

Students who are blind or have low vision

A resource for educators

Ngā Ākonga Kāpō, he Kaha Kore te Āheinga Kite rānei
He rauemi mā te kaiwhakaako



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Introduction

This booklet examines how blindness and low vision can influence learning and provides strategies teachers can use in the classroom.

It examines key areas where students who are blind or have low vision may need support and features some whole class strategies that may benefit all students, particularly those with blindness and low vision.

It focuses on supporting you where specialist assistance may not be available, but you are searching for ways to adapt your classroom programme to meet the diverse needs of your students.

The strategies outlined in this booklet will be most effective when used in the context of good planning, knowing your students and what makes each of them unique, setting goals, and regular inquiry into what works and what doesn't.

If you need more intensive, specialist support, look into a referral to a Resource Teacher: Vision (RTV) or to your local Ministry of Education district office. Also contact the Blind and Low Vision Education Network NZ (BLENNZ) to find out more about teaching students who are blind or have low vision.

Resource Teachers: Vision (RTV) are specialist teachers employed by the Blind Education and Low Vision Education Network NZ (BLENNZ). They work alongside teachers, offering advice, strategies and guidance.

Helpful link

Visit the Inclusive Education Online Knowledge Centre where you will find a more indepth guide on students who are blind or have low vision, as well as videos and links to student and teacher experiences.

<http://inclusive.tki.org.nz>

Vision loss – what is it?

In New Zealand, vision loss is referred to as blindness or low vision. It is the total inability or partial inability to see.

BLENNZ categorises students with vision loss into three main groups – students who are educationally blind, students with low vision and students with correctable low vision.

Educationally blind – students who are educationally blind cannot use vision for learning. They use braille and audio and tactile tools and aids. A few may use some print for specific tasks.

Low vision – students with low vision can use corrected vision for learning. They use low-vision aids such as glasses or may need access to large print learning materials and software.

Correctable low vision – students with correctable vision can use corrected vision for learning without any difficulties or additional aids.

Blind and Low Vision Education Network NZ

Blind and Low Vision Education Network NZ (BLENNZ) is a school for children from birth until they are 21. BLENNZ operates across New Zealand from regional Visual Resource Centres and a main centre, Homai Campus School, in Auckland. BLENNZ offers schools, teachers and students throughout New Zealand a wide range of services, information and advice.

www.blennz.school.nz

How vision loss can influence learning

Every situation and every student is different. Students may need significant help with all day-to-day tasks or may work independently.

Their experiences will vary, depending on the nature of their vision loss, any associated disability, their family setting and circumstances and individual factors such as age and personality.

However, students who are blind or have low vision may:

- ▶ find processing visual information tiring and difficult
 - ▶ need access to technology (for reading, writing and listening to information) to keep up with their peers
 - ▶ benefit from extra help to learn social and daily living skills
 - ▶ find organisational strategies and tools useful
 - ▶ benefit from extra support to move around the classroom and school
- ▶ find it useful to learn about their disability so they can explain their particular learning needs to others.

Tumaini is 11 and has an acuity of 6/60, which means she is legally blind and uses touch and hearing as her primary methods of accessing information. She is highly proficient at reading and writing in braille and uses a screen reader to access information online. The screen reader is software that converts text to speech.

How can I prepare for a student who is blind or has low vision?

Start by talking with the student, their families, whānau, specialist teachers and other members of your student's team to understand your student and his or her learning potential.

Start by talking to your student's family, whānau, RTV and other members of the student's team to understand your student's learning potential.

You will find a student's family, whānau and RTV know your student best and will be a key source of information. Talk to them (and your student) to build a good understanding of a student's practical, emotional and learning needs.

Share with parents, family and whānau the knowledge you gain about teaching their child. Encourage them to support learning at home. Share their child's success with them. Involve them (and your student) in key decisions. Connect families and students with other people in your school community.

Support from Resource Teachers: Vision (RTV)

Talk to your student's RTV for more information about the support available to you.

They can help you:

- ▶ adapt your classroom programme, using BLENNZ's *Expanded Core Curriculum*
- ▶ develop new teaching strategies
- ▶ identify the tools, systems and equipment (assistive technology) best suited to your students
- ▶ trial and develop the skills necessary to use assistive technology
- ▶ provide one-on-one teaching to students who are blind or have low vision.

The Expanded Core Curriculum

The Expanded Core Curriculum, developed by BLENNZ, covers the knowledge and skills students need to access *The New Zealand Curriculum* and participate in class. Talk to an RTV for advice and guidance on how to use it in class.

The Expanded Core Curriculum covers the following key areas.

- ▶ **Communication modes** – braille, tactile skills, handwriting, computer use, keyboard skills, sign language, augmentative and alternative communication, concept development and listening skills.
- ▶ **Development of sensory efficiency skills** – use of residual vision, visual perception skills, use of visual aids.
- ▶ **Physical abilities** – postural control and balance, locomotor abilities, physical strength and endurance and physical education.

- ▶ **Orientation and mobility** – gross motor development, fine motor development, development of orientation, environmental considerations, mobility devices, formal strategies for travel.
- ▶ **Social skills** – interaction, socially-acceptable behaviour, self-esteem, self-confidence and self-advocacy, interpersonal skills, recreation and leisure.
- ▶ **Living skills** – self-care, organisation, time management, decision-making, vocation and career, advocacy, awareness of and access to community resources, independence and interdependence and money management.
- ▶ **Technology** – use of appropriate low and high technologies, assistive and adaptive technologies, research skills and referencing skills.

