The role of the Occupational Therapist for learners with low vision

Clare Hubbard, Occupational Therapist

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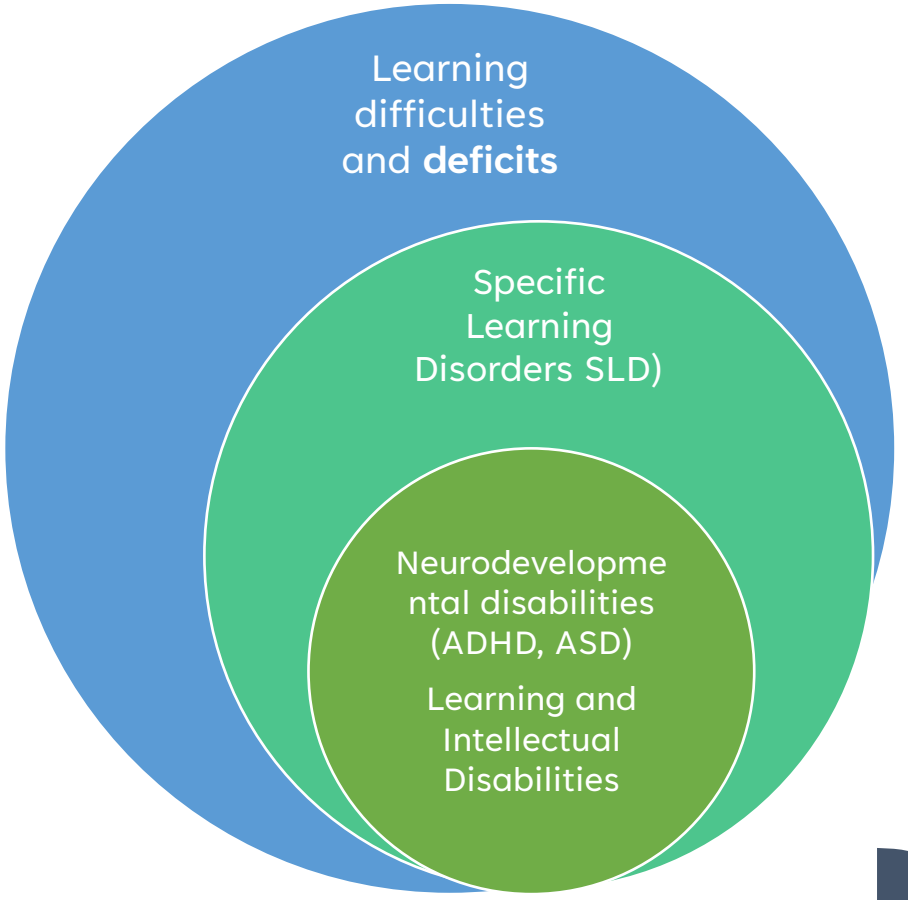
Outline and objectives

1. Socioeconomic context for Visually Impaired children
2. Role of the Occupational Therapist from EVERY sector
3. Classroom accommodations
4. Adaptations of materials and learning activities
5. Models of OT Practice for making impact

A closer look at socioeconomic inequality leading to learning deficits



Nic Spaul, 2015, Education Economist, University Stellenbosch

Factors affecting scholastic performance (1)

Child to educator ratio 1:40 on average – “overcrowded classes”

Multi-grade teaching – under-teaching, especially in rural areas

Infrastructure of schools is at worst dismal but often infringes on children’s rights.

Ref: General household survey, focusing on schools, 2017; DBE publications
https://www.theguardian.com/world/gallery/2013/may/01/southafrica-forgotten-schools-inpictures

Factors affecting scholastic performance (2)

20% of Grade 1 learners in Eastern Cape do not pass Grade 1 – lack of preparedness due to poor ECD provisioning

Over 25% of all children in South Africa do not live with either biological parent (2011 statistic). With the rural provinces disproportionately affected by this, these children are at greater risk of experiencing the negative effects of poverty, poor nutrition and inadequate healthcare.

Large drop-out rates (Grade 6, 9 and 11) contributing to large number of unskilled, illiterate, innumerate and unemployed youth; poverty affects drop-out rate. Push-out and Pull-in factors.

Ref: General household survey, focusing on schools, 2017; DBE publications; http://www.africafoundation.org.za/blog/2017/07/31/creche_update/

Factors affecting scholastic performance (3)

Learners in rural areas have long distances to walk on foot. Under-provision of scholar transport.

Parents in rural areas send very young children to ‘free’ Grade R & RR (4 - 5-year-olds START Grade 1 too early) but it is done out of financial need.

Absenteeism of educators is high in rural areas.

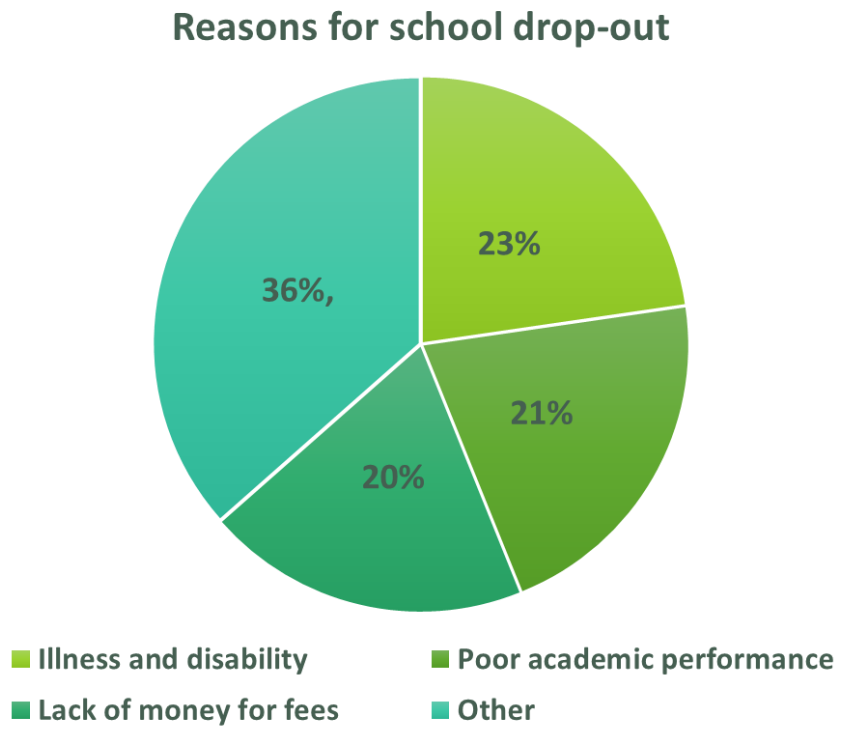
School infrastructure in rural areas and informal settlements are poorest with many mud structures or inadequate temporary classes. Unregistered ECD centres are mostly run from back rooms, garages and unsafe structures.

Ref: General household survey, focusing on schools, 2017; DBE publications
https://www.theguardian.com/world/gallery/2013/may/01/southafrica-forgotten-schools-inpictures

Drop-out rates of VI learners

In 2021, close to 3% of 15-year-olds and nearly 9% of 17-year-olds dropped out of school.

