LANGUAGE FOR UNDERSTANDING ACROSS THE CURRICULUM

STRATEGIES HANDBOOK
STUDIES SECTION

Australian Capital Territory
Department of Education and Training

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CONTENTS

Language for Understanding Across the Curriculum
A Key Learning Perspective

LUAC provides a perspective about how students can use language to learn and how teachers can organise language in the classroom to assist learning. It emphasises that language development is the responsibility of all areas of the curriculum.

It also emphasises that different areas of learning involve highly specialised language styles, technical vocabulary, text types and illustrations. As teachers, we need to understand how language is used in the content areas and share this understanding with learners.

Because language is the key to learning, all our teaching, in all subject areas, needs to have a language focus.

(ACT Dept of Education and Training LUAC Statement)

NOTE The LUAC strategies Handbook is to be used in conjunction with the Language for Understanding Across the Curriculum Support Paper which provides more detailed information on LUAC as a learning perspective.

What is the "Language Across the Curriculum Statement" about?

Language

shapes our world view
changes to reflect the nature and scope of the topic hence each area of learning has language demands
enables understanding and learning
is a means of empowerment or exclusion.

Why should language be an issue?

It is the main means of teaching and assessing in schools.
Students have very different language backgrounds and needs
Language-focussed teaching helps learning.

LANGUAGE FOR UNDERSTANDING ACROSS THE CURRICULUM

When should language be a focus?

At all times but especially when starting new courses or topics.
During the gathering and processing of new information.
During assessment.

How can language-focussed teaching be achieved?

Through

providing students with an overview of a new topic
planning time for discussion and negotiation
providing support for new challenges
incorporating a literacy component in all units of work
creating a classroom environment which values approximations and feedback
planning time for reflection and learning.

Where?
In every classroom! Each subject poses language demands particular to its content and processes. Language is the key to learning.

BACKGROUND KNOWLEDGE
QUESTIONS TO ASK YOURSELF

IS YOUR CLASSROOM ORGANISATION AND MANAGEMENT SUPPORTIVE OF ALL STUDENTS?

What attitudes and values do I reflect in my interactions and through my choice of classroom activities and resources?

What information do I have about the languages spoken and written by my students?

What do I know about the literacy skills being developed in the home and community?

How do I share information with parents and involve them in their child's education?

What are the previous educational and personal experiences of my students?

Are there any family issues that a family may be facing that may impact on their child's progress?

How do I share information with parents and involve them in their child's education?

HOW DO YOU SUPPORT ESL STUDENTS?

Do I give ESL learners enough time to process new information, concepts and language, and to respond appropriately?

Do I give ESL learners sufficient time to complete tasks?

Are my ESL students struggling to complete simple tasks?

Do my ESL students have willing English speaking peers who support their learning in the classroom?

What support structures are available in the community to facilitate school support in the home? (Consider services offered by the Migrant Resource Centre and Aboriginal Tutor Scheme)

DOES YOUR CLASSROOM REFLECT THE DIVERSITY OF CULTURES AND LANGUAGES OF YOUR STUDENTS?

Does my program reflect cultural diversity?

How do I assess students? Do I consider cultural and linguistic factors when determining the type of evaluation and reporting process I use?

Do I permit group work which encourages students from different cultural backgrounds to share their experiences or alternatively, do I encourage students from the same background to work together so they can explore concepts in their own language?

How can I encourage students, colleagues and parents to acknowledge and appreciate the linguistic and cultural diversity within the school community?

Do I take individual differences into account, especially in relation to cultural and religious practices?

Are some 'topics' unacceptable for students to discuss, read and write about?

How do I respond to racist incidents?

How do I address the discrimination and hostility experienced by some communities?

DOES YOUR SCHOOL HAVE A POLICY ON LOTE BACKGROUND STUDENTS?

When a new LOTE background student enters your school is the ESL teacher involved in the enrollment process?

Are both the ESL teacher and the classroom teacher provided with all the relevant student data?

Does the ESL teacher oversee the placement of ESL students in appropriate classes? (Some students may need to attend an Introductory English Centre prior to starting at your school.)

Is their an orientation program for students and their parents to familiarise them with the timetable and general school procedures?
Are classroom teaching programs sufficiently flexible to cater for the needs of ESL students?

ASSESSMENT
What is being assessed?

In an attempt to make our assessment procedures more equitable, greater emphasis is now being placed on making explicit our expectations and the criteria used to assess student's writing. As Freebody points out the more implicit are our criteria for assessment and the more vague the requirements of the task, the more opportunity there is for cultural criteria to be covertly called into play and for the assessment to become an evaluation of the 'person.'

How is it being assessed?

Comparison is a basis for assessment and planning. Comparisons between initial understanding and new knowledge can be obtained using the same strategies employed to activate and record prior knowledge, *VIZ* brainstorming, semantic webs....and writing.
David Whitehead: **Language Across the Curriculum;** Berkley; Hamilton, 1990.

Who is assessing it?

There are four main reasons why self-evaluation is so important:
1. Only the participant (the learner) knows the full extent of the enjoyment, understanding and interaction experienced during any activity.
2. Students have the right to contribute to knowledge gathered about their progress and to have access to the expectations held by other interested parties.
3. Giving students more control and responsibility for what they do through self evaluation and goal-setting fosters the development of skills for independent life-long learning. It makes them more aware of their own learning processes.
4. Teachers are always conscious of the time constraints placed on them in the classroom and should therefore be prepared to transfer to students as many evaluation tasks as possible.
Helen Woodward; **Negotiated Evaluation;** PETA; **.**Newtown; 1993.

Range of Assessable Artefacts
Logs
Evaluation Books
Peer Assessment Panels
Completely student generated work
Learning Journals
Student designed tests
Students' portfolio items
Observation, including check lists
Group reports/tests
Student Products
Self Assessment
Practical tests

ANALYSING FUNCTION WORDS, see Note making

ANALYSING TASKS OR ESSAY QUESTIONS
Based on Hamp Lyons & Heasley (1987)

WHY?
Used regularly, trains students to carefully consider a task before beginning.
Ensures students learn to identify the aspect of a topic that the essay needs to address.
Develops understanding of the differing requirements of different types of essays, particularly when used in combination with *Using Texts as Models.*
Ensures students understand whether they are to take a particular position or not.

WHO?
Students in all curriculum areas who are required to write essays.

HOW?
Have students examine essay topics to identify and discuss:
The topic - the general area that the topic is about, eg pollution, unemployment.
The focus - the scope and limits of the assignment, eg causes of, results of.
The comment - instruction word/phrase which directs the type of text that is required, eg discuss, explain, describe.
- This may not have been made explicit, eg *what is* may require a definition, description or explanation.
- Words such as *discuss*, may have different meanings in different contexts. It is important that each teacher explain what they require in each case.

The viewpoint - the point of view which has been set; the stand that the writer is required to take; signalled by such words as *show how, argue that, demonstrate that*.

ASSIGNMENT ORGANISER
By John Geasley

WHY?
Provides the student with an outline of what is required in the assignment and how it is assessed.
Provides the student with a model to develop organisational skills related to planning set tasks which are completed independently.

WHO?
All students.

HOW?
The teacher sets out the requirements and expectations in the form of sub headings and/or key questions. (see below for Bibliography Scaffold)
The sub heading and/or questions are boxed to highlight their significance in the overall order that the tasks have to be completed.
Next to these is a set of boxes which are ticked when completed.
Assessment and weightings are also given to the student. These should also be highlighted in a box.

Example of an Assignment Organiser (layout compressed)

| 1 Types of Families | Tick when completed | ☐ |

| 2 What do Families Do? | Tick when completed | ☐ |

| 3 How Families Change Over Time | Tick when completed | ☐ |

| 4 Why are Families Important? | Tick when completed | ☐ |

Assessment
Your report will be marked on the following:

Presentation   /10
Neatness

Clear Expression   /30
Sentences, Punctuation, Paragraphs and Spelling.
Use of draft and proof of editing (see editing sheet).

Content   /60
Expressing main ideas and using examples.

Total   /100

Comments
_____
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Prepared by M Elliott and J Geasley

Example of Bibliography Scaffold for Books (layout compressed)

Author Surname, First Name	Title (underline)	Place of Publication	Publisher	Year of Publication	Pages

Prepared by Gai Dennett

BARRIER GAMES USING DUPLO (Information Gap Activities)
Source unknown

WHY?
Provides practice at giving instructions and/or formulating questions.
Provides practice at using the language of shapes.
Demonstrates the value of agreed descriptions or names for pieces.
Highlights the need for precise positional language.
Demonstrates the use of general versus specific questions.
Fosters the use of a logical order of questions.

WHO?
All students who need practice in generating questions, giving instructions, using positional language and listening to instructions

HOW?

Teacher models process and target language with students.

Divide group into pairs.

Give each pair two identical sets of Duplo (Mobilo).

Students sit with a barrier between them.

The first student constructs something using the pieces, giving instructions as each piece is placed or at the end of construction.

The second student tries to replicate the construction by following these instructions.

The original builder describes the construction to their partner (who may or may not ask questions).

SUGGESTIONS:

At first **limit the number and variety of pieces** e.g. five pieces that vary in one dimension (colour, size, shape).

Regroup pairs into fours to try again with two observers. All discuss the process and swap roles.

Instead of using blocks, use pictures. Two identical pictures. White out certain features on one of the two, or paste additional features onto the second of the two.

With a barrier between them, the students then locate differences by asking questions of each other e.g. "How many ducks are on the pond?" or seeking confirmation of a statement e.g. "There are five ducks on the pond".

