



Education Support Package - Technology and Enterprise



Individual Education Plans		Teaching Strategies		Classroom Management		Glossary of Terms		References	
The Arts	English	Health and Education	Languages Other than English	Mathematics	Science	Society and Environment	Technology and Enterprise		

Preface

To assist in meeting outcomes for students with disabilities, the preface outlines modifications of the environment and curriculum together with specialised equipment.

Outcome Statements - Foundation to level 3

[Top](#) This section contains Foundation Outcome Statements, and an overview of Strand and Sub strand Outcome Statements from Level 1 to Level 3.

Strand Outcome Statements are a sequence of statements which describe what students demonstrate as they develop their understanding or skills for a strand. (NB: The Strand Outcome Statements are a synthesis of Sub-strand Outcomes).

Sub-strand Outcome Statements are a sequence of statements which describe what students demonstrate as they develop their understanding or skills for a sub-strand. (NB: Not all strands have sub-strands).

Foundation Outcome Statements with Focus Skills

This section contains Foundation Outcome Statements and pointers and a list of Focus Skills for each outcome. The Focus Skills were developed to give teachers further guidance about skills which students could work on, mastery of which would further a student's progress towards achieving the outcome. The list of Focus Skills is neither prescriptive nor exhaustive. Individual teachers are encouraged to generate new Focus Skills to fit the needs of their particular students.

Spreadsheets

Spreadsheets contain teaching/learning information related to a sample of Foundation Outcomes for each learning area. Not all outcomes are covered in this section and teachers may wish to develop their own or other outcomes as a point of reference.

Technology and Enterprise Preface

Students with disabilities

To assist in meeting outcomes and ensure the participation of all students, please note:

Modification of the environment may be necessary.

- Handrails (toilets, hallways etc.)
- Ramps
- Playground/classroom structures
- Table tops for desks
- Seating (posture/supports etc.)
- Seating location (preferential seating)

Specialised/Modified equipment to assist with mobility may be required.

- Wheelchairs

- Walking frames
- Long cane/tactile guides
- Orthotics, inserts in shoes
- Prostheses

To access the curriculum, the student may require:

Specialised/modified activities.

- Audio information (books, texts etc.) for reference
- Photos and or 3D models instead of diagrams/drawings Shorter/simpler activities - same concept or theme
- Oral responses rather than written responses for some activities Using calculators for computation
- Typing instead of 'writing' notes/information
- Peer support/buddy system when involved in activities such as -
 - drawing
 - designing
 - investigating
 - producing
 - planning
 - processing
 - recording information

Specialised/modified equipment such as --

- Electronic typewriters
- Brailers
- Templates/raised line drawing kits for writing/drawing · Various splints (eg hand splints)
- Head pointers
- Writing frames
- Special furniture (angled desk tops, corner chairs etc.)
- CCTV (Closed Circuit TV) and other magnification aids
- Hand held magnifier/s
- Telescope for distance work
- FM Systems (for hearing impaired)
- Captioning (for television/video programs)
- Hearing aids
- Speech processors
- Tape recorder/s
- Modified scissors

Computers with appropriate software plus peripherals such as --

- Talking calculators, large display calculators
- Large print screens
- CAD for drawing/designing
- Word processors with Spell check
- Mind Reader (predictive word processor)
- First Draft
- Style Writer
- Switches/single switch access (Ke: nx)

Alternative keyboards such as -

- Intellikeys
- Concept keyboard
- Voice output devices (Intellitalk)
- Robotron Eureka (voice output, Braille keyboard)
- Touch window

Communication aids such as -

- Aided language stimulation boards
- Pictorial symbols (eg COMPIC)
- Voice output devices (eg Hawk/Macaw)
- Single message device (BIGmack)
- Timetable systems

Alternative formats for materials/books/resources:

- Braille

- Large print
- Audio (talking books)
- Raised line/tactile drawings
- 3D models

NOTE

Physical assistance/prompts may be necessary where tasks include activities such as:

- Fine motor activities such as cutting, pasting
- Building, constructing, designing, measuring
- Collating, sorting
- Mobility - field excursions etc.
- Positioning (eg correct posture/seating)

Terms such as 'oral', 'speak', 'ask', 'talk', 'tell', 'say', 'explain', etc. are understood to include all forms of verbal and non-verbal communication such as:

- Auslan
- Signed communication - Signed English, Makaton etc.

The term 'attend to' can be defined as 'paying attention to' or 'giving sensory focus to' (eg touch).

Terms such as 'look at', 'listen to', 'watch', can be defined as 'attending to' particularly for vision and/or hearing impaired students.

Students with marked vision impairment may 'visualise' by using other senses (eg touch).

Students with marked hearing impairment may 'listen' by using other senses (eg feeling vibrations, lip reading).

