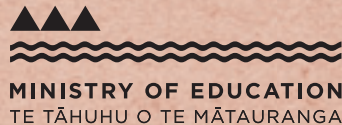


Students who are deaf or hard of hearing

A resource for educators

Ngā Ākonga Turi

He rauemi mā te kaiwhakaako



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Introduction

This booklet examines how being deaf or hard of hearing can influence learning and provides strategies teachers can use in the classroom.

It examines key areas where students who are deaf or hard of hearing may need support and features some whole class strategies that may benefit all students, particularly those with hearing loss.

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, contact an Advisor on Deaf Children through the Ministry of Education, or your local Resource Teacher of the Deaf.

Helpful link

Visit the Inclusive Education website where you will find a more indepth guide on students with hearing loss, as well as videos and links to student and teacher experiences.

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

	Without aids or cochlear implants	Habilitation options
Unilateral	A student will have a degree of hearing loss in one ear only. They may have difficulty accessing spoken language in noisy situations and at a distance, and in determining the direction or source of a sound.	May be supported in class by assisted hearing devices where appropriate.
Mild	A student will hear most aspects of spoken language and may be able to fill in gaps if they have spoken language skills. There may be disruption to grammatical markers and the articulation of some spoken language sounds. They may have some difficulty listening when there are background noises.	May use a hearing aid to access spoken language sounds. May be supported by lip reading and/or New Zealand Sign Language.
Moderate - Severe	A student will hear some speech sounds and words spoken with normal voice from a distance of one meter – once you have gained their attention.	May use cochlear implants and/or hearing aids. May be supported by lip reading and/or New Zealand Sign Language. Assess the student's visual communication needs and counsel them on managing spoken communication.
Severe	A student will hear some aspects of spoken language and may be able to fill in gaps if they have spoken language skills. This degree of hearing loss will significantly impact on the development of spoken language.	May use cochlear implants and/or hearing aids. May be supported by lip reading and/or New Zealand Sign Language. Assess the student's visual communication needs, counsel them on managing spoken communication and consider speech-language therapy.
Profound	A student may hear occasional loud noises, but will not have access to many speech sounds, even if a person is standing close. This degree of hearing loss will significantly impact on the development of spoken language.	May use cochlear implants and/or hearing aids. May be supported by lip reading and/or New Zealand Sign Language. Assess the student's visual communication needs, counsel them on managing spoken communication and consider speech-language therapy.

How hearing loss can influence learning

Every situation and every student is different. Their experiences will vary, depending on the nature of their disability, any associated disability, their family setting and circumstances and individual factors such as age and personality.

Students who are deaf or hard of hearing may need support to:

- ▶ communicate
- ▶ learn language
- ▶ understand new concepts
- ▶ develop independent literacy skills
- ▶ develop a positive identity.

How students who are deaf or hard of hearing communicate

There are two main ways students who are deaf or hard of hearing communicate – with voice (for example, using oral language) and with hands (for example, using sign language). Some students may use a combination of the two methods.

Voices (oral language)

Voice or oral communication involves speaking, listening and lip-reading.

It can also involve:

- ▶ using hearing aids, FM or DM systems (frequency modulation or digital modulation systems, collectively known as remote microphone [RM] hearing systems) and cochlear implants to hear sound
- ▶ recognising people's lip patterns (such as those made to pronounce the syllables, words and sentences of speech), as well as facial expressions to get meaning.

Hands (sign language)

Hand or sign language is a manual communication method using the hands (not the voice) to convey meaning.

It can involve:

- ▶ using New Zealand Sign Language (NZSL), conveyed through a range of hand movements, expressions and lip patterns
- ▶ using sign-supported English, conveyed through spoken English, as well as some of the key signs of NZSL, fingerspelling (where each letter of the alphabet is represented by a sign), lip-reading and reading facial expressions and body gestures.

Technology used in the classroom

Bone conductors, FM or DM systems (frequency modulation or digital modulation systems, collectively known as remote microphone [RM] hearing systems), cochlear implants, hearing aids and sound field systems are a few examples of the technology commonly used by students who are deaf or hard of hearing.