You may also like to consider using the Individual Education Plan (IEP) process to help you prepare and plan. The IEP process can be a good way to bring people together and plan collaboratively and doesn't always need to result in a formal IEP plan.

The most important thing is prepare and plan well and to regularly review what you do and what's happening.

For more information on the IEP process, refer to the Ministry's IEP guidelines, Collaboration for Success: Individual Education Plans, available in print and online at www.seonline.tki.org.nz/IEP/IEP-Guidelines

Mack is an outgoing eight-year-old who has a vision impairment called Achromatopsia, a kind of colour blindness that makes him extremely light sensitive and means he can see black, white, shades of grey and red only. He finds it helpful when his teacher uses dark blue (which Mack sees as grey) and black markers to write on the white board and describes things by their location, size and pattern.

Starting out - ideas to think about

There's no one-size-fits-all

All of your students bring a huge variety of skills, needs and interests to their learning. These differences are as unique as their fingerprints. Students want access to learning in the way that works best for them.

Know your student

Talk with the student, family, whānau, specialist teachers and other members of your student's team to come to understand your student and their learning potential. Find out about the student's interests, likes and the things that motivate the student.

You don't need a separate curriculum

Take a flexible, inclusive approach to teaching and you will find very little, if any, adaptation to the curriculum is required. Be flexible in the goals you set, as well as the teaching methods, materials and assessments you use. Discuss *The Expanded Core Curriculum* with an RTV to find out how it can help your students learn alongside their peers.

Ako

Be a learner as well as a teacher. Reflect on the impact of your practice and actions.

- ▶ What is important (and, therefore, worth spending time on, given where my students are at)?
- ▶ What strategies (evidence-based) are most likely to help my students learn this?
- ▶ What has happened as a result of my teaching and what will I need to do next?

Plan and prepare

Talk with and involve your student, their parents, family, whānau and RTV.

- ▶ Build a team around your student.
- ▶ Develop a good learner profile.
- ▶ Set clear goals and check in often.

It matters how you 'see' disability

Be a disability champion in your school and your classroom. See the student first (not their disability). Look at the world from their perspective. Understand how societal attitudes can create barriers for students. Design your classroom in a way that removes those barriers and works for all students and all ways of living in the world.

Teaching students who are blind or have low vision – a framework

There is extensive well-documented evidence about the teaching approaches that consistently have a positive impact on learning.

The evidence says all students need teachers who:

- ▶ create supportive learning environments
- ▶ encourage reflective thought and action
- ▶ enhance the relevance of new learning
- ▶ facilitate shared learning
- ▶ make connections to prior learning and experience
- ▶ provide sufficient opportunities to learn
- ▶ inquire into the teaching-learning relationship.

See *The New Zealand Curriculum*, pg 34.

Creating an accessible and supportive learning environment

Accessible and supportive classrooms can be a rich teaching resource for helping students learn about diversity and positively relate to one another. They can foster student collaboration, problem solving and learning and give all students a sense they belong at school and can participate.

There are many ways you can create a more accessible and supportive school and classroom environment.

Here are some key questions and ideas to think about and discuss with your student's RTV.

School environment

- ▶ Can your blind and low vision students move through the school doorways and corridors easily and safely?
- ▶ Do you need to point out head-high obstacles and shut hinged windows obstructing walkways?
- ▶ Is it time to ask BLENZ to do an environmental audit to identify anything that is dangerous or needs changing to make sure students can move around easily and safely?
- ▶ Would it be a good idea to:
 - ▶ develop a tactile or large print plan of the school to help your students get a good idea of the school's layout?
 - ▶ mark out particular routes a student may take?
 - ▶ modify the school environment?
 - ▶ contact the Ministry of Education to alter school property?

Classroom environment

Talk to your student's RTV about:

- ▶ classroom lighting, organisation and clutter
 - do you need to change anything to make sure students can safely get to and from important areas such as the teacher's desk or lab equipment?
 - ▶ adapting your teaching materials to make sure they are fully accessible to students using text enlargement software such as a screen reader
 - ▶ checking with students who are blind or have low vision to find out how they use vision in different situations
 - ▶ making a rule to have people entering your class identify themselves when they enter and say goodbye when they leave
 - ▶ making your classroom a good environment for active listening
- ▶ keeping bags well stowed, chairs pushed in and desks tidy
 - ▶ adding carpet in the classroom to help reduce unwanted background sounds and make it easier for students to listen
 - ▶ setting aside an additional desk or work space for students who need additional equipments such as large print books
 - ▶ setting up classrooms so all students can use the tools and equipment and participate in all curriculum areas.

Research tells us about 80 percent of learning takes place through vision and that as much as 40 percent of the brain is devoted to the visual process.

Technology in the classroom

Here is a list of some of the technology commonly used by students who are blind or vision impaired. It is a good idea to become familiar with the technology your students use.

Again, talk to an RTV for more information and advice if you need it.