Outcome Statements Foundation to Level 3

Technology Process

		Investigating			Devising			Producing			Evaluating
		<i>The student:</i>			<i>The student:</i>			<i>The student:</i>			<i>The student:</i>
FOS	TP F.1	Explores the form of products, making links to their everyday use.	TP F.2	Indicates, suggests or describes their ideas verbally or by gestures.	TP F.3	Undertakes simple production processes with direction.	TP FA	Expresses feelings about own product.			
	TP F	Explores the form of commonplace products and their uses in everyday life; with direction, uses simple production processes; and with guidance expresses feelings about the results.									
LEVEL 1	TP 1.1	Investigates the form, and identifies the uses of everyday products.	TP 1.2	Generates ideas for own designs, using trial and error, simple models and drawings.	TP 1.3	Undertakes simple production processes with care and safety.	TP 1.4	Describes feelings about own design ideas, products and processes.			
	TP 1	Uses an awareness of the form of commonplace products and their uses in every day life when applying a trial-and-error approach to designing and producing technologies carefully and safely, modifying their work in response to comments from others and expressing feelings about final results.									

LEVEL 2	TP 2.1	Investigates and identifies the uses and effects of products, systems, processes, services and environments.	TP 2.2	Generates designs and recognises some practical constraints using text, drawings or models and, where necessary, introducing some technical terms.	TP 2.3	Plans production processes and makes products, systems, processes, services and environments using resources safely.	TP 2.4	Compares own products, systems, processes, services and environments with original intentions.
	TP 2	Uses an awareness of how existing products and processes affect people when applying a more deliberate approach, within existing constraints, to designing and producing technologies that meet human needs; communicates verbally, through text, drawings and models; and evaluates the process, comparing the final result with the original intention.						
LEVEL 3	TP 3.1	Examines and identifies key design features, including aesthetic features, and environmental effects of products, systems, processes services and environments.	TP 3.2	Generates designs that take into account some social and environmental implications and communicate using a range of graphical representations, models and technical terms.	TP 3.3	Plans and carries out the steps of production processes, making safe and efficient use of resources.	TP 3.4	Assesses how well the ideas, products, systems, processes, services and environments used meet design requirements, including consideration of functional and aesthetic criteria.
	TP 3	Uses an understanding of the relationship between aesthetics and social and environmental effects when generating and communicating designs, both graphically and through models; plans and achieves production making safe and efficient use of resources; and evaluates whether criteria relating to functional and aesthetic criteria were met.						

Materials

	Nature		Techniques	
	<i>The student:</i>		<i>The student:</i>	
FOS	M	Explores common materials.	MF.2	Explores and uses simple equipment when working with materials under supervision and with direction.
	F.I			
	M	Explores common materials and when using simple equipment works materials safely when supervised and directed.		
LEVEL 1	M	Understands that materials may be used for different purposes	M 1	Uses equipment to safely manipulate and process common materials.
	1.1		1.2	
	M	Recognises the relationship between the use of materials for different purposes and their safe and careful manipulation to achieve a solution.		
LEVEL 2	M	Understands that when selecting materials their properties are considered.	M2.2	Selects and uses equipment with increasing accuracy and control to safely manipulate and process materials.
	2.1			
	M	Considers properties when selecting materials and relates this understanding to the selection and safe, careful and more controlled use of appropriate equipment when producing solutions to design challenges using common materials.		
	2			

LEVEL 3	M 3.1	Understands that the properties of materials need to be related to the requirements of own design.	M3.2	Selects and safely uses techniques and equipment for working materials to the requirements of own design.
	M 3	Considers the need to relate the properties of materials to the requirements of own design, including consideration of functional and aesthetic factors and environmental effects; and selects appropriate equipment and processes to work materials carefully and safely to achieve intended solutions.		

Information

		Nature	Techniques
		<i>The student:</i>	<i>The student:</i>
FOS	I F.1	Explores different forms of information.	I F.2 Uses simple techniques with direction, to access and present information.
		I F Explores different forms of information and with direction uses simple techniques to access and present information.	
LEVEL 1	I 1.1	Understands that information can be presented and used in different ways.	I 1.2 Uses simple techniques to access, record and present information.
		I I Recognises the various ways information can be used and presented relating this understanding to the use of simple ways of gathering, sending, receiving, recording and presenting information.	
LEVEL 2	I 2.1	Understands that information is constructed, stored and transmitted in different ways.	I 2.2 Uses techniques to access, record, store, manipulate and transmit information and create information products.
	I 2	Relates an understanding of the common ways information is used, processed and transmitted to the use of various techniques to gather, send, receive, store and transmit information and create information products.	
LEVEL 3	I 3.1	Understands that information is used, created, constructed, presented, stored and transmitted in different ways for particular audiences and users.	I 3.2 Selects and uses a range of techniques when transforming information and creating information products.
	I 3	Considers the needs of the particular audience when selecting and using appropriate techniques, resources and equipment to create information products using sound, images and text.	

