited the analysis of the statement that sensory skills of blind students are improved to enhance their tactile proficiency. It was noted that 74% of the respondents agreed with the statement that sensory skills of blind students are improved to enhance their tactile proficiency, 18% disagreed while 8% remained undecided. It revealed that a vast majority the respondents stated that sensory skills of blind students are improved to enhance their tactile proficiency.

Table 5
Most of academic performance of blind students is assessed through verbal communication.

Response	Frequency	Percentage
SA	8	16
A	32	64
UN	1	2
DA	8	16
SDA	1	2
Total	50	100

Table 5 exhibited the analysis of the statement that most of academic performance of blind students is assessed through verbal communication. It was noted that 98% of the respondents agreed with the statement that most of academic performance of blind students is assessed through verbal communication, 2% disagreed while 0% remained undecided. It pointed out that a large number of the respondents viewed that most of academic performance of blind students is assessed through verbal communication.

Table 6
Summative assessment of blind students is conducted through Braille print.

Response	Frequency	Percentage
SA	14	28
A	29	58
UN	4	8
DA	3	6
SDA	0	0
Total	50	100

Table 6 exhibited the analysis of the statement that summative assessment of blind students is conducted through Braille print. It was noted that 86% of the respondents agreed with the statement that summative assessment of blind students is conducted through Braille print, 6% disagreed while 8% remained undecided. It indicated that almost all the respondents viewed that summative assessment of blind students is conducted through Braille print.

Table 7

Short and concise Braille print questions are used to assess the educational performance of blind students.

Response	Frequency	Percentage
SA	12	24
A	31	62
UN	0	0
DA	5	10
SDA	2	2
Total	50	100

Table 7 exhibited the analysis of the statement that short and concise Braille print questions are used to assess the educational performance of blind students. It was noted that 86% of the respondents agreed with the statement that short and concise Braille print questions are used to assess the educational performance of blind students, 12% disagreed while 0% remained undecided. It pointed out that almost all the respondents viewed that short and concise Braille print questions are used to assess the educational performance of blind students.

Table 8

Conceptual assessment of blind students is endorsed through the use of physical models

Response	Frequency	Percentage
SA	18	36
A	26	52
UN	3	6
DA	3	6
SDA	0	0
Total	50	100

Table 8 exhibited the analysis of the statement that conceptual assessment of blind students is endorsed through the use of physical models. It was noted that 88% of the respondents agreed with the statement that conceptual assessment of blind students is endorsed through the use of physical models, 6% disagreed while 6% remained undecided. It indicated that a great number of the respondents opined that conceptual assessment of blind students is endorsed through the use of physical models.

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Table 9
A scribe (writer) is allowed for the blind students to help him/her in attempting a paper.

Response	Frequency	Percentage
SA	15	30
A	26	52
UN	5	10
DA	3	6
SDA	1	2
Total	50	100

Table 9 exhibited the analysis of the statement that a scribe (writer) is allowed for the blind students to help him/her in attempting a paper. It was noted that 82% of the respondents agreed with the statement that a scribe (writer) is allowed for the blind students to help him/her in attempting a paper, 8% disagreed while 10% remained undecided. It indicated that majority the respondents replied that a scribe (writer) is allowed for the blind students to help him/her in attempting a paper.

Section-B Adaptive assessment techniques used by teachers for low vision students

Table 10
Large print is used to assess the educational performance of low vision students.

Response	Frequency	Percentage
SA	31	62
A	18	36
UN	0	0
DA	0	0
SDA	1	2
Total	50	100

Table 10 exhibited the analysis of the statement that large print is used to assess the educational performance of low vision students. It was noted that 98% of the respondents agreed with the statement that large print is used to assess the educational performance of low vision students, 2% disagreed while 0% remained undecided. It showed that almost all the respondents viewed that large print is used to assess the educational performance of low vision students.

Table 11
Front seating is used for low vision students to improve their listening and comprehension.