The most prominent reasons for non-attendance of school in 2021 included illness and disability (22,7%), poor academic performance (21,2%) and lack of money for fees (19,6%).



https://www.statssa.gov.za/?p=15520

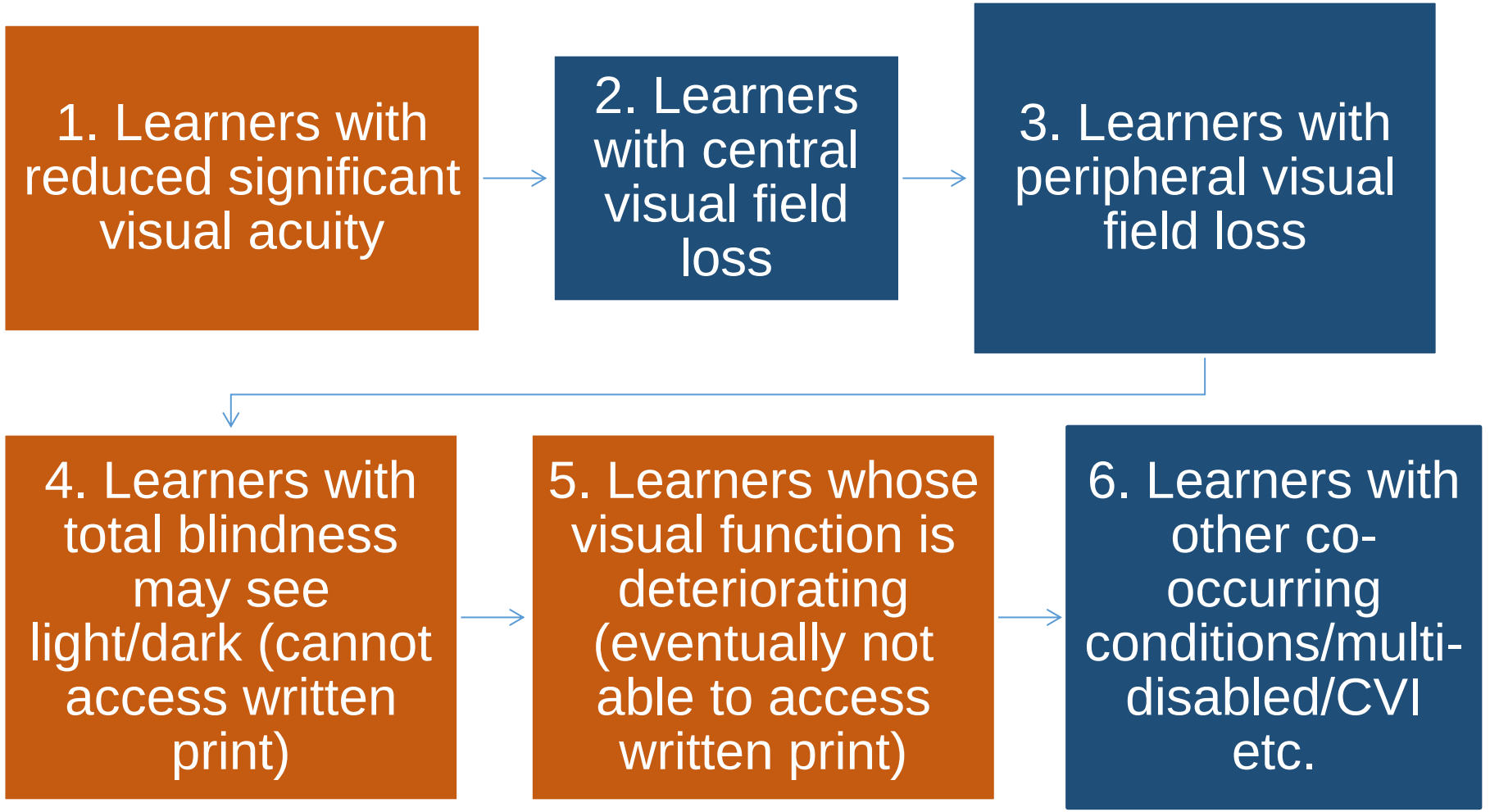
P0318 - General Household Survey (GHS), 2021

Scope of practice of Occupational Therapists treating children

Assessment & Therapeutic Services

- ✓ Developmental Screening
- ✓ Visual functioning, visual perceptual, visual-motor integration & postural control
- ✓ Sensory development and regulation
- ✓ Gross Motor
- ✓ Fine Motor
- ✓ Play
- ✓ *Cognitive*
- ✓ *Language*

Common learner presentations



https://www.pathstoliteracy.org/sites/pathstoliteracy.perkinsdev1.org/files/Classroom_adaptations_for_students_with_low_vision.pdf

WHO definition

Distance vision impairment:

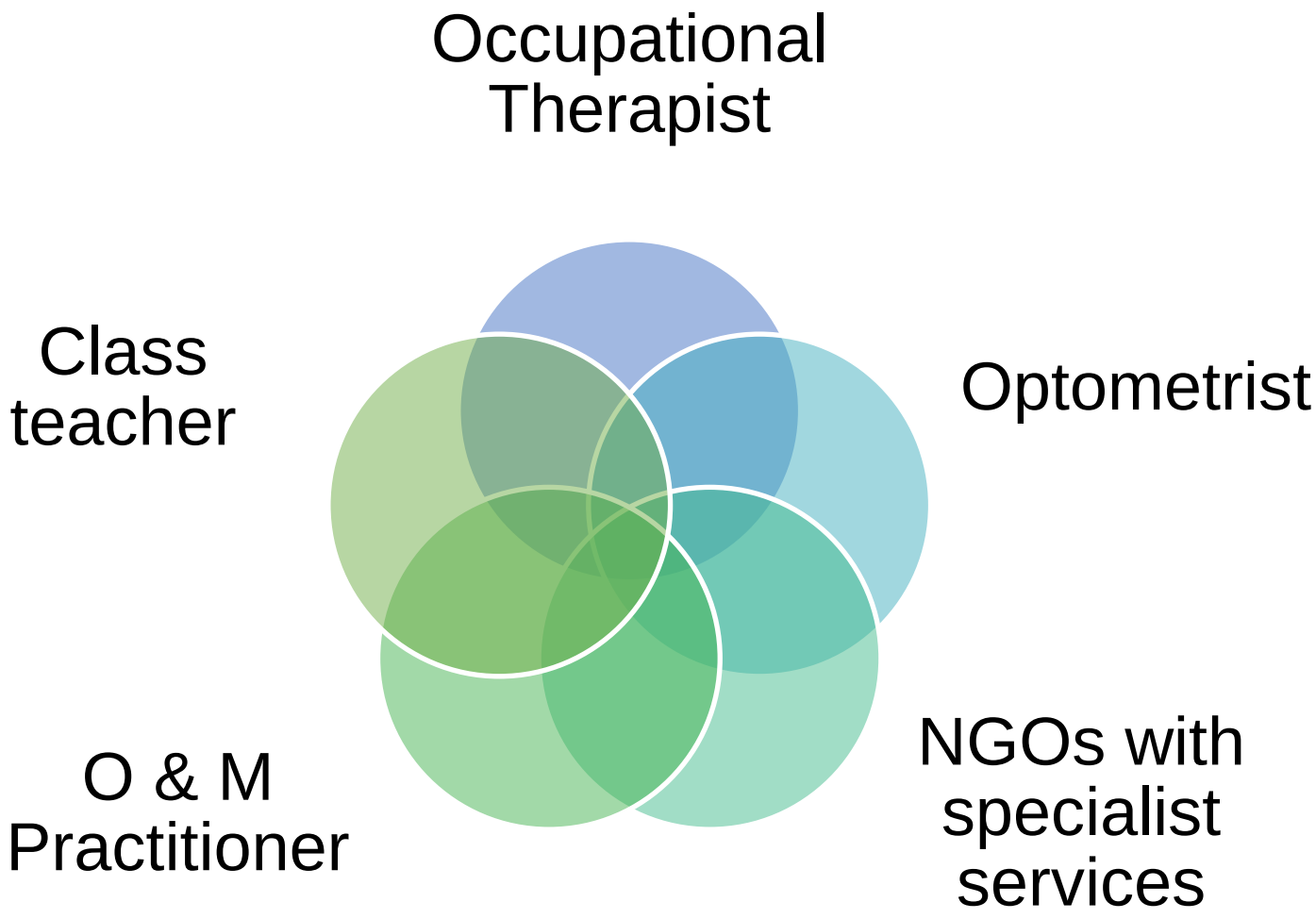
- Mild –visual acuity worse than 6/12 to 6/18
- Moderate –visual acuity worse than 6/18 to 6/60
- Severe –visual acuity worse than 6/60 to 3/60
- Blindness –visual acuity worse than 3/60