Systems

Nature	Techniques
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		<i>The student:</i>	<i>The student:</i>
FOS	S F.1	Demonstrates an awareness of the cause-and-effect principle when operating systems.	S Assembles and operates a system with direction and supervision. F.2
	S F	Is aware of the cause-and-effect relationship when under direction and supervision, they assemble and operate a system using simple techniques.	
LEVEL 1	S 1.1	Understands that people use systems in their everyday life.	S Carries out a short sequence of steps to operate and assemble systems. 1.2
	S 1	Recognises some systems in the immediate environment and the role they play; and fits together the parts of a simple system and carries out a short sequence of steps to safely operate a system.	
LEVEL 2	S 2.1	Understands that a simple system is comprised of elements (people and parts) that work together.	S 2.2 Uses techniques and equipment to organise, assemble and trial linear systems.
	S 2	Is aware of systems used for specific purposes and can describe their component parts, the relationship between them and how people make a system work; and relates this understanding to the assembling, controlling, trialling and evaluation of simple linear systems.	
LEVEL3	S 3.1	Understands that cause-and-effect relationships occur within systems and that these can affect people and the environment.	S Selects and uses techniques to organise, assemble, disassemble and 3.2 test systems.
	S 3	Identifies simple cause-and-effect relationships in systems and explores how human and physical systems affect people and the environment; and uses this understanding to develop and test systems, selecting and using appropriate resources, equipment and techniques.	

Elaboration of Foundation Outcome Statements for each strand

Technology Process

The student explores the form of commonplace products and their uses in everyday life; with direction uses simple production processes, and with guidance they express feelings about the results.

Foundation

Students find out about technology by investigating (through tasting, seeing, smelling and listening) products that are both part of everyday life and new to them. An exploration of the form and how to use a product contributes to their making links to the everyday use of products: for example, students experience that a sponge when touched and squeezed dry is soft, squashy, 'picks up' water when placed in a puddle and, when squeezed again, 'drips' water, and returns to its original shape when released. They imitate the use of common products and processes following demonstration or modeling by others: for example, they drink from a cup, put the lid on their lunch-box, join construction blocks, use scissors, 'write' on material, tip flour from a packet into a bowl, use oven gloves to remove hot items from the oven, put milk into the refrigerator or bounce a ball.

When children are asked to suggest ways to develop a solution, such as an enclosure for an animal of their choice, they draw on their own experiences, provided by their home or care environment, or by the school, to describe ideas verbally or by gesture. They select from options provided by others, by pointing, nodding, speaking, physically picking or using other positive facial expressions. They base their choices on their own experiences, suggesting perhaps a soft cushion-type bedding for a dog instead of crushed rock, or a gate for a sheep paddock instead of a wooden household front door. If asked to draw their ideas, their attempts usually bear little or no resemblance to their verbal description, with no scale, representative shape or relationship with other components.

Students make things with direction and supervision using materials and items provided, such as a simple snack from known and common foods. They attach things using glue, tape or staples; although without supervision they may be quite extravagant with the use of resources. They tear and cut with scissors to shape given fabrics and paper products, assembling them to represent their ideas, although many use whole items, such as margarine containers, egg

cartons or cereal boxes without shaping them in any way. The processes used appear to be ordered but the final product usually bears little or no resemblance to the 'drawing' made or the originally described idea. However, the student can usually describe or demonstrate how their product works.

With appropriate questions and guidance, students talk about the materials they have used, the way they used them and the effects they achieved. They say that they like the colour or the shape of their product and respond positively. There is a willingness to describe their feelings and they are keen to show others and share with them, often with exaggerated imagination, what they have done or are doing.

Materials

The student explores common materials and when using simple equipment, works safely when supervised and directed.

Foundation

Students use their senses to explore materials that are a part of their everyday world and in doing so, learn about the qualities and capacities of materials. They develop a sense of the physical realities of some materials by tasting and feeling, realising that different materials create different sensations: sugar is grainy like sand, crunches when chewed, but tastes sweet and disappears in their mouth, while sand has no flavour and persists as a crunchy material. They respond to tactile stimuli such as the crisp feel and rustling sound achieved when crumpling cellophane or the stickiness of glue and are surprised and entertained by the sensations they experience. They react to sounds created by certain materials, such as when using wooden sticks to bang tin cans or saucepans. Some will persist with such activity, creating non-rhythmical noises, delighting at the sounds they are creating. Students distinguish between non-offensive and offensive smells of various materials, registering disapproval when confronted with, for example, strong smells from animal fertiliser or rotting foodstuffs. Students demonstrate an awareness of the use of materials for specific purposes. They can imitate wearing the clothes people use for work or choose clothes for themselves and dress toys during make-believe games, exercising their judgments about what they like and dislike. When using sand in play as a building material, they find that dry sand is hard to shape, but that if they moisten it, it retains shape when moulded, enabling them to build structures such as sand castles, tunnels or cars. With direction and supervision, students choose between materials for a purpose such as in a kitchen, selecting foodstuffs for cooking and solvents and abrasives for household cleaning. When transporting materials, students are able to identify that a bucket is more suitable than a cardboard of the strange taste.

Students box for carrying a liquid; however, their concept of volume is undeveloped. Students select large containers in preference to small ones, filling them to capacity when making a simple damper mix. They also have no concept of proportion and can easily use equal volumes of salt and flour in their damper mix, not recognising the cause use appropriate communication skills to make their needs known and appropriate social skills when responding to guidance and assistance from others to, for example, behave appropriately when sharing equipment and space. They respond to direct requests to find different materials either through verbal cues or symbolic representations: for example, they can find a mixing bowl, whisk, knife, sugar, milk, feathers, sheet of cardboard, building block or lunchbox when directed to do so following some guided instruction as to their location and safe use with models, pictures in magazines or direct demonstration and practice. Through imitation, repeated practice and with guidance, they develop an ability to control and handle some materials, developing a growing awareness of the way different materials are likely to behave: for example, experimenting with squeezing sponges, play dough, soap or their own fingers to identify the different responses.

