

Educational Support for Students who are Blind

Presented by:

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The role of vision in the learning process

Vision is the primary sensory input; about 80% of learning takes place through the visual system. Vision is responsible for providing feedback about the world; it is also the unifying sense allowing sighted people to integrate their sensory experiences. At 3 months of age vision is the lead sensory modality and at 6 months it is the primary source of information about the environment.

For children who are blind, the acquisition of information about the world may be more challenging, particularly in the areas of concept development, language acquisition and movement. Children who are blind may need to learn to use alternative means and strategies for reading, writing, interacting socially and performing various daily tasks. Though, in the words of one senior student, being blind is just not that difficult!

*Don't you get it?
I'm just like you
Everyday things
Aren't that hard to do...*

Listen to Emma-Mae's poem: www.svrc.vic.edu.au/media/EPok.mp3

It is important to remember that each child is a unique individual and their educational program needs to be tailored accordingly.

“Students who are entering Prep this decade will graduate during the late 2020s and early 2030s. This may seem like a long way off ... and it is! As teachers, aides and parents we are preparing our children for a world we don't really know. We need to assist each child to become independent, literate, numerate, technologically savvy, adaptable and able to participate fully in whatever the 21st Century has to offer.”

– Annette Godfrey-Magee, 2013

**THE GOAL FOR ALL STUDENTS WHO ARE BLIND IS TO BECOME
COMPETENT, SELF-SUFFICIENT, INDEPENDENT PERSONS
WHO CAN PARTICIPATE IN ALL FACETS OF LIFE.**

How does the absence of vision affect the child's learning?

There are many similarities between the early development of sighted children and those without sight, but there are also unique differences. The absence of vision or the loss of sight in early childhood has a major impact on most aspects of development – concept development, language acquisition and movement.

During the first few years each child is building up an understanding of the world. Concepts are formed by the organisation of information into generalisations based on the child's experiences of their world. Without the integrating sense of sight, the blind child is unable to gain information from the simultaneous perceptions afforded by vision. Concepts and understanding of the world may be fragmented based on information gained in a serial manner. A child may over-generalise based on known information, unaware that other information is missing from their understanding eg the child may develop the concept that all dogs are small and fluffy because the child's dog is small and fluffy. With experience concepts are refined but gaps in understanding may exist if the child is not given the opportunity to fully explore such concepts.

Some concepts may be particularly difficult to develop because of a lack of hands-on access to information. For example large or distant objects such as sky-scrapers, trees and stars may be difficult to conceptualise; very small objects such as the feelers on an ant may be similarly difficult to access. Students may also have difficulties with items that cannot be touched such as a cell, the sky and shadows. "Mis-understanding" or incomplete knowledge can result in the child developing misunderstandings. It is important that the child who is blind participates in many and varied hands-on experiences.

Incidental learning, such as gathering information from around the home and classroom, learning by imitation and modeling, and early book and reading skills can be limited by lack of sight.

On the other hand many blind children may have unique perceptions and insights into everyday occurrences. For example autumn is not just the colour of leaves, it is also the rustle of leaves and a chill in the air.

