

Presentation:

Literacy in Year 9 and 10 Technology

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Starpath

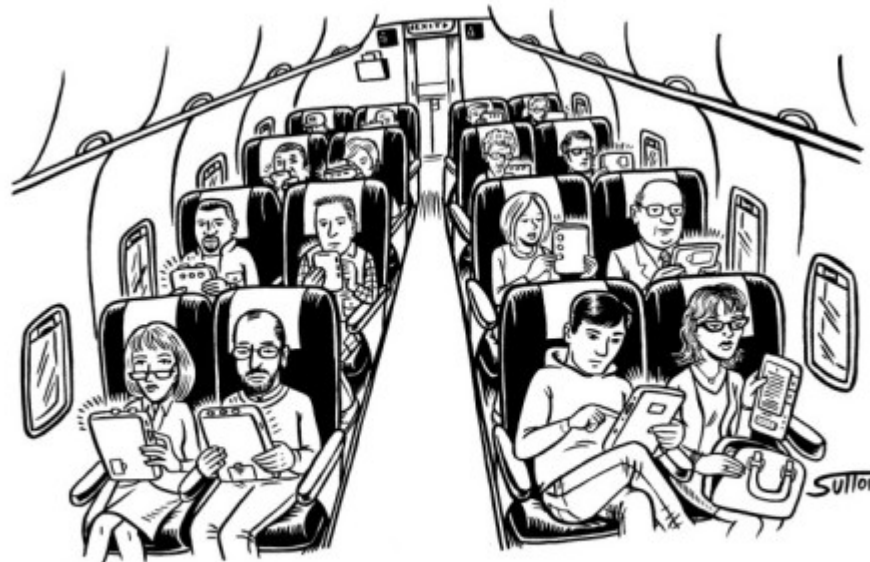
A University of Auckland Partnership for Excellence



THE UNIVERSITY
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NEW ZEALAND

Te Whare Wānanga o Tāmaki Makaurau



"In preparation for landing, please turn off your books."

Learning Intentions

Develop understanding of:

1. Literacy in Technology
2. Vocabulary instruction
3. Preparing your students to read
4. Preparing your students to write, with an inquiry focus

Programme

9am	Introductions Why is literacy important? Skills for vocab learning
10.30am	Morning tea
10.50am	Reading skills
12.45–1.15pm	Lunch
1.15-3pm	Writing skills and inquiry
3.15pm	Questionnaire and exit

Why is literacy important?

- " All teachers are teachers of literacy because all students learn through language. Language is fundamental to thinking and learning. Language is the primary means by which we gather and communicate information."

Effective Literacy Strategies p7

Literacy in Secondary School

- “Secondary school presents learners with many literacy challenges. In every subject area students need to read and write increasingly sophisticated texts as they progress through secondary school.”
- “Literacy teaching is just as important for academic success in Year 13 as it is in Year 9.”
- “Teachers have a responsibility to find out where each individual student is at in their learning.”

The Curriculum

For each (learning) area, students need specific help from their teachers as they learn:

- The specialised vocabulary associated with that area;
- How to read and understand its texts; how to communicate knowledge and ideas in appropriate ways;
- How to listen and read critically, assessing the value of what they hear and read.

NZC p16

Year 9 and 10 Baseline Data

To be considered at 'expected level' students should be reading at or above Curriculum Level 4 on entry to high school.

However, the Starpath Year 9+10 Baseline Data Report (Earl Irving) indicates that the following groups were at or below Curriculum Level 3 in AsTTle reading at the beginning of Year 9:

- 28.5% of New Zealand European students (n=6652)
- 56.3% of Māori students (n=8179)
- 70.4% of Pasifika students (n=8201)