Students will vary in their use of technology. Some may use it all the time in class. Others may find continual use uncomfortable and want to use their technology in combination with NZSL. Talk to students to find out their preferences.

Here is an overview of this technology. Talk to an Advisor on Deaf Children or a Resource Teacher of the Deaf for more information.

Bone conductors

A bone conductor is a type of hearing aid for students with permanent conductive hearing loss who can't be fitted with other types of hearing aid. The bone conductor can be fitted to the head with various types of headbands or to a surgically-placed implanted abutment.

Rawiri is recovering from middle ear surgery to clear up unexplained temporary deafness. Right now, he experiences difficulty hearing people speaking in noisy situations, but is likely to enjoy a total ability to hear over time. Rawiri is normally a bubbly student, but his recent surgery and absence from school has knocked his confidence in learning.

Note, hearing loss varies in degree and configuration, so it is important each hearing aid is adjusted to suit the student who needs it. Audiologists adjust hearing aids using an internationally-recognised procedure.

FM and DM systems

These systems are equipment worn by a classroom teacher and a student with a hearing aid or cochlear implant. FM and DM systems, sometimes referred to as a radio aid, help students hear a teacher's voice consistently across distance and regardless of background noise.

FM and DM systems come in two parts – a transmitter and microphone worn by the teacher and a receiver fitted to the student's hearing aids or cochlear implant speech processor. Sounds are carried from the transmitter to the receiver by radio waves.

Note, learn how to set up the system and practise using it and keeping it charged. Get in the habit of turning the system off when you are no longer using it. The system will continue to transmit your conversations when it is switched on – even if you have left the classroom.

Cochlear implants

A cochlear implant is a surgically implanted electronic device (with an external sound processor) that provides access to spoken language to a student who has severe and profound hearing loss.

Nina is a very bright nine-year-old born with a profound hearing loss. Without hearing aids she hears occasional sounds such as loud noises, but cannot understand anyone talking, even if that person is standing close. She relies on hearing aids and lip-reading (also known as speech-reading) to understand what is going on around her. She is a New Zealand Sign Language (NZSL) user and loves to teach signs to her hearing peers.

Note, students are encouraged to check and maintain their implants as they grow older and more capable. This may be something you can recognise and support in class. Contact the Northern or Southern Cochlear Implant Programmes for additional cochlear implant support and services.

Hearing aids

Hearing aids are mini amplifier systems that make sounds louder. They have an ear mould that fits in the outer ear, plus a hearing aid that sits behind the ear. Some hearing aids sit just inside the ear canal.

Hearing aids have three main parts – a microphone that picks up sound and turns it into an electrical signal; an amplifier that increases the size (amplifies) the electrical signal; and a receiver that converts the amplified electrical signal back into sound. They are an extremely important device to help students make the best use of what hearing they have.

Note, hearing aid batteries have a limited life. They can last just a few days or a couple of weeks, depending on the power of the hearing aid and will go flat and need replacing. Having spare batteries on hand is essential. Contact the Deaf Education Centres for free batteries and hearing aid repair services.

Sound field systems

A sound field system is made up of a microphone and transmitter worn by the classroom teacher and one or several loud speakers (through which the teacher's voice is delivered for all the class to hear). The set up is similar to a public address system.

Note, contact the Ministry of Education's Assistive Technology Service for advice on and funding for a sound field system. The Ministry funds the systems for some students who are deaf or hard of hearing. Sound field systems don't work well in all rooms or for all students. Seek professional help to install and test a sound field system.

Teaching students with hearing loss – 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.

Using the key competencies to guide teaching

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

These key competencies are relevant to all students and all learning areas.

They include:

- ▶ thinking
- ▶ using language, symbols and texts
- ▶ managing self
- ▶ relating to others
- ▶ participating and contributing.

The New Zealand Curriculum key competencies

Teaching support

Thinking

Support students who are deaf or hard of hearing to understand what is being taught in the classroom by using visual cues and by clarifying and communicating important information and concepts in a variety of ways. Present information as visual pictures, captioned videos, video clips and graphics.