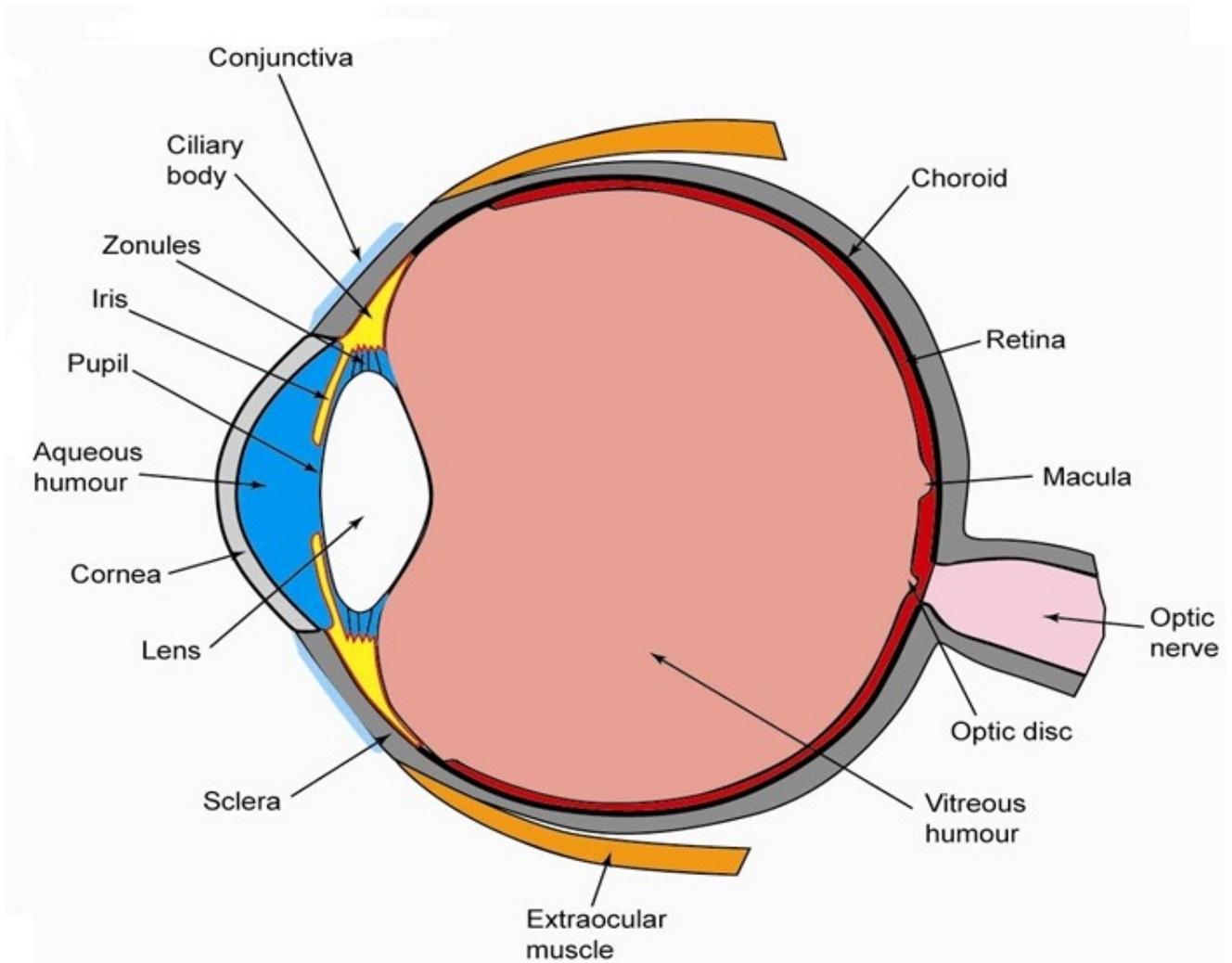
In his book "Touching the Rock" John Hull said rain gave him a sense of relief because it gave him feedback about his environment – the sound of rain on the path, on the grass, on the roof gave him a fuller appreciation of the world beyond his reach.

How to help

Provide lots of hands-on experience augmented by verbal descriptions:

- encourage the child to become an active explorer of their environment
- build concepts on to other concepts eg car – boot, bonnet, tyres, being a passenger
- use real objects when possible rather than models; and models rather than descriptions
- describe, name and discuss function of objects

The anatomy of the eye



Curriculum considerations for students with vision impairments

Educators of students with vision impairments refer to the **core curriculum** and the **expanded core curriculum**.

Core curriculum

The **core curriculum** refers to the knowledge and skills a student should have acquired by the completion of their secondary education:

- English
- Mathematics
- Sciences (including Physics, Chemistry and Biology)
- Humanities and social sciences (including History, Geography, Economics and Business, Civics and Citizenship)
- The Arts
- Languages
- Health and physical education
- Technologies (including digital technologies and design and technologies)

For additional information and ideas to improve access to the core curriculum for students with vision impairments see: www.svrc.vic.edu.au/CUcore.shtml

Expanded core curriculum for students with vision impairments

Students with vision impairments – low vision and blind students – must achieve mastery of an array of additional disability-specific knowledge and skills in addition to the regular core curriculum ie the **expanded core curriculum** for students with vision impairments.

The **expanded core curriculum** is unique to each student with impaired vision and, depending on their specific needs, may include:

- **Compensatory or functional academic skills** eg braille, auditory skills, concept development, exam technique, handwriting, perceptual skills,
- **Use of access technology** eg touch typing and key commands; refreshable braille display, electronic magnification unit, scanner, text to speech software
- **Visual efficiency skills** eg eccentric viewing, use of optical aids, managing vision fatigue
- **Orientation and mobility** eg cane use, road crossing, public transport
- **Social interaction skills** eg eye contact, body language, making friends
- **Independent living skills** eg banking, shopping, money, shoelaces, use of knife and fork, telling the time, preparing a snack or a meal
- **Recreation and leisure skills** eg games and sports, use of social media, taking turns,
- **Career education** eg career awareness, job skills, work experience
- **Self determination** eg explaining vision impairment, self advocacy, managing learning

Expanded core curriculum

The **expanded core curriculum** refers to essential additional disability-specific skills for students with vision impairments. Each student with low vision is unique, and so are the additional skills each student will require in order to achieve success in their educational setting.

The expanded core curriculum for students with vision impairments includes the following:

Compensatory or functional academic skills

Compensatory skills, including communication modes, involve the use of tools, adaptations, modifications and behaviours that maximise the student's opportunity to access the learning environment. Communication needs of students with vision impairment will vary, depending on the degree of functional vision, the impact of additional disabilities, and the task to be done. Students may communicate through braille, large print, print with the use of optical aids, regular print, tactile books, a calendar system, sign language, audio materials, or combinations of these methods.