BIG BOOKS (for big kids too)

WHY?

Provides a basis for reading and writing activities.

Can be used with and seen by a whole class.

Develops shared reading and understanding by promoting student's attention and involvement.

Provides opportunities for demonstration of writing models (genre).

Can be a stimulus for investigations.

Can help to raise questions and issues.

Encourages talking and sharing of work.

WHO?

All students who need help in accessing information from texts and students who may need help with reading.

HOW?

Draw attention to different registers (eg words or phrases used in technology instructions, science reports, maths problems).

Highlight the range of genres in which a text can be written (eg poems, letters, songs, prayers).

Focus on cohesive features of a text (ie pronouns, linking words, signal words, referent words).

Focus on technical features of a text-capital letters, apostrophes, spelling, word order, (eg verbs, adjectives) and vocabulary items.

BUNDLING

Some points from Lawrence, Chalmers & Pears 1989

WHY?

Helps students to focus on topic.

Helps students to sequence ideas and organise a piece of writing.

Encourages students to write in their own words.

Useful note-taking strategy.

Useful aid in essay writing.

WHO?

All students.

HOW?

Give the topic.

Students individually write 5 or 6 statements of what they know about the topic. These are written on separate pieces of paper, one idea per piece of paper.

In groups of 4 the students:

- organise the information into categories by grouping the pieces of paper.
- put a general sub-heading on each bundle (leave ideas that do not relate to one side).
- take one bundle for which the group has 3 or 4 pieces of information and arrange them into the order that would be needed for a paragraph.
- decide on a topic.
- write the paragraph co-operatively linking sentences together by using connectives e.g however.

CAPTION STRATEGY

Adapted from Gilles 1988, Whitehead 1992
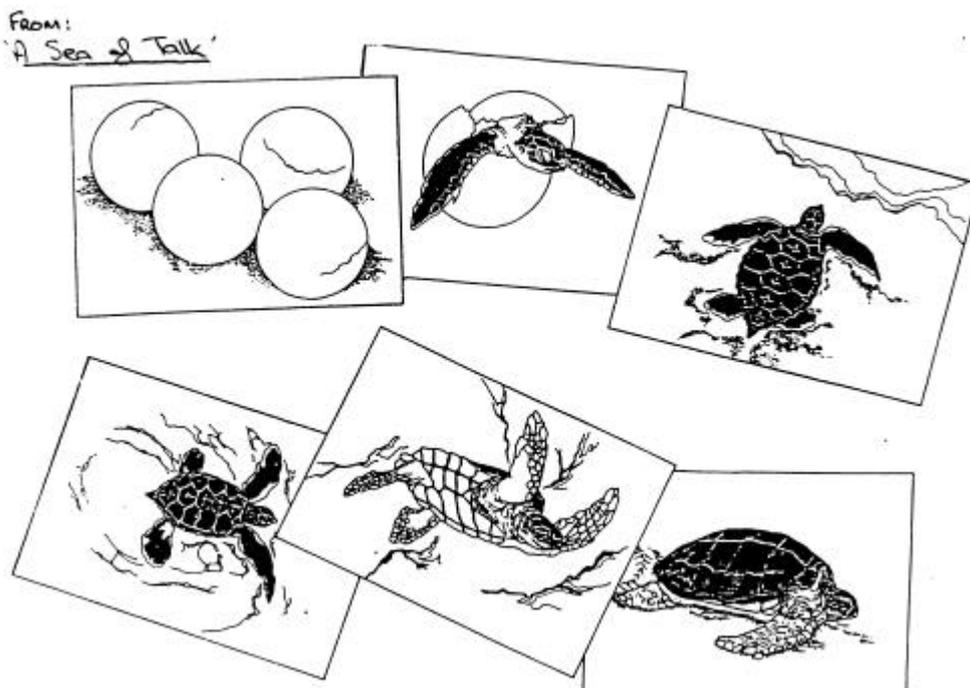
FROM:
'A Sea of Talk'

WHY?
Assist students who need to extract and record information, clarify ideas and make links to prior learning.

WHO?
ESL students and those students who learn best from talking and listening rather than by writing and reading.

HOW?
Select an illustration, photo or series of pictures on a given topic.
Working individually, in pairs or in small groups, students write captions for the illustrations.
Students compare and discuss the captions they have selected to accompany each picture.

VARIATIONS:
Students are provided with captions and pictures to match together.
Speech bubbles are drawn for students to create dialogue.

CHARACTER SOCIOGRAM
Source unknown

WHY?
To enhance self awareness, extract information, search for evidence and make judgements.

WHO?
All students for focussing on the changing relationships that can occur in narratives.
All students for interpreting the text and finding evidence to support their interpretation.
Students who would benefit from vocabulary extensions on words and phrases that describe relationships.
Students who would benefit from oral discussion about such a text.

HOW?
Choose a story where the relationships between the characters are described or clearly implied.
Read a story to the students or have them read it themselves.
Students work individually with whole class discussion or in small groups of one or two.
The main characters are written in the centre of a large piece of paper while the secondary characters are recorded around the edge.
Students discuss and describe the relationship between the characters at different stages of the story.

Elizabeth → love scorn → Ronald

Ronald → selfishness ego centric → Elizabeth

Elizabeth → stupid → Dragon

Dragon → liked flattery gullible → Elizabeth

Ronald → easy target → Dragon

Dragon → frightened → Ronald
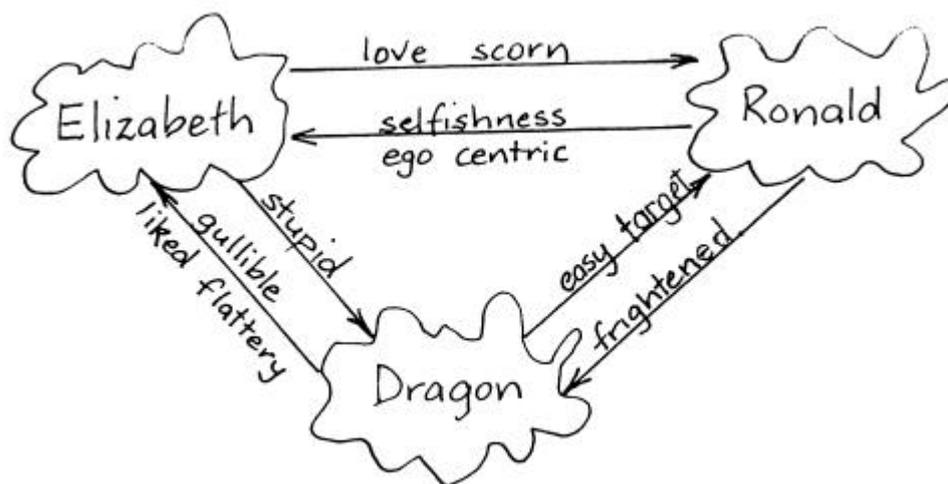
CLOZE
Source unknown

WHY?
To improve reading performance by developing a reader's ability to locate and combine clues in text.
As a test of knowledge and understanding at the end of a unit of work.

WHO?
Students who need practice at reading ahead and rereading to gain further context clues to aid comprehension.
Students who need assistance with learning to read in meaningful "chunks."
Students who have just arrived in the school and need to be assessed for language competence.

HOW?
Select or create a text that relates to a current topic.
Decide on the purpose of the cloze. If it is to assist in the recognition and use of function words then delete these words.
To enrich language, delete adjectives, adverbs or verbs.
A combination of function and content words is acceptable and about every seventh word should be deleted.
Deleted words may be provided in a word bank.
Present the student with the text asking that the whole text be read first, using the title to assist prediction.
Working either individually or in pairs, fill in the blanks with appropriate words.

COLUMNED READING LOG
Source unknown.

WHY?
Improves reading strategies, understanding and response to text.
Makes responses to text explicit.
Values student responses to text.
Allows students to compare responses at a detailed level.

WHO?
Students in all curriculum areas who are required to comprehend text.

HOW?
Take a short text and photocopy it so that it fills the central column (see below).
Provide the text to the students and ask them to imagine that they can talk to the author while they read the text. As they read they write in the log.
In the left hand column, students note briefly anything that causes them to stop in their reading.
On the right, students note their responses to the text.
Students compare stopping points and responses with a partner.
Students discuss the effects of slowing down the reading on their response to the story.

A columned reading log (layout compressed)

Stopping points -	Text:	Responses -
for new vocabulary and questions arising	paste the story/text in this space	for feelings, mental images, and answers to questions

Variation
DUAL ENTRY NOTES
Adapted from Berthoff 1981; see Hayes 1989.

For longer texts or when students are familiar with columned reading logs, they can record their responses to text in a notebook with two columns. The text is separate and students record the page number and location (eg paragraph) of the stopping point or response.

Dual Entry Notes (layout compressed)

Stopping points-	Responses-
key words - new vocabulary (page) questions arising (page)	comments about thoughts (page) answers to questions (page)

DATA CHART
Source unknown

WHY?
Gives direction to research.
Prevents time wasting, frustration and giving up.
Teacher is able to check misunderstandings in interpretation.
Improves note-taking skills.
Develops writing in their own words.
Helps understanding of the question.
Keeps students on track.
Recognises prior knowledge.
Provides good structure for an essay.
Bibliography is easy to write up at end.

WHO?
All students.

HOW?

Formulate focus questions as a group. More able students can practise forming their own questions.

Write these questions across top of the chart.

In the first row write what students already know.

Data Chart (layout compressed)

	What is arthritis?	What causes arthritis?	How does arthritis affect sufferers?
What you know			
Elizabeth O'Sullivan **My Mum Arthritis Sufferer**			

THE DICTOGLOSS

Based on Wajnryb (1988)

WHY?