When handling equipment and materials, students recognise simple cause -and-effect relationships, such as the sensations of intense heat and cold, and responding appropriately. Although they work with materials that require heating (as when baking or cooking on the stove), they are supervised so that appropriate safety precautions are taken when handling hot materials such as baking trays, casserole dishes, saucepans or hot products that they have cooked, ensuring they do not ingest partly-cooked materials that could pose a health risk, such as defrosted chicken or seafood.

When prompted, students express feelings about own products by answering simple questions, using non-verbal affirmations or symbolic gestures. Frequently, they are unable to consider or comment on the process they have used to develop a solution, although some have the capacity to surprise the interrogator with what appears to be a well-founded response, such as 'Next time, I will cook it [damper mix] in the oven, not in the fridge'.

Information

The student explores different forms of information and with direction uses simple techniques to access and present information.

Foundation

Students use their senses to receive information from diverse sources around them. They hear noises such as people laughing and talking, a guard dog growling or the bleeping of pedestrian crossing lights. They see people smiling, waving or pulling funny faces; flashing lights at the

railway crossing or as direction indicators on cars; colours, symbols and shapes on road signs, bus stops, books or magazines; a dog's tail wagging, boats of all sizes floating on water or trees swaying in the wind. They taste foods, drinks and other objects that fit in their mouths or can be licked, identifying flavours and textures. They touch everything they can reach by pushing, prodding, lifting or holding, identifying whether materials are hard, soft, hot, cold, slimy, rough or heavy and noting the reaction they get, for example, when they touch a concept keyboard, bang on a neighbour's window or push the front door bell. They smell perfumes and odours such as cooking food, smoke, deodorant, farm animals or freshly-mown grass.

When accessing information, students explore different forms in different ways, making meaning from information they receive frequently, particularly when the relationship between the information and its meaning is reinforced, such as when the school siren sounds at lunchtime and they are instructed to use the class system to eat their lunch. Similarly, when crossing a railway line under supervision, they identify the relationship between the flashing lights and ringing bells and the sound or sight of a speeding train, learning, through repeated visits, that this is a dangerous situation. They decide which information they like and don't like, depending on the reactions they get from their own senses and from others: for example, they like playing simple cause and effect educational games on computers and soon learn what is necessary to initiate responses that enable them to make progress through a game; they like listening to and watching an adventure video at a friend's house. They may not like reading a book alone, but when encouraged to participate with assistance from a parent or carer reading aloud and adding suitable actions and noises, students enjoy mimicking the helper and seek repeated opportunities to participate, learning a meaning for the information being used through repetition and association.

When designing their own information product or process, students draw on their experiences, for example, by mimicking what they see on the television, trying out different ways of creating an effect on their audience. If they are asked to act out a television game show, students copy the actions and use and accentuate the words they remember from the show, in an attempt to model its presentation. They substitute for words they do not know, cannot pronounce or remember with other noises, using similar inflections in their voices to create similar-sounding messages.

To represent information in a written or graphical form, students use their own interpretation of letters, numbers and other recognised symbols, often 'scribbling' on paper as a result. However, if asked to say or indicate by gesture what their 'scribble' means, they can create an understandable description. With repeated and constant supervised practice, they form short sequences of letters and numbers, such as their names and the number of a bus they catch regularly. When using a concept keyboard or a supply of photocopied images, students can select from the array to create a pictorial representation of a story, message or idea, triggered by the images' relationship to their own experience: for example, when making a mask, they recognise and pick images, selected from a variety of animals, of two ears, one nose, two eyes and a mouth, placing them in approximately the same arrangement on the mask base as found in reality. When their image selections are affixed on the mask and worn, they are usually supported by matching noises and actions, creating an effect. Students have significantly more difficulty in matching images to a chosen or given theme.

When asked about the information they have used, the way they have used it and whether they think it has created the desired effect on the audience, students rarely give a detailed answer, indicating only that it was fun, that they would like to do it again or something totally unrelated, such as 'Is it lunch time yet?'

Systems

The student is aware of the cause and effect relationship, and when under direction and supervision they assemble and operate a system using simple techniques.

Foundation

Students are aware of the cause-and-effect relationship when following instructions to operate a system using simple techniques. However, while they use systems to their advantage, they do not know them as systems: for example, they know that to open a door, they have to turn the handle and push, or to make a noise on a toy drum, they have to hit the appropriate surface with drumsticks or something resembling them. When they are cooking using the oven, they use simple sequences: they pull down the door, use an oven glove (because of the heat) to pick up a cake tin, carefully put it in the oven and close the door. Unless reminded, however, they usually do not remember to check their cake. Students learn to switch a television set or video recorder on and off using a remote control mechanism or use a concept keyboard to draw a picture or write a one-sentence story. Similarly, they can use computer-based games that require them to select from one or two on-screen options using the mouse button in order to get a favourable response and make progress. Students learn these cause-and-effect relationships by mimicking others or from the repeated practice of simple actions under supervision and direction.