Other compensatory skills may include, but are not limited to: writing adaptations, computer keyboarding, study and organizational skills, abacus, and accessing information through the auditory and tactile senses.

Low vision and blindness may result in the need for specialised instruction in concept development, spatial awareness, and listening skills.

Use of compensatory skills will minimise the effects of reduced vision and will optimise access to the educational environment.

Access technology

Access technology can assist people with vision impairments to independently perform a task or job that they might otherwise be able to complete only with assistance. Access technology can include devices designed specifically for people with vision impairments, such as braille displays, electronic magnification units, magnifiers, and telescopes. Access technology can also include large computer screens, computer software, voice output devices and commonly used aids such as white canes, visors and sunglasses.

Training in the efficient use and maintenance of access technology increases the potential for maximum involvement in all areas of curriculum and in life.

See also the SVRC Access Technology page: www.svrc.vic.edu.au/AT.shtml

Visual efficiency skills

Visual efficiency skills refer to the manner, technique or approach a student uses to complete a visual task as effectively and efficiently as possible. With thorough, systematic training, most students with functional vision can learn to use their remaining vision better and more efficiently.

Using the best strategies to maximise acuity levels is one component of efficient visual functioning. Interpreting visual information is another component. Efficient use of vision, aided by optical and non-optical aids and strategies, correlates highly to success in the classroom. Students can learn about their eye condition and how it affects visual tasks,

what aids and strategies are most useful, and how to explain their visual needs to others. Efficient study skills, exam techniques and management of visual fatigue can also assist.

Orientation and mobility

Orientation and Mobility is a vital area of learning for students with vision impairments. It emphasises the basic right of people who have vision impairments to travel as independently as possible, enjoying and learning to the greatest extent possible from the environment through which they are passing.

Students will need to learn about themselves and the environment in which they move from basic body image to independent travel in rural areas and busy cities. Developing body concepts, spatial awareness, orientation strategies and an understanding of the world are building blocks for age-appropriate, independent travel for students who are blind or who have low vision.

Students need to develop problem-solving strategies necessary to travel in familiar and unfamiliar school and community settings. Further, they may require training in specific skills such as cane use, road crossing, and use of public transport.

Optimising the use of residual vision may require the use of low-vision aids such as telescopes and sunglasses, or strategies such as wearing hats or visors to reduce glare.

For further information regarding orientation and mobility services for children contact:

- **Guide Dogs Victoria's Children's Mobility Service**
www.guidedogsvictoria.com.au or (03) 9854 4444
- **Vision Australia's Orientation and Mobility instructors**
www.visionaustralia.org or 1300 84 74 66

Social interaction skills

Effective social interaction skills are essential for students with vision impairments. Sighted children and adults have learned almost all their social skills by visually observing other people and behaving in socially appropriate ways based on that information. Individuals who are blind or who have low vision may not be able to learn skills of social interaction in this casual and incidental fashion. They may require thorough, careful, conscious, and sequential teaching.

Effective social interaction skills enable the student to participate in healthy and safe social relationships, seek information to solve problems, and participate in recreation/leisure activities.

Understanding the role of body language, facial expressions, gestures and vocal tones is especially important when the visual cues cannot be used.

Students with vision impairments need to be effective self-advocates. They should be able to accept or decline help graciously. Instruction in these skills may mean the difference between social isolation and a satisfying and fulfilling life as an adult.

Independent living skills

Independent living skills and personal management skills are an essential and often overlooked need area for students with vision impairments. This area encompasses all the tasks and functions people perform, according to their abilities, in order to live as independently as possible. These needs are varied and include among others, skills in personal hygiene and food preparation, money and banking, time management, home management, and organisation of personal belongings.

Recreation and leisure skills

Recreation and leisure skills are important for quality of life during the school age years and beyond. With adaptations, modifications and safety supervision, students who are blind or who have low vision can participate in many of the same individual and group activities enjoyed by sighted peers. Sighted people usually select such activities by visually observing them and choosing those in which they wish to participate. Recreation and leisure skills may need to be deliberately planned and taught to students with vision impairments and should focus on the development of life-long skills.

In addition to traditional games and activities, there are games such as goalball, swish and blind cricket etc, which are designed to be played with low or no vision. Australia fields international teams in each of these sports

Basic motor skills, as well as cooperative play strategies, may need to be taught in a specific manner in order to maximise success. Students may benefit from exposure to a healthy balance of solitary, social, passive and physical activities.

Students should be aware of local, state and national organisations that promote recreation, leisure and sporting activities for people with vision impairments. A high correlation has been shown between recreation experiences, satisfaction with life, self-esteem and success in the workforce.

Career education

Career and vocational education focuses on skills, experiences, and adaptations necessary to understand, prepare for, and access the world of work.

Career and vocational education may need to be specifically designed to fit students' needs, as general instruction may assume a basic knowledge of the world and of work based on prior visual experiences.