Low-tech options

- ▶ Dark pencils and felt-tipped pens
- ▶ Dark-line pads, exercise books and graph papers
- ▶ Writing and reading guides
- ▶ Slope boards and desks
- ▶ Adjustable stands for notebook computers
- ▶ Large print keyboard overlays
- ▶ Adjustable copy holders with line markers
- ▶ Magnifiers
- ▶ Monoculars
- ▶ Abacus


High-tech options

- ▶ Image-capturing devices such as digital cameras
- ▶ Laptops
- ▶ Switches
- ▶ Magnification software
- ▶ Screen readers
- ▶ Electronic brailers
- ▶ Braille notetakers
- ▶ Braille display
- ▶ Scanners
- ▶ MP3
- ▶ Cell phones
- ▶ Voice-recognition software
- ▶ Digital audio books
- ▶ Talking calculator

Using the key competencies to guide teaching

The New Zealand Curriculum identifies the key competencies all students need to live, learn, work and contribute as active members of their communities.

Three of these competencies are explored in more detail on the following pages to show how they might relate to students who are blind or have low vision.



Braille is a code used by people who are blind or visually impaired to read and write. It is a tactile system through which letters and words are represented using raised dots and it is not a separate language.

Braille uses sets of six dots, called cells, in various combinations to represent letters of the alphabet, punctuation, numbers and whole words.

- Paths to Literacy website

www.pathstoliteracy.org/braille

The New Zealand Curriculum key competencies

Using language, symbols, and texts

Teaching support

All students need the opportunity to express their knowledge through a variety of language, symbols and texts.

Language and symbols represent and communicate information, experiences and ideas. Through language and symbols, people produce texts of all kinds, for example, oral, written, visual.

Many students who are blind or vision impaired will find special-format materials crucial to learning language, symbols and texts.

They may need classroom materials produced in enlarged print, braille, tactile, audio or electronic format.

They may also benefit from direct lighting and the use of good contrast to access written information (for example, additional lighting directed at the work surface may help some students. Others may find it easier to follow text written in black markers on a white board and worksheets).

You may find some students prefer using the side of their eyes and turning their head to view materials and need regular breaks during reading exercises to avoid visual fatigue.

The New Zealand Curriculum key competencies

Using language, symbols, and texts (continued)

Teaching support

You can help by keeping your classroom materials clear, clutter free and making use of contrast. You can help by making your materials available in the appropriate formats (for example, large print) and ensuring students have access to the equipment or technology they need to use their learning materials.

Discuss with an RTV the special-format materials and technology best suited to your students. Also find out more about the organisational skills your students will need to efficiently manage their learning materials and equipment.

Managing self

All students need the opportunity to become self-motivated, develop a can-do attitude and see themselves as capable learners. This includes the ability to assess and manage themselves with independence.

Students who are blind or vision impaired may need additional support to manage themselves with independence, achieve personal goals, make plans, manage projects and set high standards.

The New Zealand Curriculum key competencies

Managing self (continued)

Teaching support

For example, a student may need specialised equipment to move around independently. They may also need support to make sure everyone else in class knows about the equipment and understands how to look after and respect it.

Understanding one's own body, how it moves in space and having the opportunity to practice movement is important for all students, particularly students who are blind or have low vision.

The skills associated with physical orientation and mobility enable students to access their environment, take part in physical activity, connect socially, build friendships and move independently from place to place.

Students who are blind or have low vision may need help learning and imitating the movement used in social situation such as sitting up (not slouching) and turning towards someone when they speak.

You may need to adjust the classroom to enable a student to manage themselves with independence.

The New Zealand Curriculum key competencies

Managing self (continued)

Teaching support

For example, you may need to allocate a space especially for a student's technology or you may need to allocate an additional desk or cubby hole to students who use extra equipment or who tire easily from carrying around heavy text books.

Participating and contributing

All students need the opportunity to be actively involved in the life of their school, the activities of their classroom and in the wider community.

This includes having opportunities to contribute as a group member and make connections with others.

Many students who are blind and vision impaired students will face barriers in the school and classroom related to participating and contributing.

You can help by giving students the opportunity to use all of their senses when they are learning about a concept or seeking to move around and understand their physical environment.

The New Zealand Curriculum key competencies

Participating and contributing (continued)

Teaching support

For example, you might want to give your students tangible objects they physically touch and feel – objects such as an isosceles triangle, which could help a student build up their understanding of maths.

You can help by using explicit and concrete instructions when you explain who is doing what or where an activity is about to occur within the classroom.

Talking to an RTV about different ways to teach listening (an essential skill for students who are blind or have low vision, particularly students who rely on getting information through hearing) may also work well.

Again, making sure students have access to the technology they need to participate and contribute will also help improve the opportunities for students to participate and contribute.

Using the learning areas to guide teaching

The New Zealand Curriculum identifies eight learning areas that are important for a broad general education, including English, the arts, health and physical education, learning languages, mathematics and statistics, science, social sciences and technology.

There are five general strategies that are useful to keep in mind all the time and a range of specific strategies to consider alongside questions you may ask yourself as part of the teacher inquiry process.

“Eighty percent of sighted children’s learning is through vision – their primary motivator to explore the environment around them. Children who are blind or vision impaired must be actively and deliberately taught tactile skills to similarly reach out and explore ...”

*– BLENNZ, *Stepping Stones, Guidelines to the Expanded Core Curriculum**

All learning areas: Five general strategies

1

Present curriculum content in different ways to help students focus and enjoy what they are learning – students who are blind or have low vision impaired may benefit from having access to a good range of sensory and aural learning materials.

2

Provide options for students to express what they know – give students the opportunity to choose how they want to communicate about a topic.