Prompts students to listen for meanings and recall content.

Encourages students to order their recollections and use sequencing language as they negotiate the reconstruction of the text.

Can be used as an assessment tool.

WHO?

Students who would benefit from listening and comprehension activities.

All students when examining a particular genre.

All students for focussing on ideas and sequencing them.

HOW?

Introduce the text to be used by linking it to current work.

Discuss any vocabulary that needs a specific explanation.

Read the text at normal speed pausing between sentence units while students listen.

Read the text again, this time while students are listening they write down key words.

To scaffold students the teacher may elicit these key words from the students and put them on the chalkboard.

The text may be read a third time if needed.

Students individually or in groups reconstruct the text retaining the author's intent with meaning and style.

VARIATIONS

Sentence beginnings may be recorded on the board to help cue students.

Less able students could dictate the text to the teacher or a peer tutor.

DISCOVERY DRAFT
Based on Cairney (1986).

WHY?
Provides a detailed plan from which to work. Assists students to select a topic that they are genuinely interested in. Values background knowledge whilst also identifyinging where knowledge is lacking.

Raises questions for further research.
Generates headings for organising information.
Focusses students' attention on information sources.
Involves students in curriculum negotiations.

WHO?
All students undertaking research.

HOW?
A discovery draft should be modelled by the teacher before students complete one individually.
Choose a broad, general topic. The class brainstorm a list of possible sub-topics.
Students select a topic and list everything they know about it.
Students write main headings for organising information collected, including areas where there are gaps in their own information. Questions for research are listed.
Students list all possible sources of information.
Students can then conference with peers for further ideas, and with the teacher to negotiate the precise topic and contract.

A discovery draft (layout compressed)

Research Broad Topic:		
1. Possible Topics	2. What you know (about the topic you have chosen)	
3. Headings	4. Questions (what you want to find out)	5. Resources and References
5. Conferencing		

Variation
THE KLW (KNOW LEARN WHAT).
Based on Ogle 1986 and Whitehead 1989, 1992

WHY?
Establishes what students know and helps them recall more information.
Allows students to follow through interest generated by their research.

HOW?
Brainstorm what students already know about a topic.
Students generate questions about any difficulties they have had with their research.
Students fill out strategy sheet.
The teacher provides the resources and asks what sort of information they would expect to find in the material.

Students read the material and take notes on what they are learning about their topic. Students discuss their findings possibly uncovering further topics they would like to explore and raising new questions for research.

KLW (layout compressed)

What we know	What we want to find out	Categories we might use
What we still want to find out		

DUAL ENTRY NOTES, see Columned reading log.

FLOW CHART, see Information retrevial forms.

GALLERY TOUR
Based on Aronson, **The Jigsaw Classroom** and Susan Hill, **Co-operative Learning in Democratic Classrooms.**

WHY?
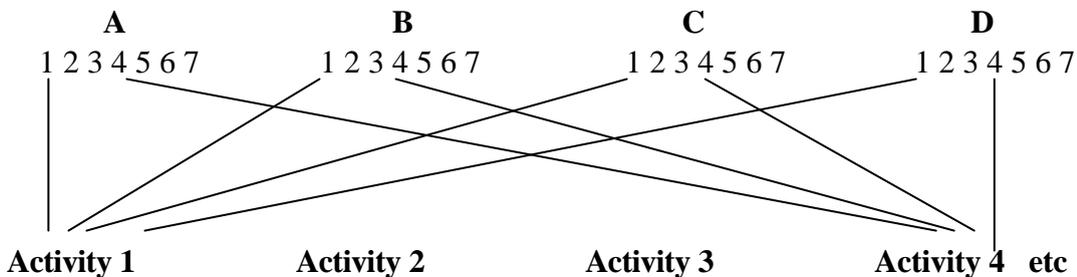Enables each student to feel valued by the group because they have particular knowledge to share.

WHO?
Students who must learn to work co-operatively and take responsibility for their own learning so they can impart their knowledge to others.

HOW?
For example, in a class of twenty eight, all students are numbered off 1,2,3,4,5,6,7 and the first group of seven is called A, the second group of seven is called B and so on. The group size depends upon the size of the class and how many activities are to be completed.

Each number one forms a new group to study activity 1. Each number two forms a group to study activity 2 and so on.

Once the time limit for research has been reached, students return to their original group, A or B or C or D. There are now four co-operative groups with an 'expert' on each of the seven stategies/areas of study. Within each co-operative group, new knowledge is shared, each member describing information that they alone in the group can supply.

A   **B**   **C**   **D**
1 2 3 4 5 6 7   1 2 3 4 5 6 7   1 2 3 4 5 6 7   1 2 3 4 5 6 7

Activity 1   **Activity 2**   **Activity 3**   **Activity 4**   etc

see Using texts as models

FINDING MATHS FROM LITERATURE
Source unknown

WHY?
Encourages a natural integration of subjects for students who need to make a language connection between curriculum areas.
Draws links within and between curriculum areas and provides a stimulus for mathematical investigations.

WHO?
Students who need opportunities to use the language of maths.
Classes with a broad range of learning abilities so students can respond at their own level.
Students who need encouragement to engage in mathematical activities.

HOW?
Choose a suitable story.
Prepare questions that will continue to develop the students' language as they express mathematical ideas.
Share the story with the class asking these questions.
Students complete a graphic activity such as drawing a relevant map or diagram, recording suggestions for solving the problem.
Students compare their responses with their peers, giving further opportunity to use the language of maths.

GLOSSARIES AND CHARTS

WHY?
Enables students to gain a knowledge and understanding of many specialist words and definitions.
Consolidates learning.

WHO?
Students who need to clarify their understanding of definitions and terms.

HOW?
Introduce students to new terms and symbols; explain the meaning and uses and demonstrate them in the context of their work.
As a class or in small groups students agree upon a definition of the terms using their own words.
They illustrate the terms as appropriate.
Symbols can be entered on charts as appropriate with their names or ways of expressing them in words (= equals, is equal to, is, is the same as etc.).
Record meanings and illustrations on wall charts according to topics or some organising priniciple agreed upon. These become part of the immersion of students in this language.

GRAPHIC OUTLINE
Based on Morris & Stewart-Dore 1990

WHY?
Assists students to extract key ideas from a text by providing training in surveying or scanning a text.
Highlights a text's logical organisation.
Focuses the student's attention on headings, sub-headings and visual aids in a text, making explicit how these are designed to direct the reader.
Provides a mental framework into which readers can slot new information.
Improves reading efficiency.
Helps the teacher
- to look closely at the structure of a text to be used
- to look for gaps or aids, or too much padding.
- to ask these questions
    what use will this text be in class?
    what will I need to add or delete before I can use it as a teacher?

WHO?
All students particularly those needing to improve their reading efficiency.
Those learning to assess text suitability as sources of information for a particular purpose.

HOW?
Teach students how to use graphic outlines before they are given them as independent activities.
Give assistance to those who have difficulty completing one e.g. students work in small groups to complete them.
Follow-up graphic outline with small group discussion to correct mistakes.

Example of Graphic Outline (layout compressed)

Title: Reproduction in Flowering Plants

Heading	Sub heading	Aids
Asexual Reproduction	Flowering Plants	
	Vegetative Reproduction _____	picture (2)
	Runners _____	picture (3)
	Rhizomes _____	picture (4)
	Tubes _____	picture (1)