Relating to others

Provide students who are deaf or hard of hearing with opportunities to participate and contribute socially. Communicate clearly and set up the classroom for optimum communication. Take advantage of possible strengths in leadership and students' sense of cultural identity and belonging within the Deaf community. Consider introducing and using NZSL in the classroom.

Using language, symbols, and texts

Students who are deaf or hard of hearing may need access to visual, signed and written information to access the curriculum. Provide students with opportunities to express what they know in multiple ways, for example, through text, speech, sign language, movement, illustration, storyboards, video and use of web tools.

The New Zealand Curriculum key competencies

Teaching support

Managing self

Support students to follow instructions and work independently using a range of visual tools. Provide opportunities to plan for the day, organise equipment, complete tasks and manage their own time and equipment (for example, hearing aids). Encourage students to manage their own learning environments, for example, by adjusting their seating, manoeuvring themselves into a good listening position or buddying up with another student who can keep them updated on what is being said and occurring within the class.

Participating and contributing

Find out if students need the classroom setting adapted – they may need access to technology such as an FM or DM system to participate and contribute. They may need classroom noise to be kept to a minimum and rely on visual cues to help them access classroom programmes and understand and respond to what is doing on in the classroom. Find out the spoken language your students find most difficult to hear (for example, softly spoken speech or speech from a distance) and understand and respond to their individual needs. Introduce and use NZSL in the classroom for signing students.

Strategies for teaching students who are deaf or hard of hearing

The following strategies 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.

CHALLENGE		
Communicating	<p>Communication is a key part of learning. Students who are deaf or hard of hearing may find it challenging to understand you and others.</p> <p>They may tire easily from the effort and concentration involved in communicating, lip reading and watching interpreters.</p>	<p>Students may rely on visual cues, technology such as cochlear implants and FM or DM systems, as well as spoken language to understand what is going on around them. They may communicate with others using NZSL, spoken language or by writing down what they mean.</p>

STRATEGIES

Classroom adaptations

Adapt the classroom so students can keep you in their sight and stay on track with what is happening in the classroom. Try these strategies.

- ▶ Keep class noise levels low. A quiet classroom is an ideal listening environment.
- ▶ Talk with students who are deaf or hard of hearing to find out how to arrange classroom seating to make sure they can see you and their peers – for example, many find it helpful to sit to the side of a group to help them visually scan for and identify who is speaking.
- ▶ Find out how much space you need to keep between you and the student to gain their attention and be heard (for example, learn the student's optimum listening distance) and organise the classroom to support that.

- ▶ Encourage students to manage their own learning environments, for example, by adjusting their seating, manoeuvring themselves into a good listening position or buddying up with another student who can keep them updated on what is being said and occurring within the class.

There are two main ways deaf or hard of hearing students use language to communicate in New Zealand – with voices (for example, using oral language) and with hands (for example, using sign language). Some students use a combination of the two methods.

Communicating in class

Clear communication is vital for students who are deaf or hard of hearing. The following changes to classroom communication will give students the support needed to understand you and others.

- ▶ Find out the spoken language students find most difficult to hear (for example, softly spoken speech or speech from a distance) and understand and respond to their individual needs.
- ▶ Speak clearly, but don't exaggerate your speech. Exaggerating and shouting can distort speech and lip patterns, making it harder for students to understand you.
- ▶ Say the student's name or ask someone to tap them on the shoulder to gain their attention before you start talking.
- ▶ Check the student is ready to listen to you. Allow a moment for the student to focus (understanding spoken language requires concentration).
- ▶ Face students when you are talking so they can see your lips, your entire face, hands and gestures (all valuable communication cues that help fill in any sounds or words not clearly heard).
- ▶ Avoid facing the whiteboard (and try not to move around the classroom) while you are speaking.
- ▶ Avoid standing in front of windows or in shadows when speaking – that way your face will be seen.
- ▶ Allow time for students who are deaf or hard of hearing to process any questions and assimilate information before answering.
- ▶ Organise an interpreter or communicator for students who rely on sign language. Pace your lessons so that students have time to process information from the interpreter, yourself, written instructions and other sources.
- ▶ Check students understand what is happening by asking: 'What do you have to do now?' instead of asking: 'Do you understand?' and having them respond with a nod regardless of whether or not they understand. Develop other strategies to check students who are deaf or hard of hearing have understood what you have said.