Response	Frequency	Percentage
SA	18	36
A	16	32
UN	5	10
DA	5	10
SDA	6	12
Total	50	100

Table 11 exhibited the analysis of the statement that front seating is used for low vision students to improve their listening and comprehension. It was noted that 68% of the respondents agreed with the

statement that front seating is used for low vision students to improve their listening and comprehension, 22% disagreed while 10% remained undecided. It indicated that a large number of the respondents opined that front seating is used for low vision students to improve their listening and comprehension

Table 12
Large space is used in the content to assess the performance of low vision students.

Response	Frequency	Percentage
SA	19	38
A	25	50
UN	5	10
DA	1	2
SDA	0	0
Total	50	100

Table 12 exhibited the analysis of the statement that large space is used in the content to assess the performance of low vision students. It was noted that 88% of the respondents agreed with the statement that large space is used in the content to assess the performance of low vision students, 2% disagreed while 10% remained undecided. It inferred that a great number of the respondents viewed that large space is used in the content to assess the performance of low vision students.

Table 13
Additional lighting is provided in instructional activities of low vision students.

Response	Frequency	Percentage
SA	18	36
A	25	50
UN	3	6
DA	4	8
SDA	0	0
Total	50	100

Table 13 exhibited the analysis of the statement that additional lighting is provided in instructional activities of low vision students. It was noted that 86% of the respondents agreed with the statement that additional lighting is provided in instructional activities of low vision students, 8% disagreed while 6% remained undecided. It indicated that majority of the respondents viewed that additional lighting is provided in instructional activities of low vision students.

Table 14
Optical devices are allowed to be used by low vision students in testing assignments.

Response	Frequency	Percentage
SA	22	44
A	23	46
UN	4	8
DA	1	2
SDA	0	0
Total	50	100

Table 14 exhibited the analysis of the statement that optical devices are allowed to be used by low vision students in testing assignments. It was noted that 90% of the respondents agreed with the statement that optical devices are allowed to be used by low vision students in testing assignments, 2% disagreed while 8% remained undecided. It revealed that vast majority of the respondents stated that optical devices are allowed to be used by low vision students in testing assignments.

Table 15
Colour / Contrast material is used to test the academic performance of low vision students.

Response	Frequency	Percentage
SA	23	46
A	23	46
UN	1	2
DA	4	8
SDA	0	0
Total	50	100

Table 15 exhibited the analysis of the statement that colour / Contrast material is used to test the academic performance of low vision students. It was noted that 92% of the respondents agreed with the statement that colour / Contrast material is used to test the academic performance of low vision students, 8% disagreed while 2% remained undecided. It indicated that vast majority of the respondents replied that colour / Contrast material is used to test the academic performance of low vision students.

Section-C Technological tools used by the teachers for the assessment of students with visual impairment

Table 16
Perkin Brailler is used to provide Braille print for assessment of blind students.

Response	Frequency	Percentage
SA	25	50
A	19	38
UN	4	8
DA	2	4
SDA	0	0
Total	50	100

Table 16 exhibited the analysis of the statement that Perkin Brailler is used to provide Braille print for assessment of blind students. It was noted that 88% of the respondents agreed with the statement that Perkin Brailler is used to provide Braille print for assessment of blind students, 4% disagreed while 8% remained undecided. It indicated that a large number of the respondents viewed that Perkin Brailler is used to provide Braille print for assessment of blind students.

Table 17
Slate and stylus is used to provide embossed print for assessment of blind students.

Response	Frequency	Percentage
SA	16	32
A	20	40
UN	9	18

DA	4	8
SDA	1	2
Total	50	100

Table 17 exhibited the analysis of the statement that slate and stylus is used to provide embossed print for assessment of blind students. It was noted that 72% of the respondents agreed with the statement that slate and stylus is used to provide embossed print for assessment of blind students, 10% disagreed while 18% remained undecided. It showed that a great number of the respondents viewed that slate and stylus is used to provide embossed print for assessment of blind students.

Table 18
Tactile material (tactile books, models etc.) used to assess conceptual understanding

Response	Frequency	Percentage
SA	25	50
A	23	46
UN	2	4
DA	0	0
SDA	0	0
Total	50	100

Table 18 exhibited the analysis of the statement that tactile material (tactile books, models etc.) is used to assess the conceptual understanding of blind students. It was noted that 96% of the respondents agreed with the statement that tactile material (tactile books, models etc.) is used to assess the conceptual understanding of blind students, 0% disagreed while 4% remained undecided. It indicated that almost all the respondents viewed that tactile material (tactile books, models etc.) is used to assess the conceptual understanding of blind students.