Sexual Reproduction		Flowering Plants	_____	picture (3a)
		Sepals	_____	picture (3a)
		Petals	_____	picture (3a)
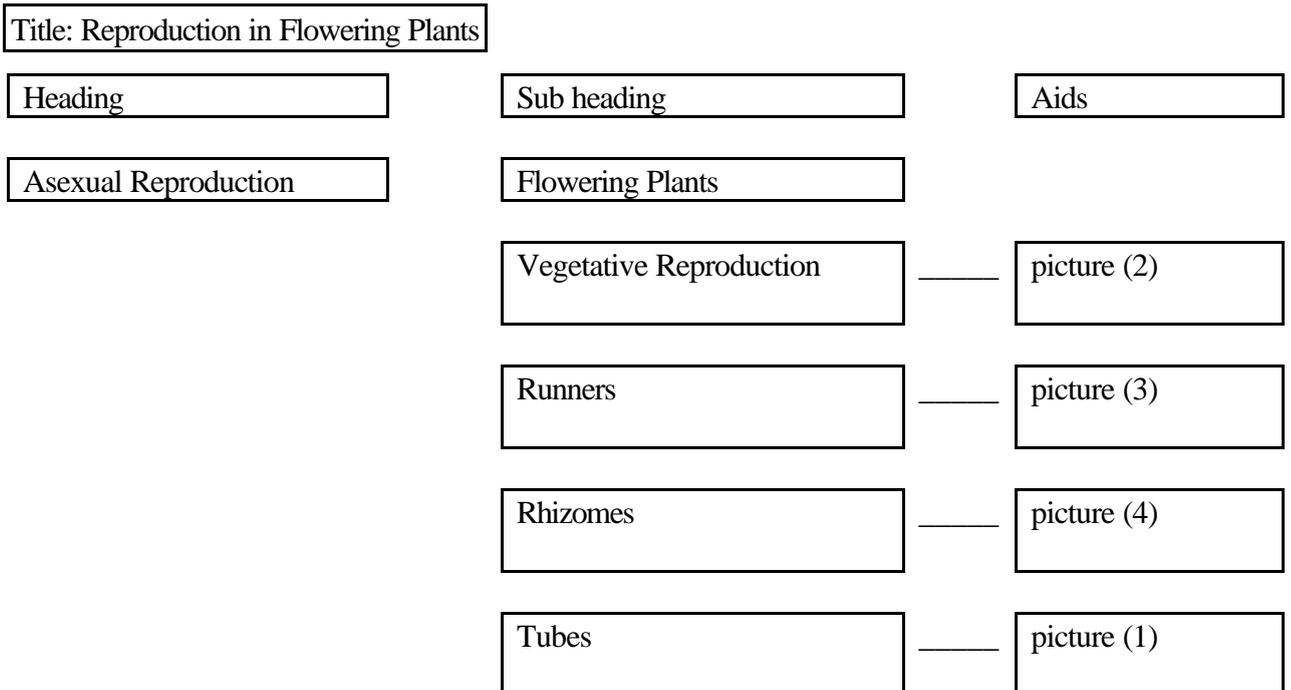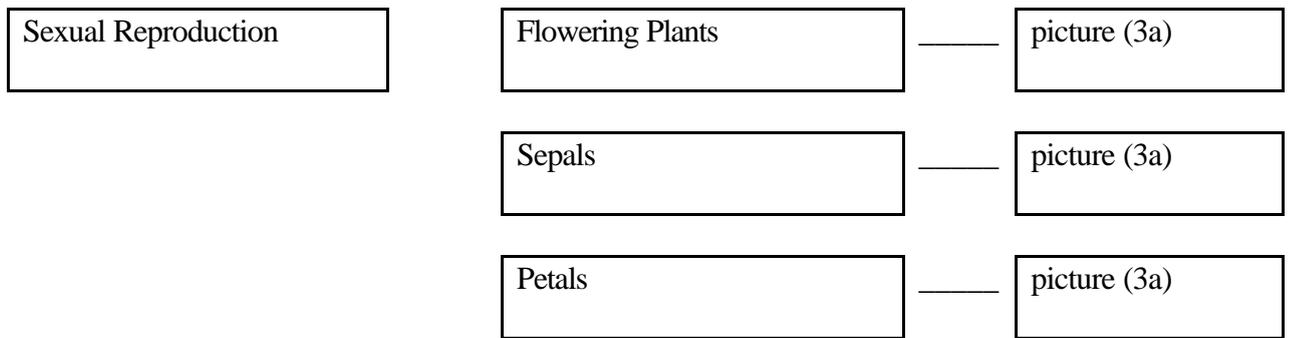
GRAPHICS

Source unknown

WHY?
Elicits student understandings of graphic materials.
Encourages discussion, and re-reading to clarify interpretations.
Assists students to extract key information from visual text.
Helps students identify conventional and symbolic features of graphic text.
Links technical language to everyday language and concepts.
Draws out the vocabulary and language structures of a subject.
Indicates where further explanation is needed.

WHO?
All students.

HOW?
Select a graphic as a discussion starter. Students then collectively 'read' the graphic and share their understandings and knowledge. They should discuss the codes and conventions (examples below) observed in the material and their interpretations of them.

There are many activities that students can do to label and describe graphics. Students can sequence events, cut and paste labels, label relationships, describe each section of a chart transferring information from diagrams to words.

These discussions and activities can be used as the basis for written passages, for the production of a short text.

Students can then be encouraged to use the graphics to record technical vocabulary in context and as an effective way of storing information.

Codes and Conventions (from Steve Moline 1992)
Aerial and other views.
Cross-section, longitudinal section.
Diagrams with parts that are cut-away, peel-back, transparent, block.
Inset, magnification.
Use of arrows.
Directionality, forked alternatives.
Scale, time, key, compass points, frame.
Cartoon conventions, caption, author.
Grids and graphs: reading from the axes.
Headings, labels, captions.
Links to, references in text.

GRAPH STORIES
From Lovett & Clarke 1988

WHY?
Links meaning to mathematical graphic conventions.
Develops the concept of graphs.
Gives an opportunity for informal evaluation.

WHO?
Students who need assistance in relating maths to everyday experience.
Students who lack motivation to engage in maths activities because they lack the necessary language skills.

HOW?
Choose a situation involving a series of events measured against a reference point. For this example, the water level in the water-tank at the beach house the Garcia family have rented for the school holidays is used.
Model the process on the board.
Indicate on a graph the depth of water in the tank when the family arrives.
Show the bottom axis as measuring the days the family stay at the beach house.
Alter the level of the water on the graph, eliciting from the students what happened each day to change the amount of water in the tank eg there was a storm, a load of washing was done, a shower of rain fell for 2 hours, the car was washed.
Students write a creative story based on the graph.

GROUP WORK
Based on **Cooperative Learning in a Democratic Classroom** by Susan Hill

WHY?
Allows students to learn social skills and positive interdependence.
Provides opportunities to try out ideas, question, explain, persuade and lead.
Emphasises cooperation rather than competition.
Enables students to experience a range of social and problem-solving behaviour.

WHO?
All students.

HOW?
Explain why the class is going to work in groups and what the task is.
Number the students from one to six and ask each group to find a table or a space and sit in a circle.
Introduce the roles of Leader, Recorder and Reporter by describing two or three tasks for each or ask for suggestions for these roles. If appropriate, record these roles on a board or chart.
Tell the class how long they have for the task and what you want reported at the end.
Set the expectation that the Recorder gets a pencil, paper and clipboard.
After some minutes, move inconspicuously between groups to encourage positive behaviour, in particular, that they are on task, listening well and in role.

Give two minutes warning, then ask groups to return and then the Reporters to report. Decide on reporting procedures:

    a. receive one or two ideas from each group
    b. one group to report fully and the others to only add new ideas
    c. each group to report fully (if they have different questions).

Record ideas.

Praise succinct reporting that is on the topic. Thank each Reporter.

Briefly summarise all the ideas or ask a student to do this.

Ask group members to evaluate their own participation(in their heads, to a partner, in writing rate out of ten). Ask each student to think how their group could have been better. These suggestions might be written down or a few students might be asked to share theirs.

INFORMATION GAP GAMES see barrier game

INFORMATION RETRIEVAL GRID
Based on Whitehead 1990

WHY?

Allows students to record information without using a lot of text.

Allows students to gather and record information, and then to construct a piece of text using their own words.

WHO?

Students who need practice in recording key information.

Students who habitually copy text.

Students who need assistance in constructing information texts.

HOW?

Construct a grid with focus questions along one axis and items along the other.

Students read the text and complete the grid, recording their information by ticking the boxes or writing single words.

When the grid is complete students discuss their findings using comparatives/connectives, such as: however, differs from, instead of, also, rather, whereas and so on.

LEARNING LOGS IN MATHEMATICS
Source unknown

WHY?

Encourages students to summarise work: to identify what is important, express this in own words, choose a relevant example, or create their own example.

Promotes the use of mathematical language to construct own meanings, intermingled with everyday language.

Enables students through reflection, to solve their own problems, and recognise their own strengths and weaknesses.

Develops expectations of success.

Increases students' familiarity with the textbook and their ability to use it to study.

Provides an aid for revision, particularly of what they found hardest.

Assists communication with quiet or shy students.

Enables teachers to find errors in approach and expression before a test.

Replaces class tests as there is no need to check what needs re-teaching. Students do not give examples of work they do not understand.

WHO?
All students.

HOW? (for students)
Journals must be a summary of the work you have learned this week. All new terms and symbols must be explained in your own words. You should then use the the new mathematical language in your work. Relevant examples must be given and must not be examples put on the board. It is a good idea to make up your own example.

The journal entry must include a comment on how you view your progress. Are there any problems you still cannot do? Are there any concepts you still need to master? What would you need more practice with?

Your journal should reflect the fact that you have read your textbook explanation of the topic.

When reading the examples in the text note the setting out and notation.

LEGO TECHNICS

WHY?
Fosters the use of technical terms.

Provides practice at giving instuctions or formulating questions.

Provides practice at using the language of shapes.

Highlights the value of agreed descriptions or names for pieces.

Fosters the use of precise positional language.

Demonstrates the use of general versus specific questions.

Develops an understanding of the logical order of questions.

WHO?
Students needing experience in giving precise instructions and asking questions.

Students who need to improve their listening skills.

HOW?
A pair of students work from a diagram of a simple construction.

One student holds the box of pieces while the other student asks for the pieces needed.

NOTE : At first do not give students the charts illustrating and naming all the pieces (found in boxes of Lego Technics).

Then allow them to complete the task using the charts.

Discuss the process and what made it easier.

MATHS CHALLENGES
Source unknown

WHY?
Helps students construct their own mathematical ideas.
Allows learners to respond in ways that reflect their level of development.
Permits students to be actively involved in solving "real world" problems.
Encourages a climate of risk taking.
Provides natural language learning conditions.

WHO?
All students.

HOW?
Model the language of problems using appropriate resource book examples, whole group examples or whole group constructed examples.
Provide a range of investigative topics, e.g. measurement, space, statistics.
Use the maths journal as a place for posing problems and periodically select one as a whole class task.
Students construct problems individually, in pairs or in small groups, then swap problems amongst themselves. Once students have had a chance to provide a solution, one of the problems may be set for the whole class to exam.

NEWMAN'S QUESTIONS
Source unknown.

WHY?
Teaches students to analyse their difficulties and seek appropriate help.
Separates language and reading difficulties from others such as operational ones.
Prevents teachers turning maths problems into exercises by doing all the thinking.
Leads to more effective mathematical learning in the long run.
Reinforces language development.
Encourages students to believe they can solve problems.

WHO?
All students.