If the learned sequence is disturbed, changed or in some way modified or relocated, students do not transfer the learning and must be redirected under supervision. This can be seen when, for example, they plant seedlings in the garden under direction. They usually remember that they planted them, even when the flowers have grown and are blooming, but they do not apply the system for planting more seedlings in another garden unless the process is frequently repeated under direction and supervision.

Students also become a part of systems, achieving success by following a learned routine. In organisational systems, they join in class activities, eat lunch in the classroom on a wet day or appropriately queue for lunch at the school canteen. They use construction systems, such as Lego® or Duplo®, to build towers, joining the blocks in a sequence that maintains balance. When they have run out of blocks or are satisfied with their tower, they delight in knocking it over, reinforcing their understanding of the cause-and-effect relationship of construction and destruction of a system and their part in it. When using a system for personal hygiene, they apply routine procedures for each stage of the process. Under direction and supervision, they use transport systems, such as going to school.

Students inadvertently become part of the school's managing student behaviour system and understand the cause and effect relationship when being disciplined. They also realise following repeated and directed practice, that doing as requested results in something good: for example, when the traveling farmyard visits the school, by sitting quietly on the grass, the student is selected to hold a baby chick or feed a lamb. They soon learn that holding the animal inappropriately leads to the animal being taken away and given to another student. It is through this process of testing the system to evaluate its limits that students develop an understanding of cause and effect.

Foundation Outcomes with Focus Skills List

Investigating	Devising	Producing
TP F.1	TP F.2	TP F.3
The student explores the form of products making links to everyday use.	The student indicates, suggests or describes their ideas verbally or by gestures	The student undertakes simple production processes with direction.
This will become evident when students, for example: <ul style="list-style-type: none"> • explore the attributes of everyday objects • choose appropriate items for specific purpose, eg. pencils for drawing, cup for drinking • imitate the modeled use of objects, eg. Drink from a glass, put lid on a lunch box • explore items that are useful for making patterns, eg. potato print 	This will become evident when students, for example <ul style="list-style-type: none"> • communicate what they want to make when watching others • choose options recognised from their own personal experience • use verbal means or gestures to choose from • given options • indicate preferred methods of joining by choosing from fastening systems • suggest tools, fasteners and methods of construction after attempts by trial and error 	This will become evident when students, for example: <ul style="list-style-type: none"> • use everyday tools for a purpose, eg to build objects • tear, and snip/cut • record sounds • prepare a simple snack • make a 3D construction, eg modeling clay, blocks.

<p>Focus Skills for TP F.1</p> <ul style="list-style-type: none"> • Attend to a stimulus. • Manipulate objects in the environment. • Explore/play with everyday objects. • Use objects appropriately. 		<p>Focus Skills for TP F.3</p> <ul style="list-style-type: none"> • Focus on activity. • Demonstrate fine motor skills, eg cut, fold. • Press buttons to operate equipment, eg cassette recorder. • Use sticky tape. • Use knife and fork. • Use stapler. • Use scissors. • Stack blocks. • Use interlocking blocks, eg Duplo. • Make marks using a variety of tools, eg dab paint filled sponge, use roller or brush to paint.
<p>TP 1.1</p> <p>The student investigates the form, and identifies the uses of everyday products.</p>	<p>TP 1.2</p> <p>The student generates ideas for own designs using trial production processes and error, simple models and drawings.</p>	<p>TP 1.3</p> <p>The student undertakes simple with care and safety</p>

Evaluating

TP F.4 The student expresses feelings about own product.

This will become evident when students, for example:

- communicate about preferred materials
- communicate about the finished product
- communicate likes/dislikes when viewing/hearing a product.

Focus Skills for TP F.4

- Express likes/dislikes.
- Show others their finished work
- Show pride in work.

TP 4 The student describe feelings about own design ideas, products and processes.

Materials

Nature	Techniques
<p>M F.1 The student explores common materials</p>	<p>M F.2 The student explores and uses simple equipment when working with materials under supervision and with direction.</p>

<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • experience and accept a variety of textures and materials • use appropriate body parts, ego hands and fingers to make marks in substances such as shaving cream • explore objects to see what sounds they make 	<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • draw and colour with a range of media/equipment, ego crayons, felt pens, computer software • tear and snip/cut with scissors • paint with a range of equipment, ego paint brushes, rollers, spray cans • use glue, paste and staples to attach materials to each other • make sounds using objects • handle materials or equipment in a safe manner, eg hold knife by handle
<p>Focus Skills for M F.1</p> <ul style="list-style-type: none"> • Tolerate a variety of tactile stimuli. • Demonstrate whole hand grasp. • Manipulate a variety of materials/equipment. • Make random patterns using a variety of media. • Explore a variety of equipment. • Respond to auditory stimuli. • Make sounds using a variety of materials. 	<p>Focus Skills for M F.2</p> <ul style="list-style-type: none"> • Hold material/equipment with two hands. • Hold equipment/material still with one hand, eg hold paper whilst cutting. • Move equipment/material across the midline/upward and down, eg using a paint • Roller • Pick up/put down equipment/materials. • Turn material over, eg paper.
<p>M 1.1</p> <p>The student understands that materials may be used for different purposes.</p>	<p>M 1.2</p> <p>The student uses equipment to safely manipulate and process common materials</p>