Near vision impairment:

Near visual acuity worse than N6 or M.08 at 40cm

World Health Organisation (2021). Blindness and Visual Impairment: Key fact, 14 October 2021. Retrieved October 30, 2021 https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment

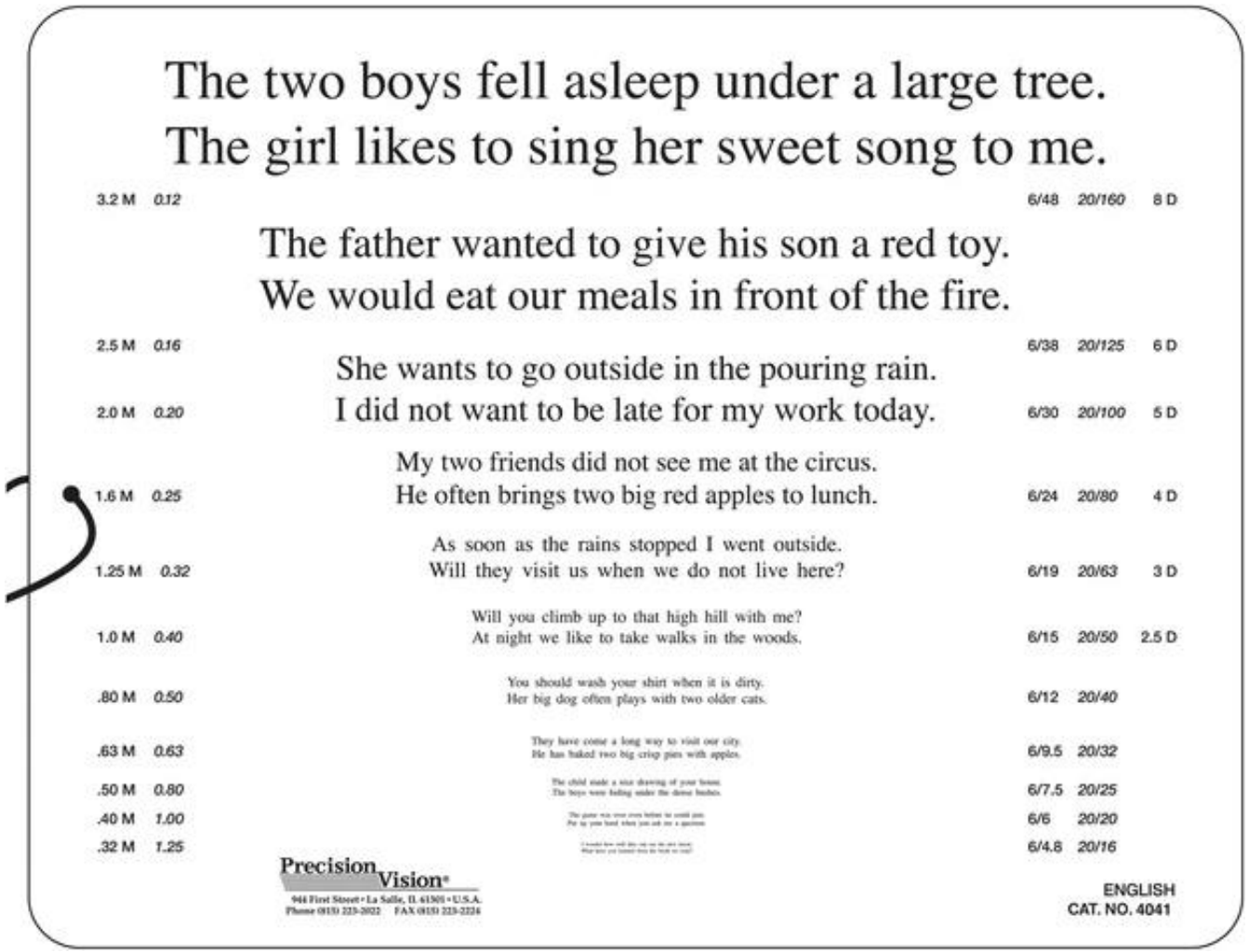
Team members roles and overlap in a learner-centred model



Multi-disciplinary Team Work

Occupational Therapist and Optometrist advise on Assistive devices and Classroom accommodations (per learner)