HOW?
When a student has difficulty with a problem, stand on the opposite side of the desk (so you can't easily read the problem or draw the diagram) and ask the student the following questions:
1. Would you read the question to me?
   Stop at any words you do not understand.
2. What do you think the question means?
   What is it asking you to do?
3. Can you do that?
   Do you know what maths you would use to do that?
4. Complete your calculations.
   Can you do that?
5. What does your answer mean?

MEMORY MAPS
Source unknown

WHY?
Appeals powerfully to the whole brain which processes colours, relationships, pictures and symbols.
Increases understanding and recall.
Appeals to auditory, visual and kinaesthetic learners when done with a partner or team.
Are useful for personal note-taking, planning, reviewing, problem-solving, speech writing, summarising, studying, obtaining feedback about what has been taught, and condensing books and articles.

WHO?
All students who need to be encouraged to think, understand and remember.

HOW?
Provide unlined white paper, which is used with the short side to the left.
Use at least three colours - black and red and one other.
Commence in the centre of the page with a title which ends in a verb.
Beginning at roughly one o'clock, work clockwise around your title.
Use curved lines for each word/symbol to hook onto.
Be adventurous and utilise symbols as you grow used to the system.
Remember there are no mistakes in Memory Maps and there are no messy Memory Maps.

NOTEBOOKS/JOTTER BOOKS
Developed by ACT ESL/LUAC Project Team.

WHY?
Draws on existing knowledge.
Helps all students to focus clearly on an issue or question.
Gives less confident students time to think about a reply and to answer voluntarily.
Maximises the diversity of responses.
Develops notetaking skills - jotting down key words.

WHO?
All students who need to be encouraged to think and share ideas.

HOW?
All students keep a notebook handy for thinking about an answer to any question the teacher poses to the class.
Pose the question and give students one or two minutes to write an answer in note form.
Do not allow anyone to call out an answer until all students have had time to consider a reply.
Optional - Ask the students to share their answers with a neighbour.
Ask the class the question again, this time receiving answers orally from individuals or pairs.
To encourage active participation of all students it may be necessary to include notebooks as a small part of an assessment item.
Teachers check notebooks at intervals to get an idea of students who are obviously having difficulties and of those who are often on the right track.

NOTE MAKING STRATEGIES
Source unknown

WHY?
Helps students to identify main points and take notes using their own words.

WHO?
All students wishing to take notes during classwork or independent research.

HOW?
Skimming and scanning
Look at the title of a text. Brainstorm with the whole class to predict possible vocabulary.
Read through the text underlining where these words occur.
Nominate a key word from a text. Count the number of times this word occurs in the text.
Give a list of titles. Choose one that best fits the text.
Show several pictures or diagrams. Read the text and decide which picture illustrates the text.
Show one picture and several texts. Read all texts and choose one that best fits the picture.

Locating the Main Idea
Give a number of paragraphs and a list of main ideas and paragraphs. Match the paragraphs and main ideas.
Read a text for a specified time. Remove material and request students to recall the main ideas in point form.
Give key words/phrases. Students underline them in the text and from this identify main ideas.
Give a number of main idea questions. Students match them to the paragraphs where the answers can be found.

Language functions/signals
Give a text with signal words deleted. In the gap created put a choice of signal words. Students select the most appropriate word. If working in groups, discussion and negotiation should be encouraged.
Give a text with the first few sentences in full. Complete the text by choosing the more appropriate of two given alternative sentences. Discuss the different meanings that arise depending on the alternatives chosen.
Give student A a cloze, with the concept words deleted. Give Student B a cloze of the same text with the signal words deleted. Provide a list of deleted words for each student to refer to.
Student A and Student B then fill in the gaps and compare texts to supply words to any gaps they have.

Notemaking
Read a text to the class. Students write a list of questions about the text.
Model note taking on the board while someone reads the text.
Label a picture identifying key words (Caption Strategy).
Sketch to Stretch strategy followed by a Caption Strategy.

PEER PANEL EVALUATION OF ASSIGNMENTS
Source unknown.

WHY?
Teaches students the language to discuss assignments.
Involves students in the often teacher-centred process of evaluation.
Allows students to work in groups to assess their peers on established criteria.
Encourages students to develop critical and objective faculties.
Enables students to read and learn from the work of others.

WHO?
For all students required to write assignments.

HOW?
When structuring an assignment, draw up a panel evaluation sheet. The criteria may be teacher set or developed by the class to cover the goals and format of the assignment.
Establish several groups which will evaluate a number of assignments.
When assignments are completed, the group reads the assignments and discusses the grade to be given, referring to the set criteria. This discussion is an important learning and sharing process.
All panel members are responsible for the evaluation and recognise this by signing the evaluation sheet.

PLOT PROFILE
Source unknown

WHY?
Helps students increase their understanding of story structure.

WHO?
All students for increasing their understanding of the structures underpinning effective narrative writing.
Students who need encouragement to engage with text.
Students who could benefit from oral discussion about text and its meaning.

HOW?
Read students the text or have them read it themselves.
Students list the major events of the story.
These events are rated according to levels of excitement, suspense or humour.
Students number the events along the bottom axis and plot the appropriate rating along the vertical axis.
These events are rated according to levels of excitement, suspense or humour.
Students number the events along the bottom axis and plot the appropriate rating along the vertical axis.

Vertical axis — rating for excitement

Horizontal axis _____ major events
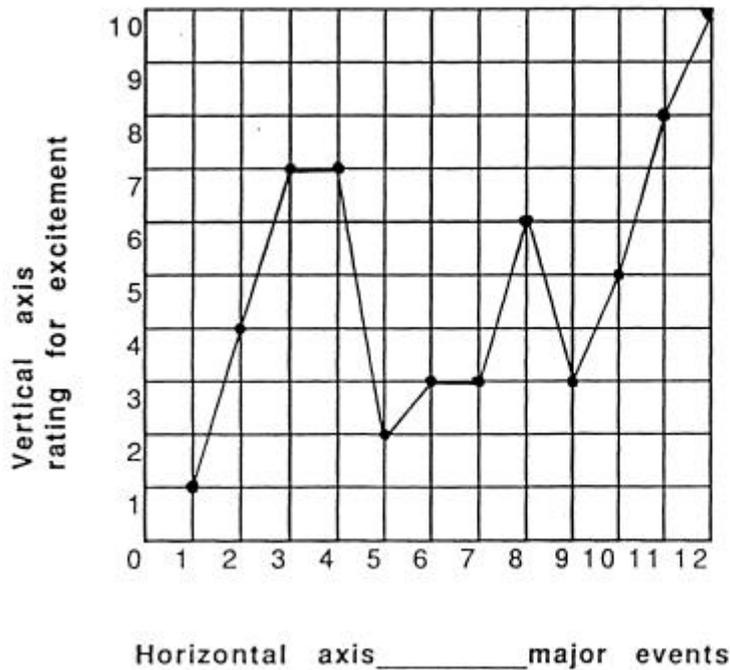
1 Reginald the frog leaves home.
2 He and Lil meet.
3 They fall in love.

4 They ask the king for permission to marry.
5 He refuses.

6 Reginald visits the witch.
7 Lil visits the magician.
8 The second kiss works.

9 Lil is still a frog.

10 Reginald still wants to marry her, the king gives permission.

11 They get married.
12 Reginald becomes king and They live happily ever after.

RECIPROCAL QUESTIONS
Adapted from Manzo, Whitehead 1992

WHY?
Encourages students to question as they read.
Helps readers to predict, to discover new meanings in texts, and to improve their comprehension.
Promotes co-operative learning.

WHO?
Students who need to become active, questioning readers.
Students who do not monitor their comprehension.

HOW?
Model the difference between a question and a statement and construct a series of questions.
Introduce the text to students.
Students read a section of text, as indicated by the teacher.
Students in groups or singularly, write a question that reflects the content of the passage.
Continue until all sections of the text have questions.
The questions can then be exchanged with other groups and answers written up.

VARIATION:
The teacher writes questions based on the text which the students then sequence.

RETELLING
Adapted from Brown and Cambourne 1992

WHY?
Involves reading, listening, speaking and the writing process.
Includes the full range of reading skills from prediction to individual word decoding skills.
Demands active engagement with text.
Engages students in the totality of a text: genre, vocabulary, punctuation, syntax, themes and purpose.
Involves sharing and comparing, leading to re-readings of the original text and other versions.

WHO?
All students who are required to understand texts.

HOW?
Present each participant with a short text contained on a folded page with only the title visible.
Participants are not to read the title until directed.
Participants read the title and write:
- one or two sentences on what the text might be about
- some words or phrases you might expect to see.
Students share and compare these predictions with a group or a partner.
Everyone reads the text. They read it as many times as needed to recall the details of text elements (characters, events, sequence) depending on students' ability. The text may be read aloud by the teacher if necessary.
Students retell the text, writing in their own words as much as they can recall for someone who has not read the text. They do not look back to the text and they work as quickly as they can.
Students share and discuss in pairs or small groups:
- how are the retellings different from each other and how are they different from the
   original.
- did you muddle, change or omit anything thus changing the author's meaning
- did you use any words which were different from those in the text but mean the same
- if you could borrow from a partner's retelling which part would you choose?
Additional considerations:
- students need prior experience with the text type eg fables, reports
- texts should be of high interest and within the students' reading ability
- the class should be organised into mixed ability groups of 4 or 5.

ROLE PLAY
Adapted from 'Our Own Words and the Words of Others' by David Booth

WHY?
Gives students practice in using language codes.
Provides a reason to notice style, voice inflection and gesture.
Permits reflection on language.
Enables students to engage in abstraction.
Encourages emotions to come into play.
Encourages students to explore moral values.
Assesses oral performance and negotiating skills.