Information

Nature	Techniques
<p>I F.1 The student explores different forms of information.</p>	<p>I F.2 The student uses simple techniques, with direction, to access and present information.</p>
<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • respond to presentation of familiar cues • respond to sensory information, eg sound 	<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • attend to a computer • explore a variety of switches, e.g. switch on remote control • use a switch to operate equipment • use alternative keyboards, eg concept keyboard, intellikeys, mouse, key guard, touch screen • use specialised equipment to access information

<p>Focus Skills for F.1</p> <ul style="list-style-type: none"> • Attend to presentation, eg watch video, look at posters, view performance. • Respond by showing pleasure/displeasure. Recognise symbols/logos in familiar environments, eg fast food logo. • Recognise familiar sounds, eg telephone ringing, car horn. 	<p>Focus Skills for F.2</p> <ul style="list-style-type: none"> • Attend to stimuli. • Explore/manipulate materials. • Use switch purposefully. • Use equipment as a tool, eg speak into a microphone
<p>I1.1 The student understands that information can be presented and used in different ways.</p>	<p>I1.2 The student uses simple techniques to access, record and present information</p>

Systems

<p>Nature</p>	<p>Techniques</p>
<p>S F.1 The student demonstrates an awareness of the cause-and-effect principle when operating systems.</p>	<p>S F.2 The student assembles and operates a system with direction and supervision.</p>
<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • respond, eg change facial expression, when they activate a switch • reach towards a switch to operate a toy or appliance • purposefully activate switch • respond to simple organisational systems eg go to class when siren sounds 	<p>This will become evident when students, for example:</p> <ul style="list-style-type: none"> • operate equipment according to directions, eg doorbell, television, telephone • follow instructions to assemble objects, eg jigsaw puzzle • seek assistance when unable to operate/assemble systems, eg indicate that a hearing aid is not working • recognise when a system is not working • operate a range of simple systems, eg use scissors to cut, turn handle to open door.
<p>Focus Skills for S F.1</p>	<p>Focus Skills for S F.2</p>
<ul style="list-style-type: none"> • Attend to stimulus. • Reach toward stimulus. • Use a switch purposefully • Anticipate a response. 	<ul style="list-style-type: none"> • Manipulate objects purposefully. • Follow one-step instruction. • Anticipate next step in sequence. • Indicate need for help. • Show awareness of equipment failure, eg give teacher a broken pencil.
<p>S 1.1 The student understands that people use systems in their everyday life.</p>	<p>S 1.2 The student carries out a short sequence of steps to operate and assemble systems.</p>

Spreadsheets

Teaching/learning information related to selected Foundation Outcomes

Each strand in the Technology and Enterprise Learning Area has been represented by one spreadsheet that provides information related to a selected Foundation Outcome.

One Focus Skill has been chosen as an example. Learning experiences and teaching strategies have been written for this focus skill. The chosen Focus Skill is indicated by (EG).

Information contained in these spreadsheets is given as an example only and may require modification or addition to suit individual needs.

These spreadsheets are provided to give teachers a springboard for developing their own ideas when programming for specific Focus Skills.

Understanding the Spreadsheets

Each spreadsheet contains the following information.

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Learning Area	Outcome Statement	
STRAND	POINTERS Indicators or signals of the achievement of an outcome. Pointers are only typical examples and are not listed exhaustively. Other pointers could also indicate achievement of the outcome.	LEVEL 1 Outcome Statement

KEY ELEMENTS

These are the main components of the Outcome Statements .

CONSIDERATIONS

Factors which may affect the student's participation and/or progress in achieving the outcome

FOCUS SKILLS

Are 'non-exhaustive' lists of skills which are the focus for teaching outcomes.

INFORMATION

Suggestions for where you may access further information/resources/assistance.

TROUBLE SHOOTING

This provides suggestions of what to do if the student is not progressing towards achieving the Outcome Statements.

LEARNING EXPERIENCES

A range of activities which relate directly to the Outcome Statement.

TEACHING EXAMPLE/STRATEGIES

Examples of strategies/techniques and processes which may be used to teach a specific focus skill. The given example relates to the focus skill with the symbol.

Technology and Enterprise

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Technology and Enterprise	TP F.4 The student expresses feelings about own product.	
STRAND	POINTERS	LEVEL 1.
Technology Process	This will be evident when students for example:	TP1.4 The student describes feelings about own design ideas, products and processes.
SUB STRAND		
Evaluating	communicate about preferred materials	
	communicate about the finished product	
	communicate likes/dislikes when viewing/hearing a product.	