3

Stimulate interest and motivation for learning – adapt your lessons and introduce alternative options for students to demonstrate what they know and can do.

4

Adjust the classroom environment to support learning – introduce technology and adapt the classroom environment to support participation and build up a student's sense of self esteem and independence.

5

Use technology – if appropriate, give students access to technology such as a laptop, desktop computer or iPad to develop their ideas and present their work. Alternatively, technology such as a braille or voice-recognition technology may work well.

Questions and strategies for all learning areas

TEACHER INQUIRY QUESTION

How can I support my students to develop their **listening skills**?

STRATEGIES

- ▶ Talk to an RTV for help to plan, teach and assess listening.
- ▶ Discuss:
 - ▶ how to create listening opportunities in one-on-one, small and large group and in noisy and quiet environments
 - ▶ how to help students develop their receptive skills such as awareness of sound, turning to sound etc
 - ▶ providing opportunities in the classroom for students to use their listening skills, for example, by using taped material, talking calculators and computers with synthesised speech.

TEACHER INQUIRY QUESTION

How can I support my students to **move around** the classroom with confidence?

STRATEGIES

- ▶ Refer to an RTV for guidance and advice and to identify ways to incorporate orientation and mobility into your classroom programme.
- ▶ Discuss:
 - ▶ giving your blind or visually impaired students time to explore and get to know your classroom
 - ▶ encouraging students to move independently whenever they can
 - ▶ some of the ways other students (for example, their sighted peers) can support students who are blind or have low vision to move about the classroom freely (for example, by keeping key areas free from obstacles).

TEACHER INQUIRY QUESTION

How can I reduce the **visual fatigue** experienced by students who are blind or have low vision?

STRATEGIES

- ▶ Encourage students to look up and into the distance to relax their eyes after reading several pages of print.
- ▶ Encourage students to change from reading print to something entirely different.
- ▶ Reduce the amount of text students need to copy from the board.
- ▶ Ask an RTV for other ideas.

TEACHER INQUIRY QUESTION

How can I encourage students to **develop their tactile skills**?

STRATEGIES

- ▶ Talk to an RTV about:
 - ▶ age-appropriate ways to encourage students to reach out and explore their environment (for example, starting with learning through first-hand experiences and progressing on to accessing information)
 - ▶ what to do if a student displays tactile defensiveness or dysfunction (a negative reaction to certain types of tactile stimuli)
 - ▶ ways to increase a student's toleration of being touched and handling different objects (if relevant)
 - ▶ giving students a range of experiences and opportunities to understand the world using touch.

TEACHER INQUIRY QUESTION

What can I do to **support a braille learner**?

STRATEGIES

- ▶ Ask your RTV about your role in supporting a student to learn skills associated with hand and finger positioning, lightness of touch, left-to-right tracking, scanning, efficient return sweep and book management skills.

TEACHER INQUIRY QUESTION

I'd like to give my students more opportunities to **develop their visual efficiency skills in class**. What can I do?

STRATEGIES

- ▶ Encourage and provide the opportunity for your students to use vision and their visual aids in their everyday classroom activities.
- ▶ Link visual efficiency to the curriculum, for example, studying lenses in science.

TEACHER INQUIRY QUESTION

My student uses **print as the main medium for learning**. What can I do to support my student?

STRATEGIES

- ▶ Check the print size, font, letter thickness, spacing between letters and contrast that work best for your student.
- ▶ Think about how you will adapt your classroom materials (for example, your print, blackboard, white board and assessment materials) to suit the print needs of your students who are blind or have low vision. Talk to an RTV for advice.
- ▶ Find out the lighting that works best for your students and the distance they need to be from their learning materials.
- ▶ Talk to your student and their RTV for ideas on how to enlarge your classroom materials (for example, by getting the student to hold the materials closer or by enlarging text by photocopying it).
- ▶ Ensure your students have access to the printed materials they need (at the same time as their peers).
- ▶ Ask your RTV for ideas on how to introduce reading skills such as scanning or skimming into your classroom programme (if needed).
- ▶ Where relevant, also discuss any extra time a student may need to complete reading tasks.

TEACHER INQUIRY QUESTION

I'd like to **integrate more life skills** learning into my classroom programme – what are some of the key skills relevant to students who are blind or have low vision?

STRATEGIES

- ▶ Your student's RTV is available to give you advice on integrating life skills into your classroom programme.
- ▶ Discuss opportunities for teaching:
 - ▶ food and nutrition (for example, feeding, eating, planning and preparing and cooking food)
 - ▶ financial management (for example, basic numeracy and measurement, handling money, legal responsibilities and rights)
 - ▶ personal care and safety (for example, hygiene, personal presentation, shopping, identifying health needs, safety)
- ▶ living at home (individual and group responsibilities)
- ▶ community and disability awareness (knowing and using community resources, understanding disability-related issues)
- ▶ vocational and career skills (career awareness, exploration, preparation and placement).

TEACHER INQUIRY QUESTION

What **technology** should I encourage my students to use – and what should I do to support them?

STRATEGIES

- ▶ Talk to an RTV about the technology your students will need to learn and access the curriculum.
- ▶ Discuss:
 - ▶ the low tech and high tech options
 - ▶ how to support braille use in class
 - ▶ using digital materials such as books, text-enlarging software etc.

