

Skill Council for Persons with Disability

Expository for Blindness /Visual Impairment

E002

Definition

According to The Rights of Persons with Disabilities Act, 2016 Blindness defined as:

Blindness" means a condition where a person has any of the following conditions, after best correction:

- (a) total absence of sight; or
- (b) visual acuity less than 3/60 or less than 10/200 (Snellen) in the better eye with best possible correction; or
- (c) limitation of the field of vision subtending an angle of less than 10 degree.

Training Tools

Training Tools mentioned below, are Accessible Tools/Appliances/Software, which enable a Person with Disability (PwD) to carry out their training corresponding to the National Occupational Standards (NOS) of the Qualification Pack. While the learning outcomes from the Qualification Pack will remain the same, the methodology stated below will assist the trainers to train the trainees in the best suitable way according to their level of functioning. These suggested training tools facilitate the learning process of a Person with Disability to perform at par with their peers in a conducive and enabled environment

Tools recommended for the Training of Persons with Blindness

Accessible Tools/Appliances / Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
Optical Character Recognition (OCR)	<p>While teaching, if it is seen that a person has difficulty in reading printed text, then this tool can be used. Person with Blindness can use this tool in all situations.</p> <p>This tool may not read hand written documents efficiently.</p>	<p>OCR technology helps to convert the printed document into soft copy.</p> <p>This soft copy can be read using separate text to speech software, thus enabling a Person with Blindness to comprehend the same.</p>	<p>A desktop or Laptop is required where the software can be installed. Portable OCR systems are also available</p>	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> • Clear reader+ • Clear View+ • Speech ZoomEx • Kurzweil, • ABBY Fine Reader • Tesseract OCR

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Screen Reader	During the training If it is observed that a Person with Blindness has difficulty in reading from the computer screen, Screen Readers software should be recommended.	Screen reader is a software program that helps person with blindness to use it during the reading the text that is displayed on the computer screen with a speech synthesizer or braille display. A screen reader is the interface between the computer's operating system, its applications, and the user.	Requires a digital platform like PC or Laptop or Mobile Phones	Any of the following tools may be used: <ul style="list-style-type: none"> • Non-Visual Desktop Access (NVDA), • Job Access with Speech (JAWS), • System Access to Go (SATAGO), • Voiceover, • Talkback, • Nuance Talks and Mobile Speak, • ORCA • Dolphin Supernova
Accessible Format Digital System	While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in reading, then he/she can use this tool to digitize published material (digital talking). Persons with Blindness (Visually Impaired) can use this tool in all situations.	DAISY (Digital Accessible Information System), DAISY is an internationally recognized accessible multi-media publishing system, compatible with the World Wide Web. DAISY provides an enriched multimedia reading experience that is completely accessible and navigable DAISY offers text and audio synchronization. DAISY can support Braille output	Various desktop based or portable daisy players are available and Daisy books can be read using refreshable Braille display or screen reading software Printed Braille book on paper	Any of the following tools may be used: <ul style="list-style-type: none"> • Digital Accessibility Information System (DAISY) • Standalone DAISY Players

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		<p>DAISY provides adjustable character display</p> <p>This software is a combination of a published text to digital text converter and text to speech software, all in one. Persons with Blindness can use this to read published material DAISY facilitates navigation by chapter, section, subsection, and page. Readers can read or skip footnotes, sidebars, or information added specifically for users of the audio version.</p>	<p>Is Converted to a talking book using synthesized voice</p> <p>Can read Printed on paper like large print book</p> <p>Read large print text on computer screen</p>	<ul style="list-style-type: none"> • Daisy player with Plectalk Vachak (Hindi TTS) • Angel India Pocket Talking Daisy Player • Computers using DAISY playback software such as AMIS
Braille devices	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in accessing print materials, then Braille devices are recommended. Braille is a system of raised dots that can be read with the fingers by people who are blind or who have low vision but those with vision can read it with their eyes</p>	<p>It is a tactile writing system used by the Person with Blindness (Visual Impairment). It is traditionally written with embossed paper. Braille-users can read and write Braille with the Braille slates and stylus. Braille script can be written in all the languages.</p> <p>A person with Blindness can touch and comprehend these braille texts and therefore reading material published using the same.</p>	<p>Braille slates and stylus. The person should know Braille.</p>	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> • German Braille Slate with Stylus • Signature Guide • Abacus • Braille Rule • Braille Geometrica I Device • Taylor Frame

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		These require knowledge of Braille.		(Small & Big) <ul style="list-style-type: none"> • Pocket Frame & Stylus (5 lines and 7 lines) Braille Note taker
Refreshable Braille Display	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in reading/seeing, then he/she can use this tool. It is used for taking notes on Braille without paper usage.</p> <p>The tools can be recommended on a case-by-case basis.</p>	Braille displays enable Person with Blindness or Person with Deaf-blind to operate any computer. The Person with Blindness can take notes on the computer in Braille language using tactile/Braille friendly keyboard.	Refreshable Braille Displays are electronic devices that are used to read text that a computer sends to the monitor. The device is connected to the computer by a serial cable and produces Braille output on the Braille display. Refreshable Braille displays only read one line of text at a time.	Focus 40/80Seika
White Cane (folding or non-folding)	This tool will be used for the purpose of mobility by a person with blindness. Persons with blindness can use this tool in all situations for mobility.	Device for navigation or identification of the surroundings used by a person with blindness. They can scan their surroundings for obstacles or orientation marks. the cane is moved in an arc approximately one step	Person with blindness need to be trained with white cane. Mobility & Orientation training in the environment is a	Any of the following types may be used: <ul style="list-style-type: none"> • Standard Mobility White Cane