WHO?

Students who need to be encouraged to take risks in expressing themselves.

Students who need practise in discussing and evaluating what they are told.

Students who need to be encouraged to discuss issues such as smoking and alcohol.

HOW?

The teacher develops a series of roles which are written on a set of cards.

These roles can be related to a theme being studied.

The teacher can follow the following format in role play

        situation and task of characters

        name of character

        background of character (age, occupation, physical characteristics)

Alternatively, the roles can be based on images created by students or obtained from other sources (magazines). Students can then create the roles within the role play or prepare a written profile based on the above format.

After the role play students must be given an opportunity to discuss their presentation of the role and how they felt in the situation portrayed.

Students must be aware of the role play as something that ends and does not continue once the role play is completed.

ROUND TABLES
from Co-operative Learning in a Democratic Classroom by Susan Hill

WHY?

Encourages co-operative group work.

WHO?

All students who need to be encouraged to work co-operatively to build confidence and self esteem.

HOW?

In groups of four or five, children share one piece of paper and a marker to record several ideas or answers.

The teacher may call on groups to predict what will happen to the character.

The group huddles and shares experiences.

Several responses or one group summary may be recorded.

A version of this is to have one piece of paper and several pens and children write one idea on the piece of paper and pass it to the next person. Children may be in teams recording all the prior knowledge they have about a topic before beginning research or further reading.

SCAMPER
Adapted from Eberle B., 1971

WHY?

Helps students to evaluate ideas.

Develops diversity and originality of ideas, approaches and problem- solving.

Encourages students to take risks and see alternatives.

WHO?

All students, especially those students who need to diversify their thinking styles.

HOW?

Use SCAMPER for any type of problem-solving activity.

Make sure the students are familiar with the acronym **SCAMPER.**

S Substitute	To have a person or thing act or serve in place of another.
C Combine	To bring together, to unite.
A Adapt	To adjust for the purpose of suiting the condition or response.
M Modify	To alter, to change the form or quality.
P Put to other uses	To be used for purposes other than originally intended.
E Eliminate	To remove, omit, or get rid of a quality part or whole.
R Reverse Rearrange	To change the order or adjust a different plan, layout or scheme.

When members of the group are faced with indecision or confusion, ask 'Have you SCAMPERED with it.' Use the Scamper checklist to generate ideas, to solve everyday problems.

SEMANTIC WEB
Source unknown

WHY?
Allows students to see that all the information researched is needed to answer a particular question.
Enables students to catagorise information so that logical links can be made.
Enables students to develop their own graphic representation of information.
Enables students to develop skills in interpreting graphics.

WHO?
Students who have difficulty categorising information.
Students who need support in making notes.
Students who tend to copy text when researching a topic.

HOW?
Construct a single focus question.
Write this question at the top of the worksheet, or have students write it in their books.
Looking at the information that follows pick out appropriate sub-headings, writing these across the page under the focus questions. These are the web strands.
Under the web strands students make brief notes relevant to each strand.
These notes become the strand supports.
When the semantic web is complete, students discuss the information they have recorded working to answer the original focus question.
After this oral practice, teachers may help students to record their information by writing in an expository genre.   In this case the semantic web becomes a valuable support for them.

COMMENT
This strategy is more flexible to use than the information grids which depend on the material being easily organised onto two axes. The semantic web allows for group work, e.g. if students are using the semantic web to make notes from a video, each group could take one of the web strands to address. At the conclusion of the video these notes could be shared with everyone, making all students responsible to the group.

SIX THINKING HATS
Adapted from Edward De Bono, 1992

WHY?
Develops thinking, listening and discussion skills.
Allows students to think more richly and more comprehensively.
Enhances different modes of thinking.
Expands student's perception.
Thinking becomes more focused, more constructive and more productive.
Allows for open-ended responses.

WHO?
All learners.
Students who have difficulty expressing their point of view in discussions.
Provides students with a basic framework for organising thinking
Quiet students who rarely talk and need prompting.

HOW?
SIX COLOURS, SIX HATS
Thinking is divided into six different modes, each of which is represented by a different colour hat.
A brief description of each mode is given here.

RED HAT. Emotions. Intuition, feelings and hunches.
No need to justify the feelings. How do I feel about this right now?
YELLOW HAT. Good points. Why is it worth doing? How will it help us?
Why can it be done? Why will it work?
PURPLE HAT. Bad points. Caution. Judgement. Assessment. Is this true?
Will it work? What are the weaknesses? What is wrong with it?
GREEN HAT. Creativity. Different ideas. New ideas. Suggestions and
proposals. What are some possible ways to work this out? What are some other
ways to solve the problem?
WHITE HAT. Information. Questions. What information do we have? What
information do we need to get?
BLUE HAT. Organisation of thinking. Thinking about thinking. What have we
done so far? What do we do next?

Explain the purpose of the hats to the students.
Decide on the topic of discussion and the type of hats you wish to use.

FOUR USES OF HATS
1. Put the hat on   - a student wears a particular colour hat for the discussion.
                            - the whole group wears a particular colour hat.
2. Take the hat off   - ask the student or group to take the particular colour hat off to
                            to move away from that type of thinking.
3. Switch Hats - encourages changes in thinking by students.
4. Signal thinking   - name a hat to show the type of thinking that students will
                            use.

NOTE: Not all hats have to be used at one given time.
        Allow plenty of time for discussion.

VARIATIONS

Instead of hats you use coloured paper, flags, ribbon or signs.

Follow up activities can be easily introduced after the discussion period.

Assign roles and allocate preparation time. This is a short think session for participants and would not normally entail any writing. Role players generate their dialogue as the players identify with their roles.

The teacher works within the framework of the drama to assist the children in focusing, defining and structuring the events and bringing the play to a close. If necessary, debrief players and the class on what has happened. Discuss the positions taken by the various characters and assist students to evaluate these.

SIDE-TALK

from J. L. Lemke, Talking Science: Ablex, 1991

WHY?

Without side-talk too many students are too often left confused, even if only for an accumulating number of small, sometimes critical, moments. Without the opportunity to get clarification or support from a peer, or to practise what they want to say, students are less likely to say anything publicly, or even to silently talk their way through the thematic pathways of the topic alongside the teacher's presentation. They hear ' teachers words', not their own, and learning is that much more alienating, that much further a jump from the familiar than it needs to be.

<div align="right">J. L. Lemke, Talking Science: Ablex, 1991.</div>

WHO?

All students who need to clarify teacher's instructions.

HOW?

Allow all students to discuss the task for a set time at the beginning of the lesson until all students are clear on what they have to do.

SKETCH TO STRETCH

Adapted from Gilles 1988, Whitehead 1992

WHY?

Assists learners to generate new insights and meanings.

WHO?

All language learners.

HOW?

Students read a text silently or the teacher reads aloud, stopping according to the density of the text and the purpose of the lesson.
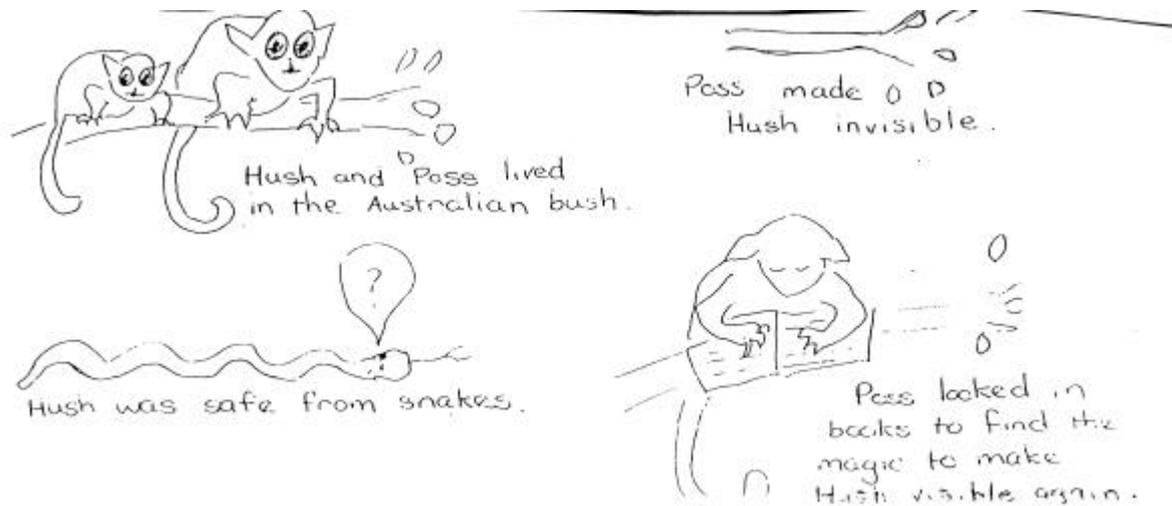
During this pause the students draw a sketch that summarises the story so far.

After several sketches students share with a partner, comparing the inferences from the text that have been made in constructing their drawings.

VARIATIONS:

Instead of sketching what has happened students could sketch what they think will happen next.

Students compare and discuss their sketches.

At the end of the exercise students could write captions for their sketches.

After an excursion or similar activity, students draw four sketches of the most significant events. These sketches could be labelled and the "best part" written about in detail.

Use as a cue for a story retelling.

Hush and Poss lived in the Australian bush.

Poss made Hush invisible.

Hush was safe from snakes.

Poss looked in books to find the magic to make Hush visible again.