Career and vocational education for students with vision impairments should begin in early childhood. This can provide learners with vision impairments of all ages the opportunity to learn first-hand about the variety of work people do, through strategies such as role-playing, peer mentoring, and job shadowing. As students progress, curriculum must be structured to address personal strengths and weaknesses, work habits, ethics, workplace social skills, vocational interests, personal options, and specific skills training programs. Older students may require instruction in employment-seeking skills, employment-keeping skills, financial management, adult service providers, training programs, etc. Work experience is very important for teens.

Unemployment and underemployment continue to be leading problems facing adults with vision impairments, making this area of the expanded core curriculum vital for students of all ages.

See also the SVRC Career Education page: www.svrc.vic.edu.au/CUcareered.shtml

Self determination

Self determination encompasses defining and achieving goals based on a foundation of knowing and valuing oneself. It comprises a knowledge of self and others, personal management, effective communication, self-advocacy and advocacy within systems, decision-making, goal setting and problem solving.

Self determination may be as basic as making choices but may also include accepting and declining help, managing equipment breakdowns, and disclosing vision impairment to a future employer.

For more information about the expanded core curriculum, see www.svrc.vic.edu.au/CUecc.shtml

Aids and technology that your student may use

There are many equipment options available, which can greatly assist students with vision impairments to access the curriculum and to pursue personal and career goals. Students need to learn to select the most appropriate aid or technology option that best meets their needs in a given situation; and they may require direct instruction in the use of each aid or item of technology.

In alphabetical order, the aids and technology which may assist students with vision impairments include:

Audio recorders/players can be useful to take notes, record lessons, answer extended questions and complete exams. They can also be used to give extended directions or information; and record excerpts from texts and handouts. Teachers can record feedback regarding assignments, tests, and projects.

Braille writers allow users to input using braille and/or read and edit using braille hard copy or via refreshable braille display.

Computers and notetakers may improve student access their learning materials. The accessibility options for larger print, voice output etc which are available with “off the shelf” computers may be adequate for some students with low vision, however students may need specialised software – large print, speech, refreshable braille. Speak to your Visiting Teacher about how to enhance access to the computer for students with vision impairments.

Electronic magnification units can be used to enlarge print material on a monitor or screen. Magnification, contrast, and illumination can be optimised for individual student use. Handwriting, craft activities and interesting objects can be enlarged for detailed viewing.

Green/Bold lined paper has bold lines and enlarged spaces for students who have difficulty writing with regular lined paper. A range of different bold lined paper is available, eg graph paper for mathematics or staves for music notation. There are “masters” for a range of green/bold lined paper on the SVRC website:

www.svrc.vic.edu.au/CUboldp.shtml

iDevices and Windows compatible alternatives (including iPad, iPhone etc) with inbuilt accessibility including Zoom (enlargement) and VoiceOver (speech output) can offer students with vision impairments improved access to text, worksheets, the internet, GPS, interactive whiteboards etc.

Keyboarding/Typing can be used as an alternative to handwriting for students with vision impairments. Using the key commands can assist the student to efficiently navigate around the screen. Keyboarding skills should be introduced as early as possible.

Low vision aids such as hand held magnifiers for reading print, or a monocular for reading from the whiteboard can assist the student to work independently in the classroom. An assessment of the suitability of a low vision aid for a particular student can be obtained from an optometrist.

Materials in alternative format, including textbooks, novels and class handouts, can be provided for eligible students in a range of formats – etext, braille, audio – by the SVRC. Speak to your Visiting Teacher about access to materials in alternative format.

Reading stands bring work closer to the eyes for improved posture and optimum reading angle.

Reading windows and line markers may assist students with low vision.

Scanning devices and software can offer access to print material in the student's preferred format.

Talking books versions of many novels (eg DAISY and mp3 format) are available to borrowers through the local library or a specialist library such as the Vision Australia Library (email library@visionaustralia.org). Many titles are also available commercially through suppliers such as Bolinda (www.bolinda.com/aus/).

Talking or enlarging calculators, either stand-alone or as calculator emulator software, can enhance student access to basic and/or scientific/graphing calculators.

Optimising the learning environment

It is important to determine the factors that will provide each student with their optimal learning environment – and it is important that the student understands and can communicate their unique needs in relation to their vision impairment.

Seating

- ensure that the student is in the most appropriate seating position
- does the student require access to a power point?

Organisation

- if possible, keep classroom environment static
- keep the classroom tidy eg put chairs under desks
- alert student to any changes in the room layout
- a student may need extra storage room for equipment etc
- if the student has a laptop or other heavy items, they may like to consider using a suitcase on wheels
- encourage the student to develop good study and exam techniques

Time

- students with vision impairments may require additional time to investigate and respond to a stimulus
- allow the young student additional organisational time eg when asked to pack up and collect school bag, coat and homework – meanwhile work on streamlining for best efficiency
- it may be appropriate for students to become familiar with the stimulus material prior to the class eg complex tactile diagrams
- it may be appropriate for students with vision impairments to perform fewer tasks than their sighted peers