TEACHER INQUIRY QUESTION

How soon should students who are blind or have low vision **learn keyboarding skills**?

STRATEGIES

- ▶ Early is generally best. But talk to your student's RTV for advice about integrating keyboarding and touch typing into your classroom programme.

TEACHER INQUIRY QUESTION

What else can I do within my **classroom** to increase student **participation**?

STRATEGIES

- ▶ Verbalise what is being written on the board.
- ▶ Find out where a student needs to position themselves and their desk to get the best view of the board and classroom materials.
- ▶ Reduce visual clutter (in class, on the board, on handouts etc.)
- ▶ Present visual materials against a contrasting background to make them easier to see.
- ▶ Find out if students with light sensitivity need windows curtained off.
- ▶ Keep your board clean and glare-free to make your writing easier to see.
- ▶ Set out your board work in a clear, consistent format with good contrast, for example, using columns, grouping information and using large, clear and uncluttered writing.
- ▶ Use visual tools such as fluorescent stars and stickers to highlight information on the board such as homework, key words and new vocabulary.
- ▶ Use black thick-nibbed pens that are in good working order on whiteboards and avoid colour.

TEACHER INQUIRY QUESTION

What if **time is a barrier** to participation?

STRATEGIES

- ▶ Allow additional time for reading and writing tasks particularly (these tasks typically take longer for students who are blind or have low vision).
- ▶ Consider reducing a student's workload, for example, ask them to complete four maths activities instead of eight.
- ▶ Allow students to use a scribe or a reader-writer.
- ▶ Talk to an RTV about allowing students extra time for exams and assessments and applying for support called Special Assessment Conditions (available from the New Zealand Qualifications Authority).

TEACHER INQUIRY QUESTION

How can I increase opportunities for **students to demonstrate what they know** in my classroom?

STRATEGIES

- ▶ Encourage students to draw on their background to express what they know and make connections.
- ▶ Give students plenty of opportunity to use their listening and communication skills – in small groups, in games and in presentations.
- ▶ Support students to ask questions when they don't understand something or need something clarified.

TEACHER INQUIRY QUESTION

How can I support the **literacy learning** of my blind or vision impaired students?

STRATEGIES

- ▶ Talk to your student's RTV for advice and ideas.
- ▶ Discuss:
 - ▶ the best reading and writing medium for your blind or visually impaired students. For example, a student may need to read and write in braille, prefer just print or want a combination of both
 - ▶ making sure their preferred medium allows them to keep up with the pace of the class and doesn't cause them discomfort, strain or undue fatigue over time
 - ▶ making sure a student's preferred reading and writing medium is flexible enough to allow the student to read and write in different circumstances – in the library, in bed at night, at a meeting or during a science lab test.

TEACHER INQUIRY QUESTION

In what ways can I support a student to use **their senses to participate and contribute** in class?

STRATEGIES

- ▶ Talk to your student's RTV. Discuss providing opportunities to:
 - ▶ explore objects related to what they are learning, for example, objects that vary in texture, size, weight, temperature, flexibility and hardness
 - ▶ learn about numbers and maths concepts such as geometry by physically touching and handling three dimensional shapes and objects
 - ▶ access learning materials such as maps, diagrams, graphs, charts and pictures that can be explored in a tactile way.

TEACHER INQUIRY QUESTION

How can I support students to develop **social skills**?

STRATEGIES

- ▶ Give your students opportunities to practise and repeat socialising and interacting with peers, for example, organise technology days, peer-support weekends, camps and activity groups.
- ▶ Expect high standards of social behaviour from all your students, for example, carrying out classroom duties and showing leadership.
- ▶ Get everyone involved in providing constructive feedback on acceptable and unacceptable social behaviour.
- ▶ Talk to your student's RTV about ways to integrate self-awareness, verbal skills and interpersonal communication into your classroom programme.
- ▶ For example, a self-awareness lesson for primary students may involve practising verbal prompting and cues, while a lesson on interpersonal communication for secondary students might focus on accepting teasing as part of friendship.

TEACHER INQUIRY QUESTION

What can I do to encourage students who are blind or vision impaired to develop a positive self image and **enjoy being at school?**

STRATEGIES

- ▶ Identify what a student is good at and enjoys and use it as the basis for a group activity that the student can lead or take part in and contribute to.
- ▶ Get students who are blind or have low vision to lead the discussions where appropriate.
- ▶ Model ways to acknowledge and value the participation and contribution of all students in your class.
- ▶ Provide students with lots of positive reinforcement and feed forward or instructions about how to make the next step in their learning.
- ▶ Organise classroom visits and presentations from people who are blind or have low vision in your community to act as role models and stimulate classroom discussion about the effects of vision loss, how to communicate clearly and why it is important to accept difference.
- ▶ Integrate topics such as famous people who are blind or vision impaired (for example, the New Zealand Paralympic team) into the curriculum to help build a sense of confidence and self esteem among blind or visually impaired students and to .
- ▶ Celebrate Blind Awareness week. Refer to the Blind Foundation's website for more information.

TEACHER INQUIRY QUESTION

How can I improve the way I **communicate** with students?