How hearing loss can influence learning

CHALLENGES

Will vary from student to student

- ▶ Learning new words.
- ▶ Learning language and other important concepts.
- ▶ Developing academically and feeling confident learning.

Tear out
and keep as
a handy
reference

TEACHING OPPORTUNITIES



Adjust the classroom environment

- ▶ Improve classroom acoustics, for example, with carpet or curtains.
- ▶ Introduce technology, such as an FM or DM system.
- ▶ Arrange classroom layout so that students can see the teacher and their peers.
- ▶ Introduce New Zealand Sign Language.
- ▶ Face students when you are talking so they can see your lips, your entire face, hands and gestures (communication cues that help fill in any sounds or words not clearly heard).
- ▶ Find out your student's optimum listening distance and sit them within that distance.
- ▶ Keep class noise levels low. A quiet classroom is an ideal listening environment.
- ▶ Speak clearly, but don't exaggerate your speech, which can distort speech and lip patterns.
- ▶ Avoid talking while students are doing noisy, distracting activities.
- ▶ Have one person speaking at a time.
- ▶ Write key words and new vocabulary on the board.



Present curriculum content in different ways

- ▶ Use a range of visual learning materials.
- ▶ Highlight and repeat new words, phrases and concepts and give them to students as handouts.
- ▶ Rephrase things in different ways instead of repeating – some words are more difficult to understand than others.
- ▶ Use captioned DVDs.
- ▶ Use handouts, New Zealand Sign Language translation services, YouTube clips (with captions), posters and diagrams.
- ▶ Use visual resources to help students recall information.

TEACHING OPPORTUNITIES



Stimulate interest and motivation for learning

- ▶ Set the pace of your communication to suit students who are deaf or hard of hearing.
- ▶ Allow time for students to process and think about a topic before responding.
- ▶ Check whether technology such as an FM or DM system works well for students.



Use technology

- ▶ Integrate New Zealand Sign Language as a curriculum subject.
- ▶ Encourage students who are deaf or hard of hearing to find out and share how their hearing aids and technology work.

- ▶ Set the pace of your communication to suit students who are deaf or hard of hearing and seek feedback to find out what works and doesn't work for them.
- ▶ Avoid talking while learners are doing noisy, distracting activities such as getting their things out or being given material, as listening is more difficult with background noise.
- ▶ Be aware it is impossible to lip-read and take notes at the same time.
- ▶ Give cues or indicate visually when you are about to change the subject.
- ▶ Use familiar words to link unusual or unknown words.
- ▶ Remember that not all students with hearing loss will be good lip readers and this should be checked for individual children.

Using technology in class

Some students who are deaf or hard of hearing will use technology such as hearing aids, cochlear implants and FM systems to improve

their ability to hear sounds and to learn and understand spoken language.

Use these strategies to support technology use in class.

- ▶ Find out how much spoken language students can hear using equipment.
- ▶ Learn the basics of the technology students use, for example, know how to use it, care for and maintain it and trouble-shoot problems if and when they arise.
- ▶ Have the class familiarise themselves with using an FM or DM transmitter and passing it between speakers.
- ▶ When using an FM or DM transmitter, have one person speaking at a time.
- ▶ Ask students to provide a visual cue such as a hand gesture to indicate when they are about to speak (and need to use the FM or DM transmitter).
- ▶ Check with the student that the technology is on and working.

CHALLENGE**Learning language and important concepts**

Students who are deaf or hard of hearing may have missed out on the early learning foundations they need to learn and achieve. They may also struggle to understand what is being taught if you are difficult to hear or understand. Using plenty of visual cues in the classroom can have a positive effect.

STRATEGIES**Classroom programme adaptations**

Adapt the classroom programme using the following strategies to give students access to information. These strategies will also help students process information and learn language and important concepts more effectively.