General teaching strategies

- ensure that students have their learning materials in their preferred format – braille, etext, audio – at the same time as their sighted peers
- read out loud as you write on the board and spell new words as you go
- email students information and worksheets or use a flashdrive to transfer files to and from students
- allow the student to hand out materials – this will help them to know where the other students in the class are
- provide verbal cues eg say the student's name and verbalise what is about to happen
- use verbal rewards and praise as the student cannot see a smile or nod of approval
- ensure all relevant staff including replacement teachers are aware of the student's vision impairment and the related implications
- encourage "eye contact" (visual regard) and appropriate body language
- encourage appropriate social skills
- encourage the use of the student's technologies to improve access to the learning environment
- encourage the use of touch typing and key commands to make computer use efficient

Special Provision for students with vision impairments

Special Provision may be available to students whose learning and assessment programs are affected by illness, impairment or personal circumstances. Students who are eligible for Special Provision are not exempt from meeting the requirements for Satisfactory Completion of the Victorian Certificate of Education (VCE), or from being assessed against the outcomes for a particular Study.

The guiding principles of Special Provision are that the provision

- should provide equivalent, alternative arrangements for students
- should not confer an advantage to any student over other students

There are three types of Special Provision for VCE

- Special provision for school-based assessment requirements
- Special examination arrangements for external examinations
- Derived examination score

Special examination arrangements

In order for students with vision impairments to be eligible for Special Examination Arrangements, there should be a documented history of Special Provision approved by the schools for the student. Special Provision for units 3 and 4 subjects must be applied for using the relevant form; the form is made available to schools each year by the Victorian Curriculum Assessment Authority (VCAA). Support statements and recommendations from the Visiting Teacher and/or staff from the SVRC are required.

Students with vision impairments may be eligible for:

- extra reading time and/or writing time
- reader and/or scribe
- rest breaks
- alternative format examination papers – braille, large print, etext or audio
- written descriptions of pictures and diagrams
- use of access technology and equipment such as a braille notetaker or a computer
- separate room with individual supervision
- exemption from the GAT

Applications

Applications for Special Examination Arrangements for all VCE examinations must be lodged early in Term 1. All Special Examination Arrangements for a student must be approved by VCAA. VCAA does not accept applications made directly by students, parents/guardians or independent professionals.

For further information visit the Victorian Curriculum Assessment Authority's website: www.vcaa.vic.edu.au or phone (03) 9651 4300.

Factors influencing successful outcomes for students with vision impairments

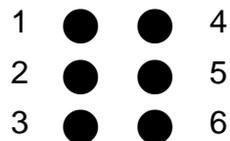
US educators determined, in 1986, that the **most important factor** influencing successful outcomes for students with vision impairments in mainstream schools is **an accepting and flexible classroom teacher**.

1. **Accepting and flexible class teacher**
2. Peer acceptance
3. Social skills
4. Academic achievement
5. Positive self-image
6. Independence
7. Accepting attitude of family
8. Motivation
9. Available support personnel
10. Adequate special supplies and equipment
11. Ability to compete
12. Participation in school activities
13. Acceptance of vision impairment
14. Adequate special skills
15. Normalisation
16. Realisation of potential
17. Equal opportunity/expectations
18. Expected outcomes
19. Adequate basic skills
20. Open communication between school & home
21. Travel skills
22. Supportive family
23. Emotional stability
24. Positive attitude of the school principal
25. Knows when to ask for help
26. Realistic goals
27. Realistic expectations from family
28. Responsibility
29. Personality
30. Encouragement
31. Family interest in school activities
32. Adaptability or flexibility
33. Competency of VI teacher
34. Community acceptance/support
35. Family cooperation in problem solving or planning
36. Stimulating home environment
37. Ability to follow directions in a group
38. Intelligence (average or better)
39. Personal growth
40. Ability to care for personal needs
41. Continuing contact between regular teacher and VI teacher
42. Opportunity for VI student to participate in peer group
43. Access to related services
44. Earned grades
45. Attractive appearance
46. Preschool training/early intervention
47. Treated "like other kids" in family
48. Maximised use of vision
49. Problem solving skills
50. Self advocacy/assertiveness
51. Sense of humour
52. Available counselling services
53. Play and/or leisure skills
54. Organisational skills
55. Persistence
56. Discipline
57. Reinforcement of success
58. Career awareness
59. Able to be challenged
60. Available support groups
61. **Amount of vision**
62. Well arranged classroom
63. Support from citizen groups
64. Stability of vision
65. Independent work/study skills
66. Family interest in out-of-school activities
67. Adequate public transport
68. Available recreational resources
69. Community advocacy

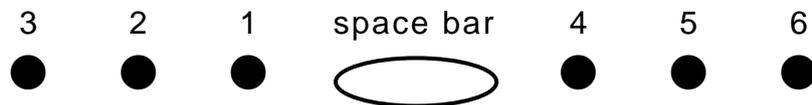
Research findings by V. Bishop from the Journal of Visual Impairment Blindness, November 1986