Interpretation of Visual Acuity test – to determine font size & magnification

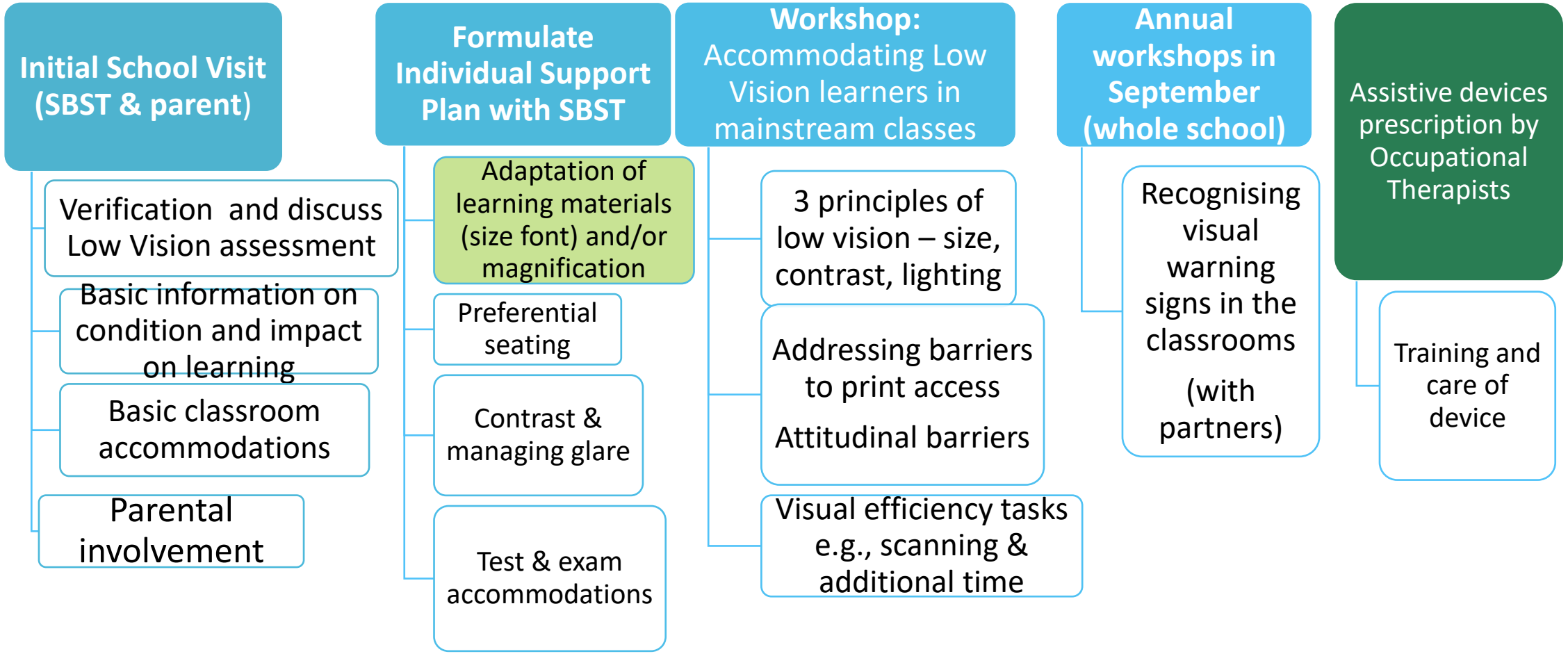


Visual acuity screening and low-vision assessments

The SIAS Policy (2014) – applies to all healthcare professionals treating children through the School-based Support Team

https://www.education.gov.za/LinkClick.aspx?fileticket=XHJwt2JVO5Q%3d&tabid=2546&portalid=0&mid=8963

OCCUPATIONAL THERPAY SERVICES TO LOW VISION LEARNERS



ROLE OF THE OCCUPATIONAL THERAPIST

Occupational Therapy with partially sighted children - using a direct "push in" model of service delivery

- Address developmental delays and learning deficits as a result of sensory loss in one modality, through a bottom-up approach i.e. work on the sensory, gross motor, fine motor, visual perceptual/spatial skills and language skills to support learning
- Serve on SBST for development of Individual Support Plans
- Recommend and implement classroom accommodations
- Recommend and implement adapted materials
- Handwriting and letter formation, alongside literacy development in Foundation Phase (consider use of stationery)
- Recommend and prescribe assistive devices to access learning (with Optometrist/LV specialist)
- Exam accommodations (DBE126 to be completed by Optometrist)
- Outreach to mainstream schools and extra-curricula services e.g. Camps, Outings

Learners with low vision often experience

Decreased spatial awareness.

Decreased ***visual efficiency*** e.g. following a moving object (a car passing on the road), problems when reading a line, difficulties when scanning the environment (looking for an empty seat in the dining hall) and changing the gaze between one object and another (e.g., to the board and then writing on a notebook).

Need for increased illumination (need more light).

Poor light/dark adaptation e.g., they take time to adjust when coming back to classroom after playing outside during break time.

Understanding visual functioning for low vision learners

Visual inefficiency means it takes longer to process visual information.

- ✓ To read efficiently without losing one's place;
- ✓ To locate a place in the text;
- ✓ To make sense of a picture or image;

Takes longer and is more difficult to read off the board and to write at desk level – a skill called transposition (reading from the vertical to writing on the horizontal) – this involves the eyes adjusting and focusing from distance to close vision and vv.

Managing visual clutter in the classroom is tiring – busy classroom noticeboards, posters etc. or reading textbooks or worksheets.

Understanding visual functioning for low vision learners

Assist educators to be familiar and implement low vision principles in the classroom, such as contrast and understand the required size font for VI learners.

The size font is determined by the Optometrist /Low vision specialist /Low Vision Clinic

Adaption learning materials

Sans Serif type of fonts are internationally promoted, which are easier to read e.g., Arial, Comic Sans, Helvetica etc. but not in bold; try Teachers Pet for Foundation Phase

Understanding visual functioning for low vision learners

Distance vision

- Educator should read everything that is written on the blackboard/whiteboard or PowerPoint aloud and slowly.
- A low-vision learner will find it very difficult to copy from the blackboard. Rather provide the printed lesson info to the learner in the correct size font ahead of time.
- Teachers and peers should understand that learners cannot see facial expressions at distance.

Teachers may need help to adapt tasks to make them accessible

- ✓ Classroom accommodations
- ✓ Adapt learning materials
- ✓ Adapt CAPS activities (art, ball skills etc.)
- ✓ Ensure classroom environment is altered or modified
- ✓ School environment – play areas, sports grounds
- ✓ Extracurricular – sport, leisure, homework etc.

Principles of low vision

- ✓ Principle 1: Illumination
- ✓ Principle 2: Color and contrast
- ✓ Principle 3: Size and distance
- ✓ Principle 4: Organization of time and space

Classroom accommodations

Allow the learner an opportunity to orientate themselves to the layout of their new classroom and minimize changes in the environment.

Remove all obstacles e.g., loose mats and visual clutter in the classroom.

Use organisational strategies e.g., low vision child lines up at front, use blazer hooks, and provide cubby holes/storage for bags.

Teacher to give clear instructions e.g., please hand in your work on the box provided on my desk.

Younger learners – Childs' name or alphabet strip on the desk must be enlarged. Classrooms should be labelled in large font. Not too much visual clutter/posters.

Classroom accommodations – Grade R and Foundation Phase

Childs' name or alphabet strip on the desk must be enlarged.
Classrooms should be labelled in large font. Not too much visual clutter/posters.
The stationery – darker and softer pencils and 17mm exercise books are essential.
Ensure large print readers are available.
In phonics training, ensure flashcards are enlarged & ensure additional practice/recognition of sight words.
In reading (with correct size print) expect a few “substitutions” and reduced fluency initially.
Allow the learner to use a finger or ruler to hold place when reading.
Try out a visual window and tinted paper.

Classroom accommodations

Preferential seating

This means seating a low-vision learner in a seat that optimizes his/her residual visual functioning.

This may be on the middle, left or right of the class (depending on the “strong” eye or peripheral vision available);

Allow learner to access the board at any time.