Table 19
Talking material (talking books, talking calculator) used to assess educational performance

Response	Frequency	Percentage
SA	18	36
A	26	52
UN	5	10
DA	0	0
SDA	1	2
Total	50	100

Table 19 exhibited the analysis of the statement that talking material (talking books, talking calculator etc.) is used to assess the educational performance of blind students. It was noted that 88% of the respondents agreed with the statement that talking material (talking books, talking calculator etc.) is used to assess the educational performance of blind students, 2% disagreed while 10% remained undecided. It indicated that a great number of the respondents opined that talking material (talking books, talking calculator etc.) is used to assess the educational performance of blind students.

Table 20
CCCT screen is used to assess the educational performance of low vision students.

Response	Frequency	Percentage
SA	17	34
A	27	54
UN	5	10
DA	0	0
SDA	1	2
Total	50	100

Table 20 exhibited the analysis of the statement that close circuit television screen is used to assess the educational performance of low vision students. It was noted that 88% of the respondents agreed with the statement that close circuit television screen is used to assess the educational performance of low vision students, 2% disagreed while 10% remained undecided. It revealed that a large number of the respondents viewed that close circuit television screen is used to assess the educational performance of low vision students.

Table 21
Video magnifier is shown to low vision students to assess their conceptual understanding.

Response	Frequency	Percentage
SA	22	44
A	15	30
UN	5	10
DA	0	0
SDA	6	12
Total	50	100

Table 21 exhibited the analysis of the statement that video magnifier is shown to low vision students to assess their conceptual understanding. It was noted that 74% of the respondents agreed with the statement that video magnifier is shown to low vision students to assess their conceptual understanding, 12% disagreed while 10% remained undecided. It inferred that most the respondents viewed that video magnifier is shown to low vision students to assess their conceptual understanding.

Table 22
The writing of bold markers is used to assess the writing comprehension skills of low vision students.

Response	Frequency	Percentage
SA	22	44
A	24	48
UN	4	8
DA	1	2
SDA	0	0
Total	50	100

Table 22 exhibited the analysis of the statement that the writing of bold markers is used to assess the writing comprehension skills of low vision students. It was noted that 92% of the respondents

agreed with the statement that the writing of bold markers is used to assess the writing comprehension skills of low vision students, 2% disagreed while 8% remained undecided. It showed that vast majority of the respondents replied that the writing of bold markers is used to assess the writing comprehension skills of low vision students.

Findings

Following were the findings of the study:

1. 98% of the respondents replied that fine motor skills of blind students are assessed to improve their reading ability.
2. 80% of the respondents viewed that gross motor skills of blind students are assessed to enhance their writing skills.
3. 74% of the respondents agreed that sensory skills of blind students are improved to enhance their tactile proficiency.
4. 98% of the respondents said that most of academic performance of blind students is assessed through verbal communication.
5. 86% of the respondents agreed with the statement that summative assessment of blind students is conducted through Braille print.
6. 86% of the respondents opined that short and concise Braille print questions are used to assess the educational performance of blind students.
7. 88% of the respondents agreed with the statement that conceptual assessment of blind students is endorsed through the use of physical models.
8. 82% of the respondents agreed with the statement that a scribe (writer) is allowed for the blind students to help him/her in attempting a paper.
9. 98% of the respondents agreed with the statement that large print is used to assess the educational performance of low vision students.
10. 68% of the respondents agreed with the statement that front seating is used for low vision students to improve their listening and comprehension.
11. 88% of the respondents agreed with the statement that large space is used in the content to assess the performance of low vision students.
12. 86% of the respondents agreed with the statement that additional lighting is provided in instructional activities of low vision students.
13. 90% of the respondents agreed with the statement that optical devices are allowed to be used by low vision students in testing assignments.
14. 92% of the respondents agreed with the statement that colour / Contrast material is used to test the academic performance of low vision students.
15. 88% of the respondents agreed with the statement that Perkin Brailler is used to provide Braille print for assessment of blind students.
16. 72% of the respondents agreed with the statement that slate and stylus is used to provide embossed print for assessment of blind students.
17. 96% of the respondents agreed with the statement that tactile material (tactile books, models etc.) is used to assess the conceptual understanding of blind students.
18. 88% of the respondents agreed with the statement that talking material (talking books, talking calculator etc.) is used to assess the educational performance of blind students.
19. 88% of the respondents agreed with the statement that close circuit television screen is used to assess the educational performance of low vision students.
20. 74% of the respondents agreed with the statement that video magnifier is shown to low vision students to assess their conceptual understanding.
21. 92% of the respondents agreed with the statement that the writing of bold markers is used to assess the writing comprehension skills of low vision students.