- ▶ Pre-teach language and concepts that will be used and taught later in your classroom. Talk to Advisors on Deaf Children and Resource Teachers of the Deaf to find out more about how to do this.
- ▶ Rephrase, rather than repeat. Say things in a different way and vary the words you use. Some words are more difficult to understand than others and can be more difficult to lip-read. By rephrasing, you give students more opportunity to gain an understanding of the topic.
- ▶ Identify situations when the student will not be able to lip-read and prepare beforehand, for example, use captioned DVDs (if the teaching involves a DVD) or provide a transcript.

- ▶ Set up a buddy system where classmates take turns letting the student know what is happening, what page they're on and when there is a change.
- ▶ Provide lists of the main ideas in a lesson (or flow charts, diagrams or a map of the concepts) to guide and reinforce ideas.
- ▶ Cue key points in information by underlining, highlighting and pointing. Use post-it notes to mark relevant sections in text or handouts.
- ▶ Encourage visual thinking with graphic organising software and tools such as mind mapping to visually organise and present ideas.
- ▶ Use a good range of visual learning materials such as handouts, YouTube clips, posters, diagrams etc.
- ▶ Allow time for students who are deaf or hard of hearing to process and think about the topic and to come up with a response.
- ▶ Make it clear when the topic or context of discussion is about to change.
- ▶ Introduce topics clearly and present new and complex information in a well-organised, logical way.
- ▶ Make sure all students understand the task before they start working. Break down the tasks into manageable chunks. Later, check they are still on task.

Spoken Language and New Zealand Sign Language (NZSL)

Students will have a range of language abilities and communication styles. Many students will have age appropriate spoken language, other students may have delayed spoken language understanding due to late or poor access to spoken language. Students may use spoken language as their primary mode of communication or a combination of spoken language and NZSL. Some may use NZSL as their primary mode of communication.

Spoken language

- ▶ Find out about the student's level of language understanding and present information at an appropriate level of complexity.
- ▶ Language understanding has an impact on reading, writing and social development.
- ▶ Explain words and concepts.

- ▶ Background noise levels will make listening more challenging.
- ▶ Support social interaction.

NZSL

- ▶ Learn some NZSL signs.
- ▶ Find out about NZSL Resource support available in your area.

Talk to an Advisor on Deaf Children or Resource Teacher of the Deaf for more information.

Refer to the New Zealand Sign Language dictionary published by Victoria University in 1998 as a teaching resource or visit the Deaf Education Centre websites for sign language teaching resources.

CHALLENGE	
Developing a positive identity	Students who are deaf or hard of hearing may feel different to their hearing peers and confused about their identity. At times, they may withdraw, act out or feel reluctant to engage in social situations.

STRATEGIES

Classroom adaptations

Use these strategies to help students develop a positive sense of self, as well as a sense of belonging and strong cultural identity.

- ▶ Encourage students to be knowledgeable about being deaf or hard of hearing and to see it in a positive light.
- ▶ Support the acquisition of NZSL skills among all your students as a way to support and build up the cultural identity and sense of belonging in students who are deaf or hard of hearing.
- ▶ Identify what a student is good at, for example, leadership and/or NZSL skills and use it as the basis of a group activity the student can lead or contribute to.
- ▶ Integrate topics such as famous deaf people (Beethoven, Lance Cairns, Helen Keller) into the social sciences curriculum.

- ▶ Celebrate NZSL week. Refer to Deaf Aotearoa's website (www.deaf.org.nz) for more information.
- ▶ Talk to a Resource Teacher of the Deaf about annual social events for students who are deaf or hard of hearing to give them an opportunity to meet other people who are deaf or hard of hearing.
- ▶ Provide students with the opportunity to learn about the rights of people with disabilities by studying the UN Convention on the Rights of Persons with Disabilities – it includes several references to the rights of people who are deaf or hard of hearing.
- ▶ Organise classroom visits and presentations from deaf or hard of hearing people in your community to act as role models and stimulate classroom discussion about the effects of hearing loss, how to communicate clearly and why it is important to accept difference.
- ▶ Find out more about residential immersion courses for deaf and hard of hearing students from New Zealand's two Deaf Education Centres. Contact the New Zealand Federation for Deaf Children to find out about their camps for deaf and hard of hearing children and young people.
- ▶ Provide opportunities to learn about Deaf culture. Organise a visit to Ruamoko Marae – the deaf marae on the grounds of Kelston Deaf Education Centre in Auckland, for example. Visit Tuawera – the whare wanaka located at van Asch Deaf Education Centre in Christchurch – as an alternative.
- ▶ Be aware of the need to provide counselling or other support for some students with hearing loss.