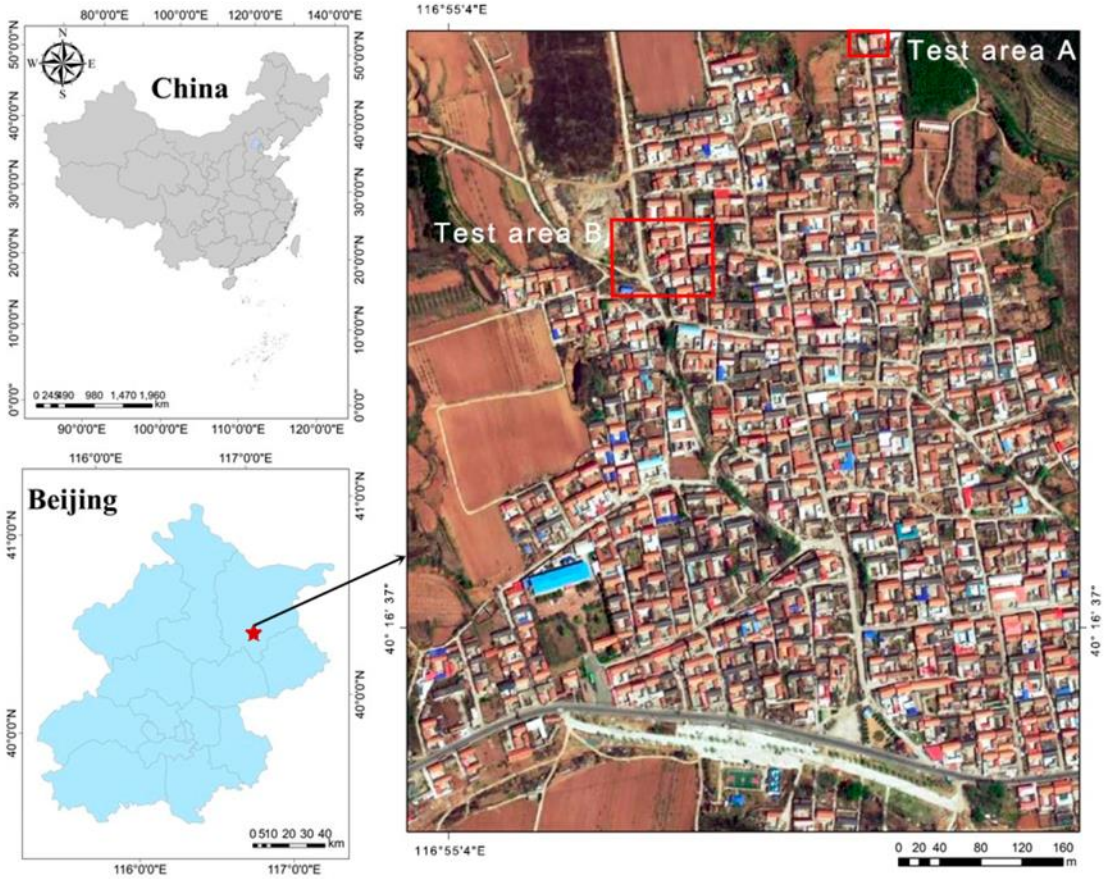
Seat low-vision learners in a desk away from glare (light reflection from sunshine and other light sources).

This may be to access plug points also if the child is using a laptop.

Classroom accommodations

Decluttering visual material
– remove unnecessary details from worksheets by using Tippex/correcting fluid and then photocopying worksheet/

Classroom accommodations



Colour coding/interpretation and 3-D visual perception (stereopsis) is critical in some subjects e.g., Tourism and Geography. For orthophoto and relief maps the printing quality and optimal contrast need to be optimal; enlargement must not lead to distortion of visual material.

Preparing print materials in an accessible way for Visually Impaired learners

When using colour with text

- use a plain coloured background if using text against colour

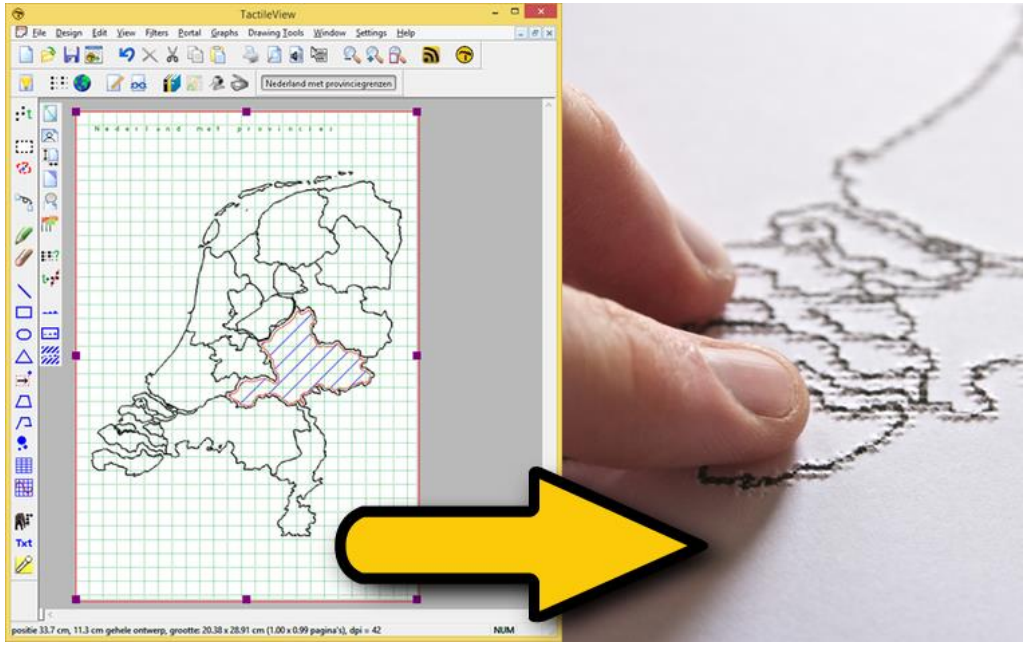
- use high contrast between text and background colour

- Use pastel paper colour with a coloured tint of 10% – 15%, can help reduce paper glare

- avoid using similar colours together.

Declutter

https://www.perkinselearning.org/technology/blog/designing-accessible-document-microsoft-word\



Creating accessible learning materials

Use of Universal Design for Learning principles

https://www.pathstoliteracy.org/blog/enabling-access-tips-adapting-worksheets-students-visual-impairments

Use A4 (8 x 11) size paper. Use a sans serif font where letters are clearly separated from each other. Add adequate spaces between sections, and between text and diagrams as well.

Bold, sharp print provides good contrast. When enlarging print copies, try to achieve clear, non-blurry copies.

Learner may prefer to use pencils and pens with larger points and darker lead and ink.

For black and white images ensure there is no clutter in the image, lines are sufficiently contrasted etc.

Give all pupils in his/her group the same differentiated or adapted materials.

Or give both copies to the learner–the standard sheet and the differentiated or adapted copy.

Adapted/large print test & exam papers

Enlarged print exam paper - specify font e.g. Arial 18 – 24

Enlarged print exam paper with description (Alt-Text) for pictures/photos etc.