STRATEGIES

- ▶ Talk to your student's RTV for advice and ideas.
- ▶ Discuss these ideas:
 - ▶ making a rule to have people entering your class identify themselves when they enter and say goodbye when they leave
 - ▶ encouraging students to listen for your voice (and the voices of other speakers) and teaching them to turn their bodies to face the speaker
 - ▶ giving students instructions using precise language, for example, 'Please pass your paper to the person on your right.' (avoid the use of 'here' and 'there')
- ▶ making sure you have the attention of your students before you start speaking. Be aware of distractions, particularly when you need them to concentrate on what you are saying
- ▶ avoiding talking while students are doing noisy, distracting activities such as getting their books out or being given work material.

TEACHER INQUIRY QUESTION

What **information** do I need to know about my students who are blind or vision impaired and who should I share this with? **I know that it is important to treat this personal information with care.**

STRATEGIES

- ▶ Talk to your student and their family to be clear about the information to share and who to share it with.
- ▶ Give students the opportunity to express their opinions and take those opinions into account.
- ▶ Find out how personal issues such as changing for sports will be managed.

TEACHER INQUIRY QUESTION

What **community resources** can I draw on to support my students' learning?

STRATEGIES

- ▶ Talk to your RTV about what is available from BLENNZ.
- ▶ Contact the Blind Foundation to access their wide range of talking books, braille books and audio magazines.
- ▶ Encourage your students to use the Foundation's library as a study resource – note, the Foundation delivers free to anywhere in the country.
- ▶ The Blind Foundation also offers students (over 16 years old) a programme teaching living skills and support and independence at home and at work called TRACKS.
- ▶ Encourage your senior students and their families to talk to BLENNZ about their range of immersion courses for secondary school students on topics such as study skills and planning for tertiary education.

TEACHER INQUIRY QUESTION

How can I support students to **manage themselves in class?**

STRATEGIES

- ▶ Talk to your student's RTV for advice and ideas.
- ▶ Discuss:
 - ▶ encouraging students to find out about how their technology works
 - ▶ supporting students to be knowledgeable about being blind or having low vision and to perceive it positively
 - ▶ finding out if your students have any particular light or noise sensitivities that you need to take into account
- ▶ giving students who find the effort required to concentrate and focus tiring a quiet place to sit and recover
- ▶ encouraging students who are blind or have low vision to self-manage, stay focused, organised and on track with learning using tools such as a digital calendar. Set it to silently vibrate at particular intervals as a reminder to complete a particular task or to remind the student it is time to transition to another class or topic.

TEACHER INQUIRY QUESTION

How can I help students prepare for **changing schools or leaving school?**

STRATEGIES

- ▶ Plan well ahead for students changing schools or moving on to secondary school.
- ▶ Ask an RTV for advice and ideas.
- ▶ Discuss:
 - ▶ meeting the Head of Learning Support at the student's new high school to find out about the learning environments they will work in
 - ▶ preparing students by giving them an opportunity to spend time in their new school, meet their teachers, other students and visit the classrooms they will be spending time in
- ▶ assigning a buddy to a young person making the transition to high school
- ▶ asking the student what their concerns are and their ideas of the best ways to support them during transition
- ▶ talk to the Head of Learning Support at the student's school to clarify any personal care and social support the student may need
- ▶ directly teaching the skills the student will need in their new setting
- ▶ talking to the Blind Foundation about their programmes for young people.

TEACHER INQUIRY QUESTION

Who can I contact for **extra support and advice**?

STRATEGIES

- ▶ Contact BLENNZ for:
 - ▶ advice and support for families and whānau
 - ▶ assessment every three years
 - ▶ residential services and access to satellite classes
 - ▶ teaching expertise from BLENNZ's network of RTV based throughout the country
 - ▶ access to *The Expanded Core Curriculum*, which aim to give students the extra skills they need to learn and participate in class
- ▶ technology expertise from teachers who specialise in simple low tech toys and materials, through to specialised low vision and braille electronic devices
- ▶ orientation and mobility expertise from specialists who help children relate to objects in their environment and provide advice about safe and independent movement and travel
- ▶ regular courses for students, teachers and families and whānau on relevant topics such as using assistive technology, learning braille, adapting the curriculum and daily living skills.

Student examples

Here are two practical examples of how you might put some of the ideas outlined in this resource into practice. One focuses on primary school, the other looks at a student in the secondary context.

Primary school

Jimmy is eight and has albinism, which causes extreme sensitivity to sunlight. He needs to wear a hat, sunglasses and sunscreen when he is outside, but prefers not to be reminded all the time.

Jimmy's vision is significantly affected by his condition – he is extremely photophobic (sensitive to glare) and finds it difficult to adjust quickly to changes of light (from dark to light and vice versa).

Jimmy's visual condition includes nystagmus (an involuntary muscle movement of the eyes), which increases and becomes more obvious as he tires.

His visual acuity is 6/36, which means he can read font size N18, but tires after reading it for too long. If there have been a lot of visual tasks during the day, Jimmy needs the font size increased or someone to read the text aloud to him.

Jimmy loves cooking and creating stories. He is also a valuable member of his local soccer team. He could fully participate after his coach introduced a fluorescent soccer ball and Jimmy's team mates started calling out to him during matches so he could find the ball easily.

Jimmy is doing very well at school, although he is slightly below National Standards in both numeracy and literacy.