KEY ELEMENT

- Communicate feeling

FOCUS SKILLS

- Express likes/dislikes

(EG). Show others their finished work

- Show pride in work

CONSIDERATIONS

- Nature of the disability
- Does the student recognise own work?
- How does the student communicate?
- Can the student express feelings?
- Does the student indicate choices, likes/dislikes?
- Can the student finish work within time allowed?
- What is the level of student's confidence/self esteem?

INFORMATION

- Speech Pathologist for assistance with communication
- Parents for information about students likes/dislikes
- School Psychologist for suggestions about ways to increase student's confidence, develop self esteem

TROUBLE SHOOTING

If not working:

- Increase the amount of support given to student, eg assist to finish work, communicate feelings;
- Does the task need to be modified to allow student to complete it by self and within given time?; and

Have the student display work in situations he/she feels confident about, eg show to a friend, or small group, before expecting student to present work at assembly

LEARNING EXPERIENCES

- Any area where the student produces work
- Work may include - physical product, eg drawing
 - verbal presentation, eg news
 - demonstration of how to do something eg sharpening a pencil

TEACHING EXAMPLE/STRATEGIES

(EG). Show others their work.

- Encourage student to identify own work.
- Provide structure so that student can ask to show others their work, eg pictorial sentence card.
- Teach student to make positive comments about each others work.
- Set aside time at the end of the work session for students to display work.
- Finished work should be displayed as soon as possible after completion.
- Organise for students to visit other classes/principal to gain recognition for their work.

System

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Technology and Enterprise	SF.2 The student assembles and operates a system with direction and supervision.	LEVEL 1
STRAND System	POINTERS This will be evident when students for example:	51.2 The student carries out a short sequence of steps to operate and assemble systems.
SUB STRAND Techniques	operate equipment according to directions, e.g. doorbell/television/telephone follow instructions to assemble objects, e.g. jigsaw puzzle seek assistance when unable to operate/assemble systems, e.g. indicate that hearing aid is not working recognise when a system is not working operate a range of simple systems e.g. : use scissors to cut, turn handle to open door	

KEY ELEMENTS

- Operate a system

FOCUS SKILLS

- Manipulate objects purposefully

(EG). Follow one-step instruction

- Anticipate next step in sequence
- Indicate need for help
- Show awareness of equipment failure, e.g. give teacher a broken pencil

INFORMATION

- Speech Pathologist with regard to listening/comprehension skills
- Occupational Therapist with regard to manipulative/access skills
- School Psychologist with regard to behaviour management

TROUBLE SHOOTING

- If not working:
- Seek therapy assessment of the student;
- Reinforce all attempts to follow instructions;
- Use a variety of methods to convey instructions, e.g. present instruction pictorially;
- Give plenty of practice

Note: Technology and Enterprise involves purposeful application. Cutting, joining, stapling etc. are at the heart of Technology and Enterprise. The making and trying out of various models is paramount to Technology and Enterprise activity.

LEARNING EXPERIENCES

- All situations where student operates a system
- Technology and Enterprise activities - cutting, stapling, joining
- Self care activities, e.g. close zips, tie shoe laces
- Cooking activities, e.g. using microwave, blenders, kettle.

TEACHING EXAMPLE/STRATEGIES**(EG).** Follow one-step instructions

- Instructions should be simple, containing only the essential elements - who is the

instruction directed to and what do you want them to do? Eg: "Jodie turn the computer on", rather than "Jodie can you be a big help and turn the computer on for me please?".

- o When teaching a student to follow a new instruction, deliver instruction at close range to student, face student, get down to eye level.
- o Preface instruction with student's name. Make sure student is attending to you before giving
- o instruction, eg maintain eye contact.
- o If needed, model the desired response, eg give instruction, "turn the computer on". To assist student the switch could be highlighted using a coloured sticker.
- o Lead student through the response - physically assist if needed, eg say "turn the computer on" and place student's finger on the switch.
- o When student is able to independently follow the instruction delivered at close proximity. The distance between the instructor and the student may be gradually increased to the distance over which one might normally deliver the particular instruction. However, always make sure the student is attending before giving the instruction.
- o In order to generalise student's ability to follow on an instruction practice in a wide range of activities and situations - ego turn the lights on, turn the fan on. These switches could also be highlighted with a coloured sticker.
 - When asking students to follow instructions it is important to establish their understanding of what
 - you are requesting them to do.
 - For some students this can be achieved by verbal explanation, eg "turn the fan on, push the white
 - button" .
 - Other students may not understand the language unless its meaning is demonstrated to them, eg pair the instruction "turn the fan on" with a demonstration of how to do so.
 - In effect you need to teach the meaning of the instruction along with the action required to carry it out.
 - Varying an instruction may result in the student being unable to understand, and therefore follow it. For example the student may respond to "turn the fan on" but not "switch the fan on" unless having been taught that the instructions mean the same thing.

Information

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Technology and Enterprise	I F.1 The student explores different forms of information.	LEVEL 1
STRAND	POINTERS	I 1.1
Information	This will be evident when students for example:	The student understands that information can be presented and used in different ways.
SUB STRAND	respond to presentation of familiar cues	
Nature	respond to sensory information, ego sound.	