Conclusions

The study investigated the adaptive evaluation methods used by primary school instructors of pupils with visual impairment. The purpose of the study was to identify the technological tools that teachers used to assess students with visual impairments, as well as to determine the adaptive assessment techniques used by teachers for blind students, low vision students, and low vision students with low vision.

The adaptive assessment techniques used by teachers for blind students

The study ascertained the adaptive assessment techniques used by teachers for blind students. The study results showed that almost all the respondents viewed that fine motor skills of blind students are assessed to improve their reading ability. It was pointed out that majority of the respondents viewed that gross motor skills of blind students are assessed to enhance their writing skills. A great number of the respondents stated that sensory skills of blind students are improved to enhance their tactile proficiency, and most of academic performance of blind students is assessed through verbal communication. It indicated that almost all the respondents viewed that summative assessment of blind students is conducted through Braille print. A great number of the respondents opined that conceptual assessment of blind students is endorsed through the use of physical models, and a scribe (writer) is allowed for the blind students to help him/her in attempting a paper.

Adaptive assessment techniques used by teachers for low vision students

The study identified the adaptive assessment methods that instructors employ with students that are poor vision. The opinions of almost all of the respondents were in favour of using large text to evaluate low vision kids' academic achievement. The majority of respondents believed that front seating helps low vision pupils listen and comprehend better. The majority of respondents thought that more lighting was used during low vision pupils' instructional activities. The vast majority of respondents said that low vision students are permitted to utilise optical aids for testing assignments and that low vision students' academic performance is evaluated using colour and contrast materials.

Technological tools used by the teachers for the assessment of students with visual impairment.

In order to examine pupils with visual impairments, the study looked into the technology resources employed by teachers. Many of the respondents stated that the Perkin Brailler is used to provide Braille print for blind pupils' assessment. Many of the responders thought that assessing blind students with a slate and stylus would produce embossed print. Nearly all of the respondents agreed that tactile materials, such as tactile models and books, are utilised to evaluate the conceptual understanding of blind students. The opinions of many of the respondents supported the use of talking materials (talking books, talking calculators, etc.) to evaluate the academic achievement of blind pupils. The educational performance of low vision kids is evaluated using a closed-circuit television system, which a significant portion of the respondents watched. It was assumed that the majority of respondents agreed that low vision students are evaluated on their conceptual knowledge using a video magnifier. The majority of respondents said that testing low vision children' writing comprehension abilities involves using bold markers to write.

Recommendations

Researcher recommends the following after the study completion:

1. Teachers/examiners should make adequate adaptations in the assessment procedure of the students with visual impairment to improve their learning.
2. Use of optical devices should be encouraged in the assessment process of low vision students.
3. Assessment process of the students with visual impairment should be adequately flexible to accommodate their learning.
4. Braille based adapted material should be provided for the assessment of blind students in all level of educational institutes.
5. Use of technological tools including tactile material, talking material and CCTV cameras should be used for the assessment of students with visual impairment.

Delimitations of the Research

The study was delimited to the special education institutes of city Faisalabad. Only the teachers who were currently teaching the students with visual impairment at primary level were included in the study.

Ethical Considerations

It is very necessary to carefully deal with the community with special educational needs. Researcher observed all the ethical protocols to interact, share information, and deal with the respondents of the study with extreme care, respect and observe the confidential approach for the data usage. The rights and privileges of the respondents with respect to research measures were given special consideration.

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