SKIMMING, see Note-making

STORY GRAMMAR
Source unknown

WHY?
Allows students to reflect on the character development that occurs in the story.
Allows for discussion about how people's feelings change in relation to the events around them.
Encourages students to extract, interpret and synthesise information and organise their knowledge into a new form.

WHO?
All students for exploring the structure of narrative writing.
All students for examining character development in narrative writing.
Students who tend to write lengthy, poor quality stories without reference to character's feelings or emotions.

HOW?
Choose a story in which there is some development in the way characters feel about the events that occur.
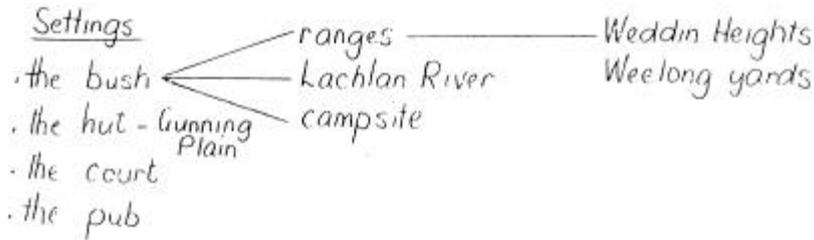Read the story to the students or have them read it themselves.
Focussing on the sub-headings - events, characters, settings, emotions - discuss and list the significant details from the story.
Link each character's emotions in different settings to events as the story unfolds. Compare the reactions of different characters at different times in the story.

VARIATIONS:

A Story Grammar outline of a known story may be used as a plan for writing a parallel story. The outline will provide a structure for writing.

Settings
· the bush ← ranges —————— Weddin Heights
· the hut - Gunning ← Lachlan River   Weelong yards
        Plain   ← campsite
· the court
· the pub

The Death of
Ben Hall
(by an anonymous writer)

Characters
· Ben Hall
· his friend
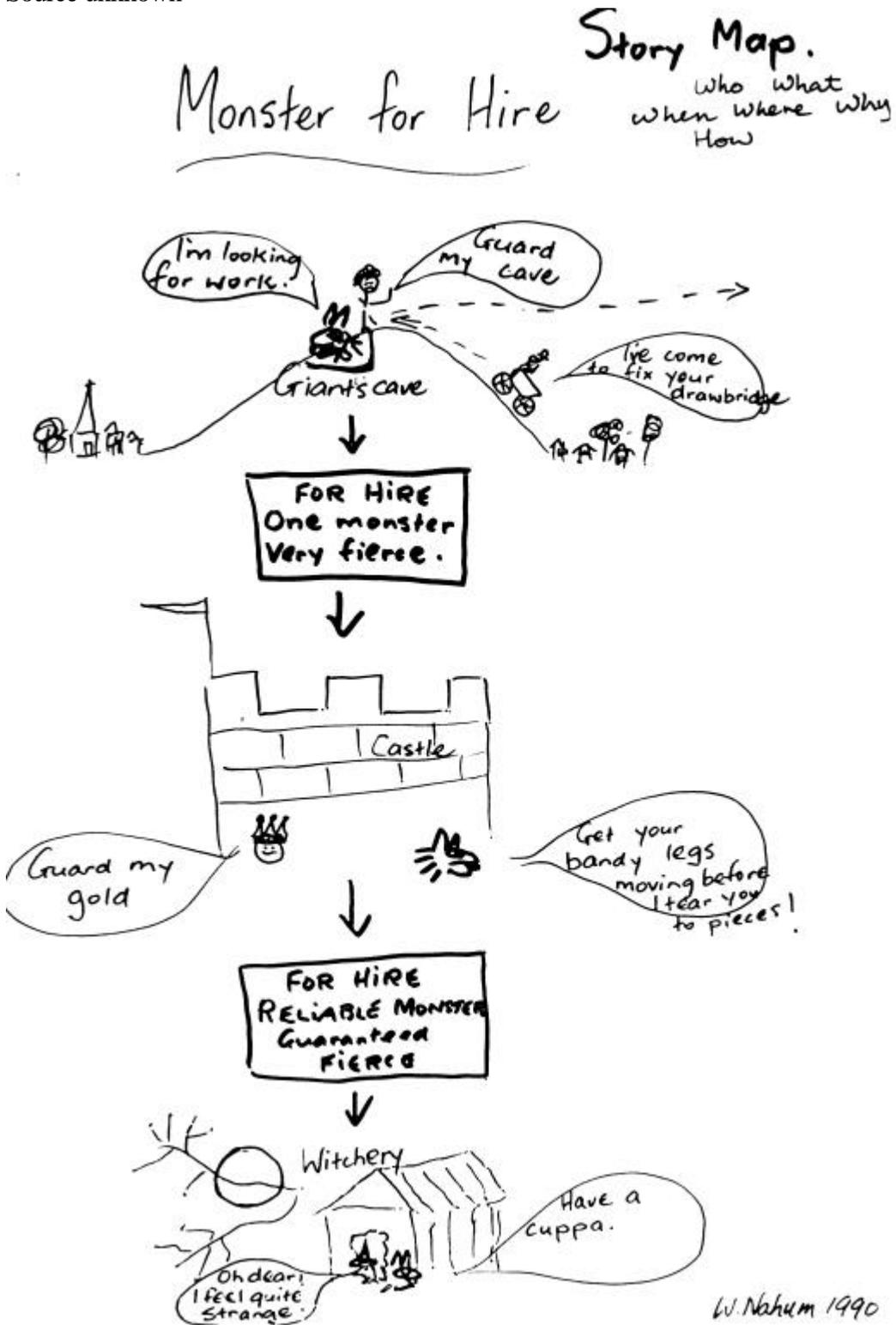· the Troopers
· the people in the bar

Events
· Troopers search for Ben Hall
· Ben Hall gets food
· Betrayal of Ben Hall
· Capture of Ben Hall
· Traitors rewarded

Emotions
· The Troopers
        · frustrated
        · puzzled
        · determined
· The people in the bar
        · disapproving
        · judgemental
· Ben Hall
        · fearful
        · exhausted
        · relieved
        · friendly
        · sad

His friend
· kindly
· greedy
· pitiful
· mean
· proud
· shameful
· sad   7

STORY MAP
Source unknown

Story Map.
Who What
when where why
How

Monster for Hire

I'm looking for work.

My Guard Cave

Giant's cave

I've come to fix your drawbridge

FOR HIRE
One monster
Very fierce.

Castle

Guard my gold

Get your bandy legs moving before I tear you to pieces!

FOR HIRE
RELIABLE MONSTER
Guaranteed
FIERCE

Witchery

Oh dear! I feel quite strange.

Have a cuppa.

W. Nahum 1990

WHY?
Assists students to transform their learning by extracting information and organising it into a new form.

WHO?

All students in focussing on a text and extracting information from it.

Students who lack motivation to complete written tasks.

Students who would benefit from oral discussion about a text to clarify understanding.

Students who need to focus on the sequence of a story.

Students who do not logically sequence their own writing.

HOW?

Choose a story where the setting changes.

Working individually, in pairs or small groups, students discuss the story to reach consensus and then construct a graphic representation of significant events and their setting. Arrows can be used to show the sequence of events.

VARIATIONS:

A Story Map may be used as a **plan** for a story, drawing attention to a beginning, a middle and an end

A class Story Map may be jointly constructed for students to use as a plan for their own writing. Completed stories are then exchanged noting individual differences in interpretation and detail.

STRUCTURED OVERVIEW
from Whitehead (1990)

WHY?

Provides a big picture of the topic being studied.

Represents graphically the concepts and sub-topics within a large unit.

Allows students to share and record their background knowledge.

Provides a way to actively involve students in unit design.

Enables progress through a unit to be displayed.

WHO?

All students as an introduction to a new topic in any subject and at any level.

Also as a review mechanism at the completion of a unit.

HOW?

Select the topic.

Each student writes down ideas on the topic-each idea on a separate piece of paper.

Students then share their ideas in a small group.

The group writes the topic heading on a large piece of paper.

The group then gathers their ideas into categories which they jointly define.

The categorised groups are written on the large piece of paper and linked appropriately.

The overviews are then shared with the rest of the class.

TEXT ANALYSIS
Source unknown

WHY?

Helps students to develop skimming and scanning skills.

Helps students to read for specific purposes.

WHO?

Students who need to develop skills in locating information in a text.

HOW?

Select a suitable text.

Use different coloured markers to underline words or phrases which tell what, who and when.

A time line can be constructed from this data.

THREE LEVEL GUIDE

Herber (1970), Morris and Stewart-Dore (1984)

WHY?

Improves comprehension.

Encourages students to read a text closely, too draw inferences from the text and to compare its meaning with what they already know about the topic.

Encourages students to think beyond the text to its implications.

Encourages readers to explore and share ideas, and to learn from others.

Promotes discussion.

WHO?

All students.

Students who need to be encouraged to read a text more closely.

Less able readers who would benefit from peer tutoring.

Students who would benefit from increased verbal interaction.

HOW?

First determine the content objectives.

Write **Applied Level Statements**, then the **Literal** and **Interpretive Level Statements.**

Each student should work alone to complete the guide. Stress the importance of having reasoned responses.

Group students into mixed ability groups (maximum of five) to discuss and justify their answers.

Circulate around the groups to identify areas of disagreement or misunderstanding without interfering with the discussion.

Allow an adequate length of time for group discussion.

As a whole class review areas of disagreement or misunderstanding, and highlight areas you would like to stress.

THREE LEVEL GUIDE
Yes/No Game-Pre-school to Yr 2

Modification of a Three Level Guide for younger grades.

Class sets of green cards labelled "yes" and red cards labelled "no" are distributed so each student has one of each.