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		in front of the user any obstacles outside this range are not detected also it has limitation to sense obstacles only below the waist level.	prerequisite to using a white cane	<ul style="list-style-type: none"> • ID cane or Folding Cane • Support cane h Mobility
Electronically Augmented Canes	During the training this aid will be used for mobility by a person with blindness in order to detect trunk and head-level obstacles.	The Electronically Augmented Canes detects obstacles at four vertical levels and provides multi-sensory feedback or GPS system (Position Locator Devices) for navigation.	<p>Can detect obstacles from knee-head level through distinctive vibrations and audio feedback with real-time object narration, all through fingertips avoiding injury and ensuring guaranteed safety.</p> <p>Mobility and orientation training are a prerequisite for using this device. Needs to be purchased .</p>	<ul style="list-style-type: none"> • Smart Cane

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
Environmental Adaptability	Braille Cards	<p>These tools can be recommended on a case to case basis. It is used for feeling and identifying items. It helps the trainee during the Training to provide additional information and emphasis on the content.</p>	<p>These cards have Braille inscribed on them for reading. A person with blindness can touch and comprehend these braille texts and therefore read material published using the same.</p>	<p>Keep it simple and precise. Follow the instruction given by the trainer. This requires knowledge of the Braille Language</p>	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> • Tactile diagrams • Tactile stickers • Bindi and other stickers used to provide tactile feeling to differentiate items.
	Tactile TLM	<p>It is used to create a 3D demo of a 2D image. It is recommended for all persons with Blindness</p>	<p>Tactile is used to get the visualization of the visuals (model or 3D images) by touch and feel. Tactile stickers or diagrams are used to get the visualization of things like computer screen or any outline by touch and feel. Tactile markers are also used to differentiate the things. A person with blindness can touch and comprehend these and therefore differentiate things or comprehend messages.</p>	<p>Needs to be prepared using the locally available stickers or binds and other materials. The age and experience of the reader must be considered when designing TLM. And it should be modified if required.</p>	

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
Environmental Adaptability	Tactile paving	Tactile paving guiding blocks help to Persons with Blindness about way of movement.	<p>This is a kind of text on ground surface that is often found on footpaths, staircase and platform and lobby. It facilitates for mobility of persons with blindness</p> <p>Tactile paving provides for a distinctive surface pattern detectable by cane or underfoot used to alert persons with blindness during their movement to streets and hazardous drop-offs.</p>	<p>This should be used by persons with blindness during the movement and it helps to identify the path or way. The person with blindness can feel the surface using the cane and avoid accidents.</p>	<ul style="list-style-type: none"> •Tactile flooring •Tactile marks to identify various things/devices/ Spots
Sensitization of the Trainer	Trainer should be sensitized towards person with blindness.	It can be recommended for training to all candidates with Blindness (Visually Impaired)	<p>The trainer should be oriented to the needs of persons with blindness They should also possess functional understanding of the challenges persons with blindness face to execute their day to day errands. Gain Knowledge of disability, assistive aids.</p> <p>Learn to assess candidates (before training).</p> <p>Create an inclusive training environment and training material.</p>	<p>Trainer should undergo training with specific disabilities and should be able to change his/her approach according to the needs of the student. She/he should be able to provide multisensory input, keeping in mind the learning style of the student.</p>	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> • Communication • hand gestures • touch sensitivity • BEHAVIOUR • sensitivity • patience • customized approach to students

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			<p>The trainer must have video clippings of each and every aid in use and must know the specifications of where to get and how to get, as well as knowledge/information on where to get the repairs done if required.</p> <p>This will equip the visually impaired person with adequate information of the various assistive aids available and their usage. This will also create a positive and conducive environment that fosters effective learning.</p>		

Assessment Guidelines

Lab Assessment:

- The person must be familiarized with the general layout of the lab, including the entry, exit points, seating spaces prior to the assessment
- It should be ensured that all equipment required during the assessment are within close reach/easily accessible by the person.
- Working platform for Persons with Blindness should be clutter free to avoid accidents during practicals.
- Information regarding accessible restrooms must be provided to the person.
- In the absence of the above tools and support, where using writing assistance or scribe, extra 20 minutes to be given for every one hour of assessment. Ensure that the person has a different room in which to work, so that no disturbance is caused to other trainees, and the person with blindness has a space to discuss with the scribe.
- Questions based on pics/graphs should be replaced with alternate.

Computer Assessment:

- Process should be explained in advance
- If the assessment requires specific software, these should be a screen reader and
- Software like NVDA and Jaws are recommended.
- Tools such as Talking Calculator should be allowed for working out mathematical calculations.
- Ensure that all videos have audio description for ease of comprehension

General Guidelines:

- Ensure that the date and venue is communicated in advance to the trainees. Any requirement during the assessment should be communicated in advance to make arrangement accordingly.
- Orient the candidates in advance about the process of assessment
- Take a stock of the candidates understanding of the process by asking the candidate to explain what has been understood.
- Give precise and clear instructions
- Ensure that the designated room for assessing the candidate does not have distraction, minimize other environmental sounds in the vicinity
- Ensure that the distance between candidates is such that it does not disturb the other candidate, when the narration is going on.
- Help from the trainer can be taken, if required.

- Candidates with Blindness can give response orally, If the task requires the candidates to provide a written response or by demonstration, then extra time should be provided. An extension of 20 minutes /hour is recommended, however, depending on the need it can be further extended.
- The Assessment guidelines given are only to enable the assessor to conduct the assessment smoothly. Adherence to the guidelines is not mandatory but preferred.
- The assessor has the option to use any of the tools appropriate from the list of tools mentioned in the expository, to conduct the assessment. He/she also has the choice to use other options that will help in conducting the assessment with sanctity.
- Remember that your trainees with disabilities are going to work with persons without disabilities. Pitying, belittling or lowering the standards would defeat the purpose