Colour considerations for colour deficits e.g., Geography Mapwork (green/red/brown etc.) Special colour paper (not white)

Single-sided test/exam papers

Specific size paper e.g. A4, A3

On USB/flash drive to use on laptop (in pdf format) or Audio (MP3)

Some subjects need special consideration.

When is auditory format used?

The new procedural for Exam Accommodations makes provision for providing examination papers in digital format for learners using computers and assistive technology (digital print or audio recording).

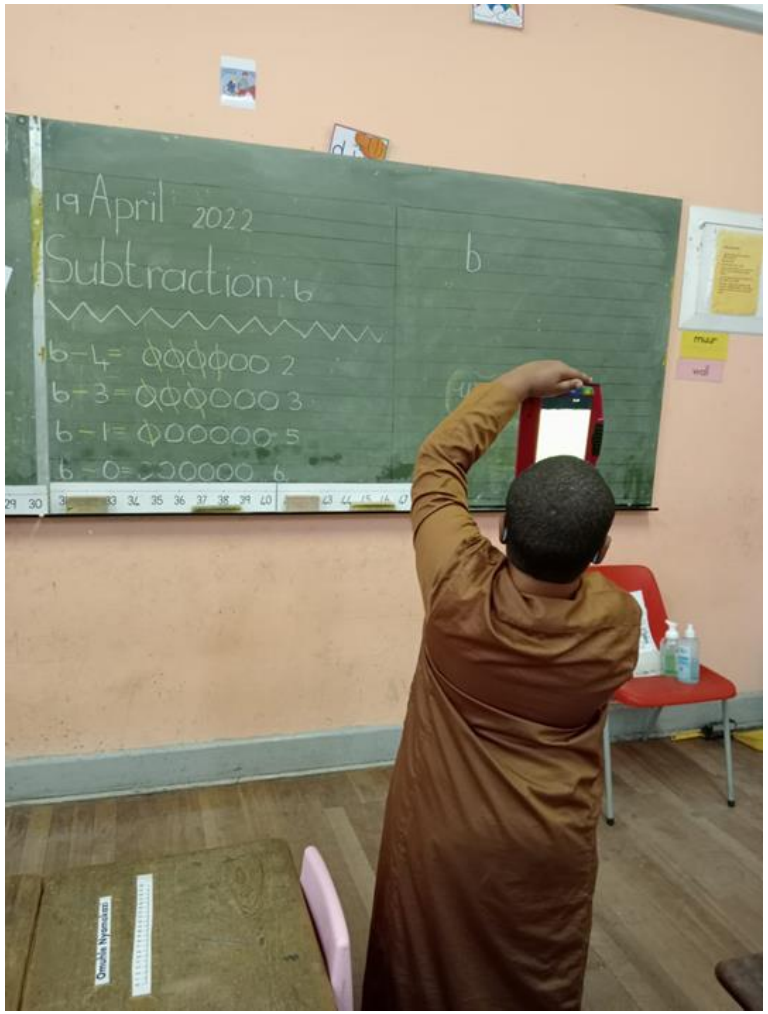
The use of a Reader and Scribe is not an appropriate accommodation for VI learners. A visually impaired learner will benefit from assistive technology for digital print and/or audio format.

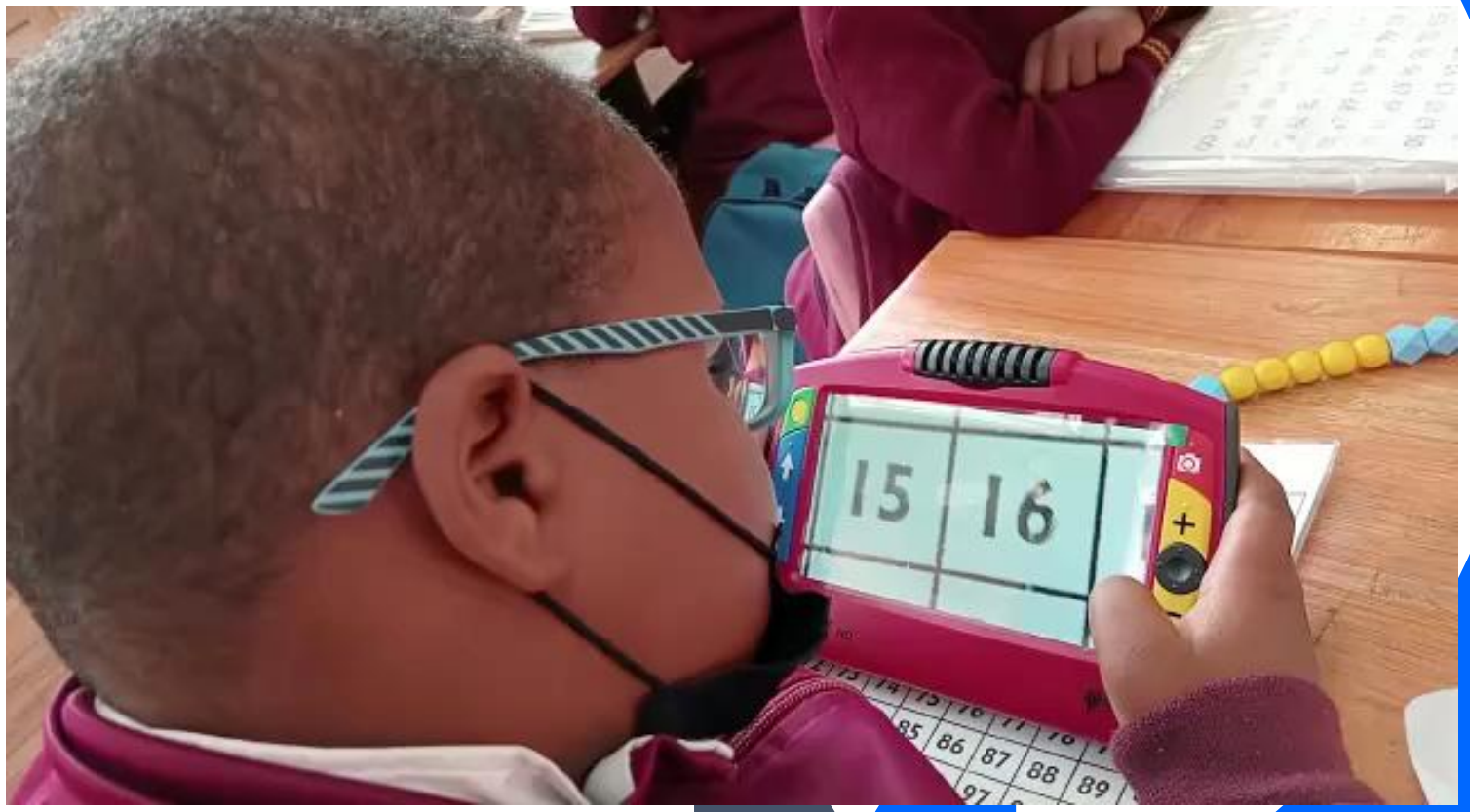
- electronic audio format of the assessment or examination paper, a digital player and earphones or a personal computer or laptop with text-to-speech software and earphones.