Introduction to braille

Braille is a system of raised dots which, when arranged in particular combinations, can represent letters, words, numbers, in fact anything that can appear in print. The basis of braille is the “braille cell”. The braille cell is made up of two vertical columns of three dots and for convenience each dot is numbered from 1 to 6:



Each number shown in the braille cell above corresponds with a key on the braille writer:



The Braille Alphabet

a	b	c	d	e	f	g	h	i	j
⠁	⠃	⠉	⠿	⠑	⠋	⠎	⠈	⠊	⠗
k	l	m	n	o	p	q	r	s	t
⠅	⠇	⠓	⠝	⠕	⠏	⠖	⠞	⠚	⠞
u	v	w	x	y	z	capital	full stop		
⠥	⠦	⠡	⠨	⠣	⠵	⠠	⠠		

Braille Numbers

1	2	3	4	5	6	7	8	9	0
⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠

Examples of words and braille numbers:

cat	Jane	4	536
⠠⠉⠁⠞	⠠⠵⠁⠗⠗⠑	⠠	⠠

Summary of Unified English Braille Code – Literary

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
⠁	⠃	⠉	⠋	⠑	⠖	⠗	⠘	⠙	⠛	⠜	⠝	⠞	⠟	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩	⠪	⠫

about	ab	ea	⠑⠁	name	⠎⠑⠎⠑	through	⠎⠗⠗⠗
above	abv	ed	⠑⠗	necessary	nec	thysel	⠎⠒⠑⠎⠑⠋
according	ac	either	⠑⠊	neither	nei	time	⠎⠊⠎⠑
across	acr	en	⠑⠎	ness	⠎⠑⠎	tion	⠎⠊⠔⠊⠎
after	af	ence	⠑⠎⠎	not	⠎	today	⠎⠗⠗
afternoon	afn	enough	⠑⠎	of	⠑⠋	together	⠎⠗⠗
afterward	afw	er	⠑⠗	one	⠑⠔	tomorrow	⠎⠗⠎
again	ag	ever	⠑⠗⠗	oneself	⠑⠒⠑⠋⠋	tonight	⠎⠗
against	agST	every	⠑⠗	ong	⠑⠒⠑⠎	under	⠎⠗⠗
almost	alm	father	⠑⠋⠎	ou	⠑⠗	upon	⠎⠗⠗
already	alr	ff	⠑⠋	ought	⠑⠗⠗	us	⠎
also	al	first	⠑⠎⠗	ound	⠑⠗⠗	very	⠎
although	alTH	for	⠑⠗	ount	⠑⠗⠗	was	⠎
altogether	alt	friend	⠑⠗	ourselves	⠑⠗⠗	were	⠎
always	alw	from	⠑⠗	out	⠑⠗	wh	⠎
ance	⠑⠗⠎	ful	⠑⠗⠗	ow	⠑⠗	where	⠎⠗⠗
and	⠑⠗	gg	⠑⠗	paid	⠑⠗	which	⠎
ar	⠑⠗	gh	⠑⠗	part	⠑⠗⠗	whose	⠎⠗⠗
as	⠑⠗	go	⠑⠗	people	⠑⠗	will	⠎
bb	⠑⠗	good	⠑⠗	perceive	⠑⠗⠑⠗⠎	with	⠎
be	⠑⠗	great	⠑⠗⠗	perceiving	⠑⠗⠑⠗⠎	word	⠎⠗⠗
because	⠑⠗⠎	had	⠑⠗⠗	perhaps	⠑⠗⠑⠗⠗	work	⠎⠗⠗
before	⠑⠗⠑	have	⠑⠗	question	⠑⠗⠑⠗	world	⠎⠗⠗
behind	⠑⠗⠗	here	⠑⠗⠗	quick	⠑⠗	would	⠎⠗
below	⠑⠗⠊	herself	⠑⠗⠑⠗	quite	⠑⠗	you	⠎
beneath	⠑⠗⠎	him	⠑⠗	rather	⠑⠗	young	⠎⠗⠗
beside	⠑⠗⠑	himself	⠑⠗⠑⠗	receive	⠑⠗⠎	your	⠑⠗
between	⠑⠗⠑⠗	his	⠑⠗	receiving	⠑⠗⠎	yourself	⠑⠗⠑⠗
beyond	⠑⠗⠑⠗	immediate	⠑⠗⠎	rejoice	⠑⠗	yourselves	⠑⠗⠑⠗
blind	⠑⠗⠊	in	⠑⠗	rejoicing	⠑⠗⠎	<u>Punctuation/symbols</u>	
braille	⠑⠗⠊⠗	ing	⠑⠗	right	⠑⠗⠗	at @	⠎⠗⠗
but	⠑⠗	into	⠑⠗⠗⠗	said	⠑⠗	apostrophe	⠎
can	⠑⠗	it	⠑⠗	sh	⠑⠗	bold (word)	⠎⠗⠗
cannot	⠑⠗⠗	its	⠑⠗⠑	shall	⠑⠗	bold (phrase)	⠎⠗⠗⠗⠗
cc	⠑⠗	itself	⠑⠗⠑	should	⠑⠗⠗	bullet	⠎⠗⠗
ch	⠑⠗	ity	⠑⠗⠗	sion	⠑⠗⠗	capital	⠎
character	⠑⠗⠗	just	⠑⠗	so	⠑⠗	capital (word)	⠎⠗⠗
child	⠑⠗	know	⠑⠗⠗	some	⠑⠗⠗	colon	⠎
children	⠑⠗⠎	knowledge	⠑⠗	spirit	⠑⠗⠗	comma	⠎
con	⠑⠗	less	⠑⠗⠗	st	⠑⠗	decimal	⠎
conceive	⠑⠗⠎⠑⠗	letter	⠑⠗	still	⠑⠗	dollar	⠎⠗⠗
conceiving	⠑⠗⠎⠑⠗	like	⠑⠗	such	⠑⠗⠗	exclamation	⠎
could	⠑⠗	little	⠑⠗	th	⠑⠗	full stop	⠎
day	⠑⠗⠗	lord	⠑⠗⠗	that	⠑⠗	hyphen	⠎
deceive	⠑⠗⠎	many	⠑⠗⠗	the	⠑⠗	italics (word)	⠎⠗⠗
deceiving	⠑⠗⠎	ment	⠑⠗⠗	their	⠑⠗⠗	italics (phrase)	⠎⠗⠗⠗⠗
declare	⠑⠗⠎	more	⠑⠗	themselves	⠑⠗⠑⠗⠑⠗	letter sign	⠎
declaring	⠑⠗⠎	mother	⠑⠗⠗	there	⠑⠗⠗	number sign	⠎
dis	⠑⠗	much	⠑⠗⠗	these	⠑⠗⠗	percent	⠎⠗⠗
do	⠑⠗	must	⠑⠗⠗	this	⠑⠗	question mark	⠎
		myself	⠑⠗⠑⠗	those	⠑⠗⠗	quote	⠎⠗⠗⠗
						semi colon	⠎