Jimmy the student

- ▶ Create a learner profile for Jimmy that all the teachers and other staff that will work with Jimmy will be able to use to understand his needs. For example, Jimmy's vision fluctuates due to light levels, intensity of the visual task and physical fatigue. A larger font size may be necessary later in the day.
- ▶ Provide Jimmy with someone who can read text read to him when he needs it (a peer buddy works well).
- ▶ Jimmy can have difficulty locating information on the whiteboard if there is a lot on it. Putting a visual marker such as a fluorescent shape, beside the relevant information is a useful strategy.
- ▶ Read aloud any work written on the board – this not only draws Jimmy's attention but benefits all learners.

Jimmy's learning environment

- ▶ Jimmy needs the cloak-bay area kept clear. Bags, jackets and shoes should be tidied away.
- ▶ Chairs should be pushed in so they are not in Jimmy's way.
- ▶ Jimmy favoured position is sitting with the light behind him and can see his teacher best when she stands away from the glare of windows (that way he can see her facial expressions).
- ▶ Jimmy needs writing on the whiteboard done in black or blue (his teacher also avoids using faded pens, which helps too).
- ▶ Jimmy needs support organising his desk and materials to help him find things.

Teaching Jimmy

- ▶ **English (reading)** – Use a scanner to load Jimmy’s reading books onto his iPad so he can access the same books as his peers in a font size that is comfortable for him. Note, he has learnt how to download e-books and talking books from his council library and is now enjoying reading.
- ▶ **English (writing)** – Continue to support Jimmy to do most of his writing on the iPad with a separate keyboard (he is much more successful this way). Using the iPad means he is able to make the font as big as he needs it and can edit his own writing. Using technology in this way is also giving Jimmy confidence and enjoyment of the subject (his handwriting was very hard to read). He can now re-read his own work and is keen to use technology in this way across other subjects where he can.
- ▶ **Maths** – Continue to support Jimmy to use his iPad to take photos of the work on the board or worksheets, which he can enlarge for clarity. He’s also found some excellent maths apps that he and his group use when they finish their work.
- ▶ **Social sciences (news time)** – Provide opportunities for Jimmy to work in a group (which he enjoys). He has excellent oral skills and is happy to share his ideas. He often takes photos of his out-of-school activities (on his iPad) and shares these and his stories with the class.
- ▶ **The arts (art, music and movement)** – Jimmy enjoys all aspects of the arts curriculum but particularly loves drawing. Be aware, however, that Jimmy tires more readily than his peers, particularly if a task is highly visual.

Teaching Jimmy (continued)

- ▶ **Health and physical education (in the playground and gym)** – Make adaptations for Jimmy to enable him to participate and contribute. For running, put him at the side of the race track so he can follow the line accurately. Use high contrasting equipment wherever possible, so Jimmy can find it easily.
- ▶ **Play** – Sometimes, particularly on very sunny days, Jimmy has difficulty finding his friends in the playground. Set up a central meeting place to help Jimmy and all students stay connected.

Secondary school

Meleane is a 14-year-old totally-blind student in year 10 who attends her local secondary school. She is very interested in music, plays the piano and is in the school choir. Meleane has also joined the debating team.

Meleane accesses all areas of the curriculum through braille. She is a very capable student and is doing well academically. She has the support of an RTV and she receives 15-hours-a-week teacher's aide time.

Meleane requires a range of specialist teaching and learning resources. She has all text books published in braille

(where she can, braille resources take time to publish – up to six months' notice is needed). She prefers to access all classroom teaching materials electronically so she can convert them to braille using a portable braille note-taking device (ideal for materials that aren't lengthy).

Meleane has a cane for mobility, but needs support to move between classes because the school is so busy. She prefers walking between classes with support from her peers (rather than an adult). Meleane is very social and has a wide network of friends.

Meleane the student

- ▶ Create a learner profile for Meleane that all the teachers and other staff that will work with Meleane will be able to use to understand her needs. For example, Meleane enjoys keeping up with her peers and can become frustrated if work is not available for her at the same time as her peers.

Meleane's learning environment

- ▶ Work sheets, test papers and other resources required in braille should be given to Meleane's RTV at least two weeks in advance. Textbooks that need to be developed in braille by the Blind Foundation require at least a term's notice.
- ▶ Meleane has a braille note-taking device, which she uses to access written material sent to her by email or loaded onto a portable memory stick. Email Meleane's work to her before the class begins (she likes to be prepared).
- ▶ Wherever possible provide Meleane with e-text books. She does read hardcopy braille, but prefers e-text books because they're lightweight and easy to transport.


Teaching Meleane

- ▶ **English/social studies/history** – As long as resources are organised well in advance, Meleane is independent in this subject. E-text is the best format for resources in these subjects.
- ▶ **Science** – This is a subject area where Meleane needs more support. Give Meleane extra time to learn the correct scientific terminology (for example, chemical formulae) in braille and to interpret and reproduce complex diagrammatic material. Science is a very visual subject, often with very subtle nuances and concepts. Meleane needs the opportunity to have these concepts interpreted in braille. Talk to Meleane's RTV for help.
- ▶ **Maths** – To do well in this subject, Meleane requires significant on-going braille code learning and concept development to enable her to read and reproduce complex braille and diagrammatic material. Give her plenty of opportunity to develop the knowledge and skills she needs to give clear explanation and instructions (of mathematical content such as graphs) to an amanuensis or examiner. Due to layout and format maths, Meleane needs all materials in hard-copy braille, meaning storage can be an issue. Talk to her RTV for advice and support.
- ▶ **Languages** – Work closely with Meleane's RTV to ensure she can learn the additional symbols and code rules for each language she studies.
- ▶ **The arts** – Meleane has been learning the braille music code since she was 10 and has all her music produced in braille. Provide Meleane with plenty of opportunity to participate in music and drama, recognising she is a student who loves to perform.
- ▶ **Health and physical education** – Meleane is able to fully participate in this part of the curriculum with input from her RTV and DOM (developmental orientation and mobility instructor). Ask them for help to adapt lessons appropriately.