KEY ELEMENTS

Exploring information

FOCUS SKILLS

- Attend to presentation, eg watch video, look at posters, view performance
- Respond by showing pleasure/displeasure.
- Recognise symbols/logos in familiar environments, eg fast food logo.
- **(E G)**. Recognise familiar sounds, eg telephone ringing, car horn

CONSIDERATIONS

- Nature of student's disability, eg sensory impairment (vision impairment)
- Motivation level, eg preferred equipment/content
- Do you need specialised equipment, eg magnifying glass, high lighter torch, head phones?

INFORMATION

- Specialist teachers, eg art, music, drama teachers
- Community organisations, eg Heart Foundation for teacher packages with posters, videos etc.
- Visiting teacher

Parents for information about student's likes/dislike

TROUBLE SHOOTING

If not working:

- Use more motivating stimuli;
- Have the student's sensory impairments been taken into account when placed/positioned in various situations; and
- Minimise distractions which prevent student from attending.

LEARNING EXPERIENCES

- Computing, eg multimedia programs
- TV/video settings
- Class demonstrations/displays eg pin-up boards, assembly items
- Drama, eg attend to presentation
- Excursions, eg highlight advertisements, signs, flashing lights, public address systems
Sensory environment, eg Lilli Neilson 'Little Room'

TEACHING EXAMPLE/STRATEGIES

(EG). Recognise Familiar Sounds

Present familiar environmental sounds using a range of techniques

- Play tapes of familiar sounds, eg rain, wind, telephone, car horn. These may be commercially made, or recorded by the teacher and/or the students.
- Have student's name, or show pictures of the object which made the sound.
- Play games, eg make sound behind student using various objects and have student identify the object which made the sound.
- Use computer programs which pair common sounds with visual image. The activity could be varied by covering student's eyes, asking student to listen to and identify sound, then uncovering eyes so student can look at picture on screen.
- View TV programs, discuss noises which are part of the programs, eg animal noises, traffic sounds, noises made by machinery.
- Draw student's attention to sounds which occur around them, eg noise of thunder, birds singing, an aeroplane flying over.

Materials

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Technology and Enterprise	MF.2 The student explores and uses simple equipment when working with materials under supervision and with direction.	LEVEL 1
STRAND Materials	POINTERS	M1.2 The student uses equipment to manipulate and process common materials.
SUB STRAND Techniques	This will be evident when students for example: draw and colour with a range of media/ equipment, ego crayons, felt pens, computer software tear and snip/cut with scissors paint with a range of equipment, ego paint brushes, rollers, spray cans use glue, paste and staple to attach materials to each other make sounds using objects handle materials, equipment in a safe manner, ego hold knife by handle	

KEY ELEMENTS

- Materials and equipment

FOCUS SKILLS

- **(E G)**. Hold material/equipment with two hands.
- Hold equipment/material still with one hand, eg hold paper while cutting.
- Move equipment/material across the midline/upward and down, eg using a paint roller.
- Pick up/put down equipment/materials.
- Turns material over, eg paper

CONSIDERATIONS

- Nature of disability
- Does the student need specialised/modified equipment? eg pencil grip, left handed scissors
- Safety when using potentially dangerous items
- Is the student tactile defensive?

INFORMATION

- Specialist teachers, eg art teacher
- Occupational Therapist
- Visiting teacher

TROUBLE SHOOTING

If not working:

- Make sure activities are motivating to the student;
- Practice with a range of equipment and materials;
- Change or modify equipment in order to assist students participation, eg use touch screen, larger switch, glue stick instead of brush; and
- Seek occupational therapy assessment.

LEARNING EXPERIENCES

Construction and Production activities

- cutting paper, string, fabric...
- painting using brushes, rollers, prints/stamps, body parts...
- sewing/weaving using needle
- students use photocopier/overhead projector in art activities, eg to enlarge their own work

Cooking

- using microwave to cook popcorn, birthday cakes... cut ingredients using knife, blender, processor

Gardening

- plant seedlings using hands/trowels, use watering cans

TEACHING EXAMPLE/STRATEGIES

(EG). Hold materials/equipment with two hands
Sit opposite student at desk

Place object/material/equipment on desk

Direct student "hold the _", use two hands. If needed assist student by placing students hands on object, one hand on each side of object.

When student responds independently to the direction to hold the object/material eg. with two hands increase difficulty of the task.

- direct student to "pick up the"
- direct student to "give me the"
- hand the object/material etc. to the student rather than placing it on the table "take the'
- ensure that the student continues to use both hands when engaging in these tasks.

As student gains proficiency work in situation other than at desk have student use two hands to grasp and pick up objects, and carry them from place to place

- for example, putting away equipment in class.

Reinforce student efforts

- Use objects which appeal to the student.
- Begin with large objects which the student would be unable to hold/pick up/carry with one hand. - Size of objects can be decreased as student becomes more proficient.
- Make sure objects are not too heavy for students to manage.
- Use unbreakable objects/materials until student is confidently able to manage sustained holding.
- Use objects/materials which would realistically require the use of two hands - eg a large ball, a big book.

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