Promoting braille literacy

English braille is always read from left to right. This technique should be established as early as possible.

Braille depends on movement to be perceived – a stationary finger cannot read braille. The most efficient braille readers tend to use two hands and many fingers. Often, the fingers of the right hand are the “reading fingers” while the fingers of the left hand are “checking fingers”. This technique ensures that fingers do not go backwards over the braille to re-read a word or phrase. Encourage beginning braille readers to use both hands, use many fingers and to always travel in a left-to-right direction.

It is also important for the reader to be in a comfortable position in relation to the braille – arms and hands in a relaxed position with the reader directly facing the lines of braille. Braille which is off-centre in relation to the reader may be perceived incorrectly.

Fun with books – early book experiences

- Encourage story reading at home. Reading to children promotes language skills such as vocabulary development and familiarises children with the patterns and rhythms of language. Have a collection of books with braille and/or tactual pictures in them for children to take home for story time.
- Make books about what's happening in classroom or the student's interests eg “At the beach” with a few key words which encourage the student to make up a story. Encourage the student to share the story with others eg parents, visiting teacher, grandparents etc.
- Book bags containing real objects can also be used to create interest in a story.
- Create books using real objects eg bits of bark, leaves and feathers can be used for a story about a rainforest.

Fun with braille – early tactual/braille experiences

- Play a matching game with various squares of differently textured fabrics.
- Encourage tactual exploration eg fill a large bowl with uncooked rice and a few hidden items to find.
- Make a ritual of each braille lesson by preparing the hands for braille. Have the student clean their hands using handi-wipes or similar.
- Sprinkle talcum powder on the page to encourage a soft touch.
- Which is different: braille a line of braille cells with one that's different and ask child to point to the one that's different.
- (if culturally appropriate) Easter eggs eg ask the student to find the eggs on the pages of the book. Use a line of braille cells to represent grass and eggs. Another version of this is to ask the child to find the rabbit in the grass.
- Other similar ideas include: where's Mum and have the “m” in the braille, use student's name or first letter their name.
- Leap frog (pretend your fingers are a frog, leap frog over the gaps, land on the next braille cell).
- Ask the child to pretend they are a computer and make a noise when they find a different braille symbol.
- Make a braille a wave using dots 3,2,1,4,5,6 and repeat or dots 6,5,4,3,2,1 and repeat.