Useful contacts and resources

blennz.school.nz – Blind and Low Vision Education Network of NZ (BLENNZ)

blindfoundation.org.nz – Blind Foundation (formerly the Royal New Zealand Foundation for the Blind)



<http://inclusive.tki.org.nz> – Ministry of Education’s Inclusive Education Online Knowledge Centre

seonline.tki.org.nz – Special Education online (Te Kete Ipurangi) Ministry of Education website about special education for the education community.

sociallyspeaking.co.nz/resources.html – a New Zealand website with resources aimed at helping children develop social and communication skills.

udlcentre.org – a website about an American curriculum development approach called Universal Design for Learning.

The Vision Book: My Child, Our Journey – Information for families and whānau about children who are blind, deafblind or have low vision, Ministry of Education – a book covering a wide range of topics related to vision loss. Recommended reading for parents, families, whānau and teachers.



For more information

For information about services and support available to children with special education needs, visit www.education.govt.nz [search word special education].

For more specialist classroom, teaching and curriculum resources, visit the Te Kete Ipurangi website www.tki.org.nz

Replacement copies may be ordered from Ministry of Education Customer Services, online at www.thechair.minedu.govt.nz by email: orders@thechair.minedu.govt.nz or freephone 0800 660 662, freefax 0800 660 663 Please quote item number 16126

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How low vision can influence learning

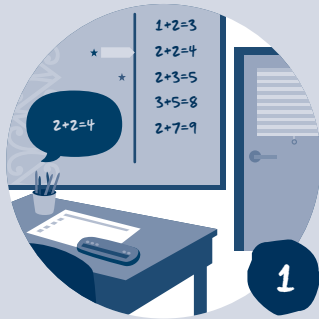
CHALLENGES

Will vary from student to student

- ▶ Processing visual information.
- ▶ Accessing technology.
- ▶ Learning social and daily living skills.
- ▶ Organisation.
- ▶ Moving around the classroom and school.
- ▶ Communicating their learning needs.

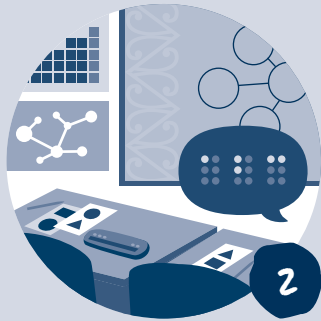
Download
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TEACHING OPPORTUNITIES



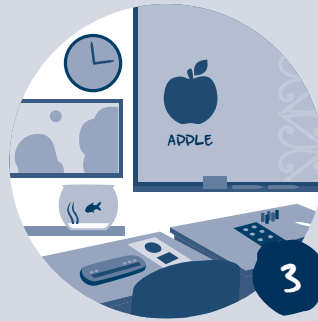
Adjust the classroom

- ▶ Check that the classroom, doorways and toilets are easy to access.
 - ▶ Check the lighting. Curtain off windows for light sensitive students.
 - ▶ Give students time to get to know their way around in the classroom.
 - ▶ Keep the classroom free of clutter and reduce visual clutter (in class, on the board, on handouts).
 - ▶ Set up the classroom so that all students can use the tools and equipment and participate in all curriculum areas.
- ▶ Give students extra time to move around the classroom and between classes.
 - ▶ Be aware of the fonts you use in class – minimum of 12 point, left aligned, avoid large amounts of italics, block capitals and underlining, use bold for emphasis, provide contrast (black font on white or yellow on dark blue).
 - ▶ Verbalise what is being written on the board.
 - ▶ Find out where a student needs to position themselves and their desk to get the best view of the board.
 - ▶ Present visual materials against a contrasting background to make them easier to see.
 - ▶ Set out your board work in a clear, consistent format with good contrast, for example, using columns, grouping information and using large, clear and uncluttered writing.
 - ▶ Use visual tools such as fluorescent stars and stickers to highlight information on the board.
 - ▶ Use thick-nibbed, black pens (avoid colour) on whiteboards.



Present curriculum content in different ways

- ▶ Find out how your students use vision in different situations.
- ▶ Use good contrast in all written information.
- ▶ Use a range of teaching materials (enlarged print and braille)
- ▶ Give explicit and concrete instructions and explanations.
- ▶ Talk to a Resource Teacher: Vision about teaching life and keyboarding skills.



Stimulate interest and motivation for learning

- ▶ Provide teaching materials in accessible formats and in the student's preferred medium.
- ▶ Use tactile learning materials.
- ▶ Avoid vision fatigue – schedule frequent breaks, encourage students to look up and into the distance after reading several pages of print, reduce the amount of text to be copied, encourage students to change from reading print to something entirely different.
- ▶ Allow additional time to complete tasks.



Use technology and equipment

- ▶ Have the students use laptops, desktops or tablets to present their ideas.
- ▶ Support students to use technology such as a braille or voice-recognition software.
- ▶ Allow students to use technology to take snapshots of and up-size the content on the board.