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

Martin has just started in Year 1 at his local primary school. He loves playing with his friends, drawing and riding his bike.

Martin was born profoundly deaf and his hearing loss was picked up as a result of newborn hearing screening. At eight months of age he received bilateral cochlear implants and started therapy where he developed the ability to listen and speak. His mum says he learns new words every day, has a growing vocabulary and enjoys school.

Martin's teacher has noticed that Martin has difficulty with listening in certain situations. He finds it difficult to listen and hear in noisy situations and at distance. Recently he was fitted with an FM system and his parents are concerned about how this will be managed in the school setting. Martin has a Resource Teacher of the Deaf (RTD) and Advisor on Deaf Children (AoDC) working with him alongside his Cochlear Implant (CI) habilitationist

Martin the student

- ▶ Work with Martin's family, RTD, AoDC and CI habilitationist to develop and implement the following strategies.
- ▶ Look at strategies that use the FM system in the classroom, enabling Martin better access in noisy situations and at distance.
- ▶ Teach Martin the skills of asking for things to be repeated if he has not heard or understood them.
- ▶ Give Martin some responsibility for making sure the FM is on the teacher's desk, worn and with the batteries properly charged.
- ▶ Consider having Martin's RTD or parents pre-teach a vocabulary topic, review current vocabulary and topic knowledge and reinforce new vocabulary and concepts.
- ▶ Find out how Martin's cochlear implants work. Set up a place where he can keep/store spare parts, batteries to help him with independence.

Martin's learning environment

- ▶ A number of people work with Martin and his family. The RTD, AoDC and CI Habilitationist may give guidance, and support Martin within the classroom. A pre-enrolment meeting could review Martin's hearing and look at accommodations to the environment and classroom programme and using Assistive Equipment.
- ▶ Find out the best place for Martin to sit in the classroom depending on the activity. Also think about when you are outside the classroom, eg the school hall, the field.
- ▶ Think about how you are going to give instructions to the class. You may need to break longer instructions down into simpler forms.
- ▶ Identify with his parents what Martin's classmates need to know about his cochlear implants and how this will be discussed.

- ▶ Set up a home communication book, to ensure that his parents are aware of what topics are being focussed on in the classroom. They can follow up and reinforce what is being learnt in the everyday situations of home.

Teaching Martin

- ▶ English – Build on Martin's existing vocabulary, encouraging expansion and extension where possible. Talk to the RTD for some strategies.
- ▶ Mathematics – Build on Martin's existing concepts, using concrete examples and lots of play and experiences to build and develop his mathematical language.
- ▶ Build experiences and language into all areas of learning. Liaise with the RTD, AoDC and other support people about best ways to help and support Martin in his learning.

This may mean pre-teaching, one-to-one instruction, small group work or whole class work. Using the home communication book will ensure that things can be followed through at home.

- ▶ Review and support Martin's development of the key competencies particularly the social constructs of Managing Self, Participating and Contributing and Relating to Others.

Secondary school

Alexa, 14, has a permanent hearing loss and wears hearing aids in both ears to increase the noise levels around her and help make the best of the hearing she has.

She has a good understanding of how her hearing aids work and knows how to carry out the daily checks they require. She also keeps a maintenance kit at school to test when the batteries need replacing.

Alexa has good spoken language skills developed through careful listening and thanks to all her teachers wearing personal FM systems in class. The FM systems are a handy device for transmitting what a teacher is saying (by microphone) to an FM receiver attached to Alexa's hearing aid.