- Story map: make up a story to go with a braille picture or pattern (eg chicken going to the hen house). The student's fingers follow the chicken represented by braille cells to the hen house and makes up a story as they go.
- After an excursion or special event at kinder or school, record what they want to write and then create a story map to go with it.
- Fiddle cards eg "Twinkle twinkle little star" – stick a star and braille the word "star" on a card for the child to hold with when rhyme is being read. Make fiddle cards for other popular children's stories such as the "Three little pigs" etc.
- Snap games eg find two of a kind (shape or braille cell)
- Egg carton game – throw dice move that number along egg carton, pick out the card in the egg carton. If the child can say what it is they get to keep it. First to get three wins.
- Create braille stickers using braille label for rewards or fun

Introducing braille

When first introducing braille to a student you may like to consider the following ideas:

- introduce words or letters starting with the first letter of the student's name
- letters most easily recognised tactually eg b c l g k p x
- letters most easily written in braille eg a b c l g p
- high frequency words – the "Golden Words" or "One Hundred Most Common Words"
- keep a checklist of known braille and give plenty of opportunity to use these
- braille whole words that student needs, create a "word book" where student can record words he/she knows
- use texts with lots of repetition, rhythm and or rhyme
- stick braille labels around the room eg braille label student's name on table
- braille alphabet with print equivalents for visitors to the room
- stick braille letters or words under table or other interesting places where the student might find them

Linking braille with other classroom activities

- Link tactual input with auditory games or activities eg braille labels for story CDs.
- Build up a collection of games which can be played tactually eg bingo or "beetle" using braille numbers/words/letters.
- Encourage class mates to learn the alphabet – perhaps they can write braille notes to the braille student.
- Have plenty of braille books with tactual illustrations ready to go as required.
- Overwrite braille books so everyone can read them.

Other fun things to do

- Learn braille yourself!
 - SVRC Braille Correspondence Course (phone the SVRC)
 - UEB Online: <http://uebonline.org/>
- Have a braille awareness week at the school.
- Play braille decoding games.
- Learn about Louis Braille.
- Ask an experienced braille reader to the school to demonstrate and talk about braille.

Source: www.svrc.vic.edu.au/CUemergbraille.shtml

Building braille reading speed and fluency

It is important for students to be able to read text quickly and fluently with accuracy, expression and comprehension. Fluency requires automaticity – accurate and quick word recognition, along with efficient processing of the text at the sentence, conceptual and topic level. Fluency promotes reading comprehension and reading expression.

THE KEY TO LEARNING TO READ WITH SPEED, FLUENCY AND COMPREHENSION ... IS READING!

Beginning with a light touch and a fluid movement is important for early braille readers. Begin with simple sentences such as “I like dogs.” Employ strategies such as:

- build a bank of “sight” words
- re-reading – time the reading and see increased reading rate and fluency
- paired reading (with a classmate at a similar reading level)
- choral reading (with a group)
- echo reading (teacher and group read together)
- turn taking (teacher reads a sentence while the student follows along; then student reads)
- reading a play together – the opportunity to model good reading
- reading with a funny voice – always a winner!

Avoid scrubbing

“Scrubbing” – that is moving the finger up and down or around and around on the dots – interrupts the fluid flow of braille reading and will slow the reading process down considerably. Further, it will squash the braille dots. It is important to create enough speed when reading braille in order to comprehend what is being read.

Read every day

Daily reading is the key to being a good reader. Encourage the student to read whenever they have a spare moment – on the bus, in the car, in bed, wherever...

Reading expert David Hornsby believes that all children from Prep to Year 12 should sit and read silently every day. Reading for longer periods of time will extend both the volume of material that is read by the child AND their reading stamina or sustained attention – which is required for deep engagement with text.

Take-home readers play an important role in the improvement of reading skills and comprehension. Take-home readers should be read TO the child, WITH the child, and BY the child.

For more information and ideas visit: www.svrc.vic.edu.au/CUbraillespeed.shtml

Further information

For students enrolled in government schools, Visiting Teachers specialising in the area of vision impairment, are employed in each region. Visiting teachers provide direct teaching, high-level advice and a range of supports to classroom teachers, education support staff, students, families and the wider school community.

For students enrolled in non-government schools, please contact the principal.

The Statewide Vision Resource Centre's website is a great source of information which will support you to work with your student who is blind:

www.svrc.vic.edu.au

Selected pages from the SVRC website

- **Access technology:** www.svrc.vic.edu.au/AT.shtml
- **Art for students who are blind or have low vision:** www.svrc.vic.edu.au/CUart.shtml
- **Braille and learning by touch:** www.svrc.vic.edu.au/CUtaclearner.shtml
- **Cheat sheets:** www.svrc.vic.edu.au/CS.shtml
- **iPad for students with vision impairments:** www.svrc.vic.edu.au/ATipad.shtml
- **Materials in alternative format** (eg audio, braille):
www.svrc.vic.edu.au/ATaltformat.shtml
- **PE, recreation and games:** www.svrc.vic.edu.au/CUpe.shtml
- **Preparing future graduates who happen to be blind:**
www.svrc.vic.edu.au/CUpreparing.pdf
- **Students with vision impairments and additional impairments:**
www.svrc.vic.edu.au/CUadditionalimpairments.shtml

More professional development opportunities

See the SVRC website for:

- Art4Kids with VI
- Educational support for students with vision and additional impairments
- Including students with vision impairments in the School PE program
- Technology workshops (Skill Power)
- and more!
- www.svrc.vic.edu.au/PL.shtml

Notes

***Please feel free to copy and distribute this material
which was presented at***

'Educational Support for Students who are Blind'

Professional Development Day

by the staff of the Statewide Vision Resource Centre

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