- usually specialised software is required e.g. Zoomtext, Dolphin Supanova (screen reader and magnifier)

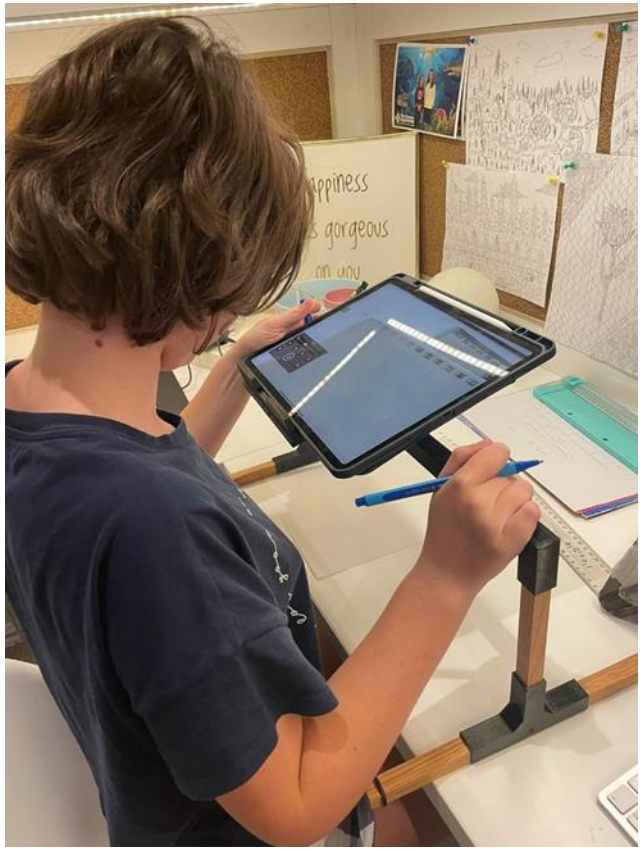
-Learners utilizing examination papers provided in a digital format or read from a CD-ROM or Universal Serial Bus (USB) or flash drive on their computer must be provided with earphones.

Focus on appropriate individual assistive devices

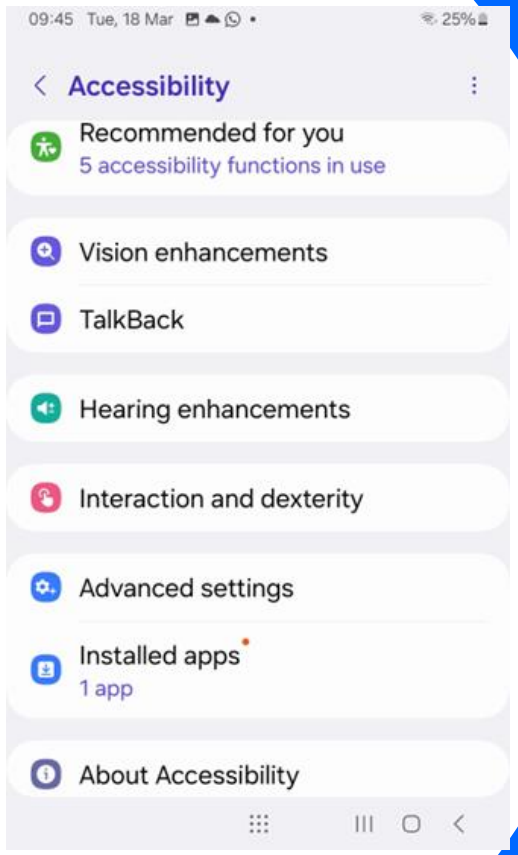




Focus on appropriate individual assistive devices



To maximise participation, assistive technology to both access the learning and to produce work is necessary.
Determine if learner can mange with **accessibility features** on tablet/laptop (enlargement, contrast, brightness) or if specialist software is needed (which does not distort at max zoom).



Policy imperatives for Exam Accommodations

Sensory Impairments

(a) Visual Impairment which includes blindness and partial sightedness or low vision requiring adaptation of content, accommodations with regard to the format of the assessment, as well as use of assistive technology.

(b) Colour blindness may pose a barrier that needs to be addressed through accommodations in this category.

Procedural Manual for the assessment and Examination of Learners who experience Barriers To Assessment from Grade R To 12: Accommodations And Concessions 2024

National Policy Pertaining to the Conduct, Administration and Management of the National Senior Certificate Examination, Government Gazette, No. 37652, 16 May 2014 (Annexure C1)

Adapted - large print test & exam papers

Papers of all types are normally printed double-sided, but it is best practice to produce papers on single sided paper. Paper used should be non-glossy and of a sufficient weight (minimum 100 gsm) to avoid any ‘show through’.

The main typeface should be Arial 18 pt. bold, with at least 4 pt. leading (i.e. 18 on 22 pt.). Headings such as those at the beginning of the paper may be in a larger size, e.g. 36 pt.; internal headings in a medium size, e.g. 26 pt. Small print in the original (e.g. newsprint, train timetables, etc.) should be reproduced in the ordinary large print size used for the rest of the paper.

No use of italics, underlining or paragraphs in capitals.

Special attention to mathematical symbols and special characters.

Accommodation in tests/exams

Computer: Specify the laptop and screen reader software and others, and need for 2nd monitor/screen and adapted/visual/high contrast keyboard (must be used in a Separate venue with a printer)

Other aids – magnifier, talking or large display calculators or document holder, earphones for screen readers or audio papers, special pen (bold)

Additional time: Partially sighted= 15 min/hour ; Blind= 30 mins/hour

EXAMS ACCOMMODATION APPLICATION – SUPPLY ALL SUPPORTING DOCUMENTS

Please use checklist as a guideline to supporting documents:	*Attached ✔ (* *✗ (no) or N.*
Completed SNA 1 & SNA 2 forms	
Completed SNA 3 form	
Evidence of scholastic support; SBST intervention, where applicable	
Form DBE 124	
Medical Report, where applicable (not older than 1 year)	
Psychological Report (by an Educational Psychologist preferably, including scholastic assessments and results of SAIS-R) (not older than 2 years)	
Relevant Report/s of healthcare professional/s, where applicable (not older than 2 years)	
Evidence of previous Accommodation & Concessions granted and approved by the Provincial Accommodation & Concessions Committee (PACC) or District Accommodation & Concessions Committee (DACC) with a relevant tracking number (not applicable for new applicants).	

TIME ACCOMMOD-ATIONS

Additional time:

Partially sighted= max 15 min/hour

Blind: max 30 min/hour

Large print test and exam papers

Large print examination papers are offered Department of Basic Education in a variety of adapted (i.e. adapted for low vision) large print formats which school select when applying for exam accommodations – to reflect the needs of the candidates.

Currently these standard formats are: 18 pt. bold on A4 size paper, 24 pt. bold (A4 or A3), 36 pt. bold (A3).