Alexa is achieving well and is on track to study performing arts at university. This year her big aim is to continue building up her dancing and leadership skills by playing a major role in the Stage Challenge.

Alexa the student

- ▶ Work with Alexa to develop a learner profile that identifies her strengths and explains her hearing loss and technology to Alexa's teachers and other staff at school. Use the profile to describe a seating plan that might work well for Alexa and teachers using FM systems.
- ▶ Alexa wants to visit her chosen university before she enrolls next year. Ask the school's Head of Learning Support to set up a meeting to discuss her learning and technology needs with the university's student support centre.

Alexa's learning environment

- ▶ Alexa is a very capable student who listens well. Yet, even when her teachers use their FM systems, she can still miss out on crucial information because of background noise. One way you can help is to give Alexa and all your students access to lesson and learning resources such as study notes and video clips using a shared system such as a learning management system. Simply upload the files to the system where your students can download and review them in their own time.

Teaching Alexa

- ▶ **English** – Alexa loves to read. She has very good inference but can miss out on the key points raised during a class discussion or brainstorming. You can help by ensuring the key words and ideas are recorded on the white board as they are raised or discussed.
- ▶ **Science** – Ask Alexa's chemistry and physics teachers to always write full instructions on the board to make sure Alexa doesn't miss anything. She finds she rarely misses a beat during practical group work, but sometimes loses track during individual assessments.
- ▶ **Mathematics** – Alexa's maths achievement is going from strength to strength since she started videoing her teacher's instructions to watch again later. Is this something all of her peers could do?
- ▶ **The arts (drama)** – Alexa's classmates are aware of her hearing loss and have started communicating with her using subtle visual and verbal signs on stage. Communicating this way is a great support to the teacher and helps Alexa understand when and where she needs to be on stage quickly, without fuss.

Useful contacts and resources

Deaf Aotearoa New Zealand – advocacy, information and service provider.

Kelston Deaf Education Centre – an education service provider for the deaf and hard of hearing. Based in Auckland. Also provides a wide range of information and resources such as NZSL DVDs.

National Foundation for the Deaf – sector-wide representative group.

New Zealand Federation for Deaf Children – national advocacy group and public information provider.

New Zealand Relay Service – provider of telecommunications relay services.

New Zealand Sign Language Teachers Association – professional organisation for New Zealand sign language tutors and teachers.

Northern Cochlear Implant Programme – cochlear implant service provider based in Auckland.

Sign Language Interpreters Association of New Zealand – association for interpreters.

Southern Cochlear Implant Programme – cochlear implant service provider based in Christchurch.


van Asch Deaf Education Centre – an education service provider for the deaf and hard of hearing. Based in Christchurch. Also provides a wide range of information and resources such as NZSL DVDs.

Resources

captionmovies.co.nz – website about movies with captions.

Hairy Maclary from Donaldson's Dairy – available as an interactive QBook with NZSL – search for this in iTunes.

isign.co.nz – an online interpreter booking service.



<http://inclusive.tki.org.nz> – Ministry of Education's Inclusive Education website

kdec.co.nz – Deaf and hard of hearing education service and resource provider the Kelston Deaf Education Centre.

New Zealand Sign Language app – online application for New Zealand Sign Language.

New Zealand Sign Language Dictionary Online – online dictionary.

New Zealand Sign Language in the New Zealand Curriculum – curriculum for sign language learners.

***People of the Eye*, Rachel McKee** – recommended reading on Deaf culture.

***Raising and Educating a Deaf Child*, M Marschark** – recommended reading on Deaf children.

***Ready to Read* books available in NZSL** – search for these in iTunes.

***The Family Book – An introduction for the families and whānau of children diagnosed with a hearing loss*, Ministry of Education** – covers a wide range of topics related to hearing loss and is recommended reading for parents, families and whānau and teachers.

Thumbs Up! An Introduction to New Zealand Sign Language – Ministry of Education web resource on New Zealand Sign Language.

vanasch.school.nz – Deaf and hard of hearing education service and resource provider the van Asch Deaf Education Centre.



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 16116

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