As the teacher goes through a familiar story, she makes statements for the children to indicate whether they agree or not.

The statements are phrased to check for literal meaning as well as for inferences, plus some "tricky statements". The inference statements are formed by looking at the information students have taken from the text and asking what they could logically infer from this.

Children who are writing, are then asked to go back to their desks and write a statement that requires a "yes" answer, one that requires a "no" answer and a "trick" question where the answer is neither yes nor no but dependent on the readers' opinion.
Share with a friend.

THINKBOARDS
From Haylock 1984

WHY?
Promotes connections between representations of mathematics, ie. written and spoken words, pictures or diagrams, real things (concrete situations) and symbols.
Promotes understanding by increasing the extent and connectedness of representations in memory.
Develops a strategy for forming students own elaborations of mathematics.

WHO?
All students

HOW?
Design a large piece of card divided into four sections.
Each section displays the same mathematical idea using a different representation (eg. 32 written on a card and placed in the symbol section).
Materials required: pieces of card, paper, graph paper, pencils and a variety of concrete materials eg. counters, blocks, coins and string.
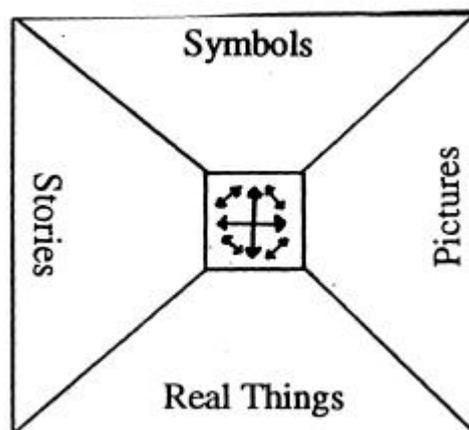Four students are arranged around the board.
After discussion, students complete all 4 sections of the board.
Responses are discussed as a class.

VARIATIONS
For ESL students extend the board to 5 sections, where the new section requires students to represent the mathematics using their first language.
Allow students to create the starting point.

THINKING BOOKS, see Learning logs.

UNPACKING THE PROBLEM (Mathematics), see also Newman's question.
from ACT Language for Understanding in Mathematics professional development course.

WHY?
Teaches students to analyse problems.
Breaks problems into steps students can follow.
Ensures teachers demonstrate their thinking processes.

WHO?
All students who need help in analysing problems.

HOW?
When doing exercises, always read and look at the phrasing of the question before doing an example, thus, teaching students to do the same.
When doing worded problems, read the problem aloud and discuss the meanings of words.
Expand the phrases and build up the diagram as it relates to each phrase.
Work out aloud what you have to do.
Identify what in the question made you think that was what you had to do.
Identify what maths you will need to use.
Show the students how to do it, explaining your thought processes.
Discuss the meaning of the answer.
Get the students to participate in this demonstration once they are familiar with the steps.

USING TEXTS AS MODELS
See Derewianka (1990); Rothery(1986); and Johnson & Pearson (1984).See Hunt(1994) for joint reconstruction.

WHY?
Enables students to compare features of different texts of the same genre and learn to write in that genre.

WHO?
All students who need to learn to write in a certain genre.

HOW?
Choose a text on a topic which is not the same as (though similar to) the topic the students will write about.
Keep the content of the text relatively simple to allow concentration on the structure and the language features.
Use an overhead transparency and read the whole text aloud to enable students to get the 'big picture'.
Identify the structure of the text by identifying its stages and discussing the function of each stage (eg a recount begins with an orientation which sets the scene and lets the reader know who, when and where and is followed by a series of events which tell what happened). Mark the stages clearly on the overhead transparency.
Discuss the purpose for which we use this kind of text in our society. Refer to audience.
Refer to language features other than the structure, but begin with a picture of the text as a whole.

Help the students discover the features of the text through careful guidance and questioning.
Examine a number of examples of one genre in order to build up their knowledge over a period of time (eg towards the end of a unit, ask the class what they know about the features of persuasive writing or reports and then write these up on a chart summary for the class).
Compare texts of the same genre.
Compare a successful text with one which has not achieved its purpose.
Models may be commercially produced texts or texts written by students or teacher.
Move from basic to more complex.
Joint text construction with group or class needs teacher guidance and input towards structuring the text and the overt linking of ideas. Ensure the students own the ideas-brainstorming ideas, build a word web or a structured overview to precede the writing.

VISUALISATION
From Reid 1990; Bagley and Hess 1993

DEFINITION
Visualisation (or imagery) is a process whereby a person can visualise an object, event or situation in their mind. (Bagley & Hess 1990.)

WHY?
Encourages creativity and imagination.
Develops unique responses and builds mental images.
Enhances living skills.
Acts as a relaxant, ie having a calming effect that can help students regain focus or concentration.
Provides both a focus and more open-minded attitude towards the concepts and subjects being covered.
Exposes students to the creative process and how it can be a positive influence in learning.

WHO?
All students.
Students who would benefit from using their imagination in a calm, focused activity.

HOW?
Students need to be comfortable with visualisation and assured that a supportive , non judgemental climate exists.
Make sure you find a nice quiet place without interruptions.
Ask students to get comfortable - on the floor or in a chair.
Read the visualisation exercise. Present the verbal commands very slowly and naturally, pausing frequently (about 30 seconds per line). Express yourself in a very pleasant, soft voice.
Students will need to close their eyes as this enables them to concentrate more deeply on the image. **NOTE** this may be threatening to the students at first.
Allow plenty of time for students to share their visualisation experiences both positive and negative.
Visualisation evokes imagination and lends itself well to the follow-up activities listed below.

VARIATIONS
Use visualisation exercises for the purpose of relaxation only.

Allow students an opportunity to suggest different ways in which to use visualisation in learning basic school content.

Allow students to read the exercises.

FOLLOW-UP ACTIVITIES

Construct a model, diagram, poster.

Draw pictures or illustrations of the scenes, images visualised.

Write a short story, interview, script, or letter.

Research the topic further.

Make a chart , a sign or a mobile.

Create sculptures or paintings.

Present a role play, a song or a video.

WRITING FRAMES

from 'Teaching Factual Writing: Purpose and Structure' by D Way and M Lewis in The Australian Journal of Language and Literacy, Vol 20 Number 2 May 1997

WHY?

Gives structure within which students can concentrate on communicating what they want to say while scaffolding them in the use of particular writing genres.

WHO?

Less confident students who need support and confidence to take risks with their writing.

The more able writer to learn specific language structures of genres. For example, the genre of writing a science report or argumentative essay.

HOW?

The teacher writes a model text of the genre that is being taught to students.

Information related words or phrases are then removed, leaving a skeleton frame of key words and phrases in the form of sentence starters.

Discuss with the students how the use of conjunctions, connectives and qualifiers in the text characterises the genre being studied.

Complete the writing frame with the appropriate information.

Over time the scaffolds can be reduced to promote independent writing in the genre.

VARIATIONS

Writing Frames can also be used in conjunction with brainstorming and notetaking activities (see Bundling and Writing Organiser). In these situations, the student's writing is being supported using information that they have gathered from group discussions or library research.

WRITING ORGANISER

Developed by J Geasley LUAC Team 1997

WHY?

Trains students to organise into paragraphs key words with examples and supporting ideas prior to writing a first draft.

WHO?

Students in all curriculum areas who are notetaking, writing stories, retellings, reports or essays.

HOW?

When reading a text for notetaking, model the process by focussing on the first two paragraphs.

Read the first paragraph.

Underline in one colour the key words.

Underline in another colour the examples and/or supporting ideas.

Complete the Writing Organiser Grid with the paragraph number, key words, examples and/or supporting ideas.

Leave a line on the Writing Organiser Grid to highlight the end of the first paragraph and the start of the second paragraph.

Ask the students to attempt the same steps individually for the second paragraph.

Students can share their answers in pairs or as a whole class.

Once the text has been read and summarised on the Writing Organiser Grid, model the process of transforming the ideas into paragraphs with the assistance of conjunctions/connectives.

Writing Organiser (layout compressed)

Paragraph	Key words	Examples or Supporting Ideas

VARIATIONS

When students are required to present their ideas in a written format, the same process can be employed with the ideas gathered from brainstorming exercises (see Structured Overview and Bundling).

FOLLOW-UP ACTIVITIES

The first draft of student's writing can be edited using the Editing Checklist. This can be done as a co-operative exercise with students sharing their writing with each other.

YES/NO GAME, see three level guide

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APPENDIX 1
STRENGTHENING STUDENT'S WRITING BY USING
CONJUNCTIVES-CONNECTIVES

Teach these words for linking and sequencing ideas when students are rewriting a text in their own words

Conjunctives to link *time* elements

first, second	finally	then
when	next	here
now	lastly	until then
meanwhile	next time	soon
after a while	at once	straightaway
in the end	afterwards	previously
before that		

Conjunctives relating to *cause* or *condition*

consequently	in that case	because
otherwise	still	though
so	then	therefore
yet	however	even though
all the same	so as	

Conjunctives in relation to *comparisons*

however	nevertheless	on the other hand
whereas	rather	also
elsewhere	instead	

Conjunctives in relation to *adding information*

also	as well	besides
furthermore	and	whereas
moreover	not only	but
besides	while	without

Conjunctives in relation to *examples*

for example	for instance	for one thing
including	these include	as a result
such as	consequently	therefore
though		

ACKNOWLEDGEMENTS

With the publication and distribution of the handbook to all Government schools in the ACT it is hoped that it will rekindle an interest by all teachers in Language for Understanding Across Curriculum.

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