Attitudinal barriers

Victimization and bullying ***(lack of acceptance of difference)***

- name-calling/bullying if the child wears glasses
- bullying of learners with Albinism (exclusion, name calling, harmful myths in communities)
- victimization of learner who cannot recognize faces at a distance or trips over objects in their environment

School not providing **necessary educational support**

Low educational expectations - not expecting much of the learners leads to underteaching – belief that the inherent impairment is the barrier rather than applying specific reasonable accommodations

Not permitting additional time or providing differentiation in curriculum

Not providing adapted learning materials e.g., large print readers

Not individual support plan or referral to DBST.

How we start to change the trajectory?

Acknowledge that low vision may be a new field of practice for OTs. Growth mind-set.

Strengthen referral networks – avoid working in solos/private sector

Establish relationships with school, teachers/ECD practitioners – be a resource to the SBST

Address your knowledge gaps and be contextually relevant.

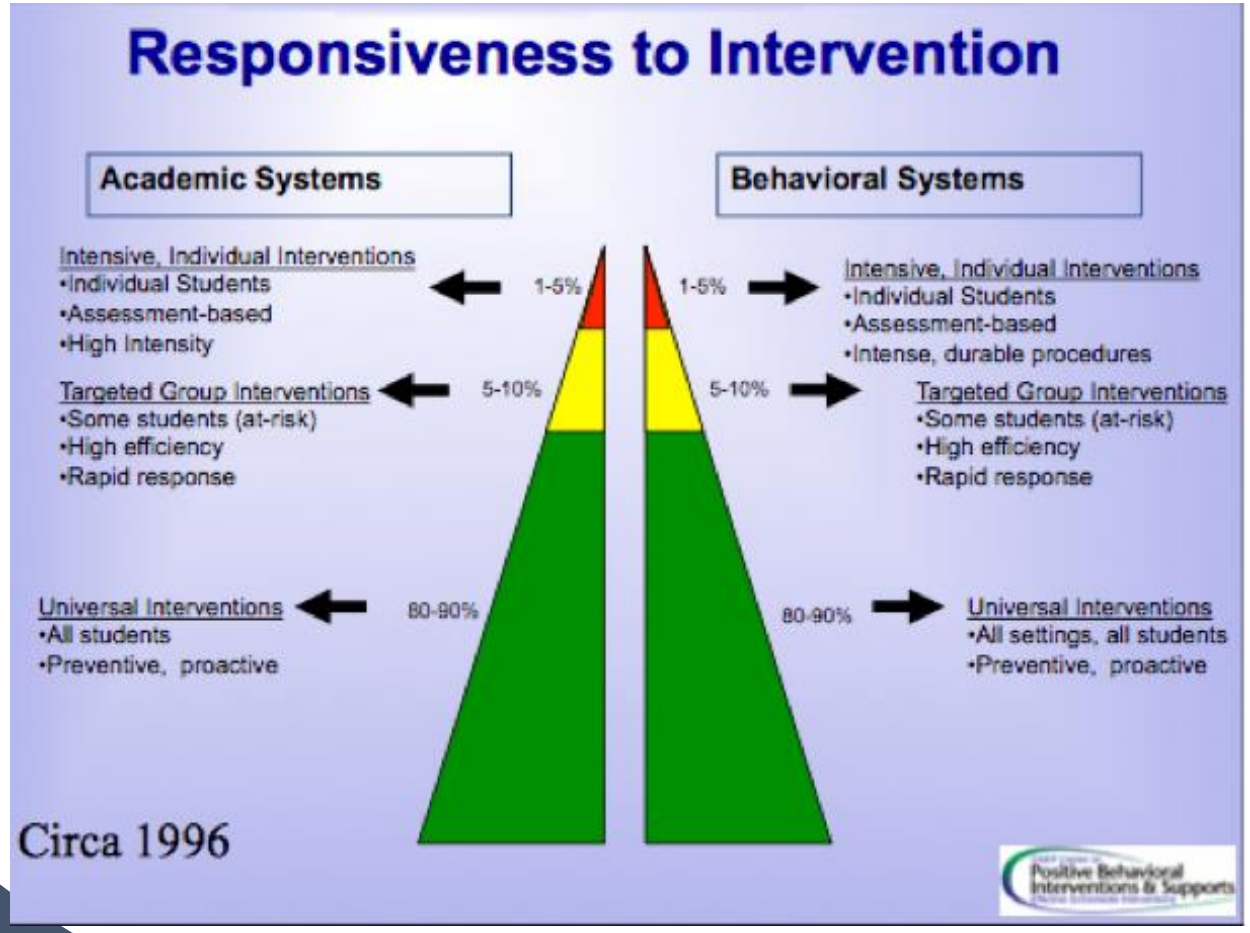
Children are learners & learning/play/ADL/ Socialisation (occupations) takes place in the classroom.

Do not fall into the trap of a charity-model, but rather community development.

Acknowledge parents/guardian as 1st teacher.

My own reflection:

Model of school- family engagement - role of Occupational Therapists



BACKGROUND

The Multi-Tiered System of Supports (MTSS) is a framework that helps educators identify students' academic, behavioral, and social-emotional strengths and challenges and provide differentiated support for students based on their needs. MTSS grew out of the integration of two other intervention-based frameworks: Response to Intervention (RTI) and Positive Behavior Interventions and Supports (PBIS). It is also known as the multi-tiered framework to family engagement.

Some final things to consider:

- An ***individualized approach*** per learner – use the expertise within the OT Team, SBST, DBST & Special School as Resource Centres.
- All learners identified with barriers to learning (learners with high, moderate or high-level support needs) require an Individual Support Plan(ISP). An ISP encompasses support at all levels and a learners needs change over time.
- Ensure the family are involved and understand the **learners' scholastic needs and rights.**
- Continual capacitation of teachers – *but success leads to more success!*
- Learners need **access to learn** but also need **to learn to access** through Assistive Technology.

QUESTIONS AND ANSWERS

Thank you

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USEFUL RESOURCES

Will be shared by LVCL

Useful non-governmental organisations, disability organisations and partners in Eastern Cape

Nkosinathi Foundation – Offer Low-vision assessment for learners, rehab incl. O & M and training on Assistive Devices, rehab@nkosinathifoundation.org

Bona uBuntu Foundation (Visio International), iterant teacher, rehab and training on Assistive Devices, coordinator@bonaubuntu.org

National Council for the Blind – Email helpdesk@sancb.org.za

Useful non-governmental organisations, disability organisations and partners

Blind SA president@blindsa.org.za | + 27 118 39 1793

Blind SA Bookshare – FREE Alternative formats: eBooks in audio, audio + highlighted text, large text, braille, books for school, career, and pleasure reading; Choose your device: computers, tablets, smartphones, braille devices https://blindsa.org.za/blind-sa-bookshare/

South African Library for the Blind – FREE Provision of a range of audio, digital and online books and reading materials

112 B High Street, Makhanda, Eastern Cape, +27 (0)46 622 7226
ww.salb.org.za

http://disabilityinfosa.co.za/visual-impairments/healthcare-vi/

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Additional References and websites

General household survey, focusing on schools, 2017; DBE publications

https://www.theguardian.com/world/gallery/2013/may/01/southafrica-forgotten-schools-inpictures