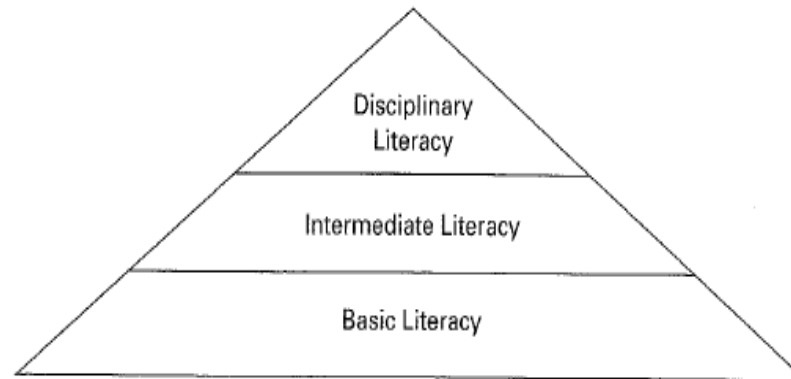
Data from the PAT listening comprehension tool also indicates many students' oral listening comprehension is below expectation, with 66.8% of Māori and 91.4% of Pasifika students having scores at Stanine 4 or below.

What does this mean for Technology teachers?

We must provide our students with language rich environments, where they have access to challenging texts and plenty of opportunities to read, write and talk about these texts.

Shanahan and Shanahan (2008)

FIGURE 1 *The Increasing Specialization of Literacy Development*



Basic Literacy: Literacy skills such as decoding and knowledge of high-frequency words that underlie virtually all reading tasks.

Intermediate Literacy: Literacy skills common to many tasks, including generic comprehension strategies, common word meanings, and basic fluency.

Disciplinary Literacy: Literacy skills specialized to history, science, mathematics, literature, or other subject matter.

Optimal conditions for literacy learning

- A language-rich environment in which students regularly read, write and discuss challenging texts
- An emphasis on students developing their own literacy strategies in a gradual withdrawal of support model
- Targeted teaching of specific needs identified through inquiry

Subject-specific literacy demands in technology include

- Subject and context specialised vocabulary
- Reading unique text types e.g. technical manuals
- Writing unique text types e.g. briefs
- Writing research questions
- Note-taking
- Analysing/annotating attributes of other technological solutions

Skills in Year 9 and 10 Technology

What skills do you want your students to have:

- In Year 9?
- In Year 10?
- What does NZC say?

Vocabulary key concepts

- Comprehension appears to depend on knowing between 90 – 95% of words in a text
- Students need frequent and repeated opportunities to experience and use new vocabulary
- Vocabulary is best learned in context
Amplify rather than *simplify* vocabulary

Receptive & productive vocabulary

- Receptive = what you *receive* (through reading and listening)
- Productive = what you *produce* (*through writing and speaking*)
- Both are important and mutually beneficial
- Talking point: "*Students are better at understanding mathematics vocabulary than they are at using it.*"

Vocabulary Learning

- Academic verbs
- Terminology bingo
- Vocab jumble
- Word map

Academic Verbs in Technology

Verb

Definition

Answer

Vocab Bingo

There are a number of ways you can use this activity:

1. For inquiry – at the start of a new unit of work to check students' prior knowledge
2. Mid-way through the unit to test new learning
3. For revision at end of unit/prior to exams

Vocab Jumble

codes of practice	flair	trial
resources	context	stakeholders
template	brief	client
		innovation
constraints	codes of ethics	
prototype	model	issue
		need
adaptation	mock-up	plan of action
key factors	function	legislation
milestone	system	specifications

Math Word Map



Definition	Math Vocabulary Word		Synonyms(s)	Antonym(s)
What real world situations would you use this word in?			Draw a picture or visual example	
	Use it in a sentence			

Preparing Your Students to Read

“When students have difficulty reading and understanding subject area texts, they hit a “literacy ceiling” that limits what they can achieve both in the classroom and in their lives outside of school.”

Reading For Understanding p5

Preparing Your Students to Read

- What to think about when using a text
- Road Blocks and Strategies – metacognitive exercise
- Strategies of good readers
- 3 Level Reading Guides
- What's important? Extracting the main ideas from texts

Things to Think About When Using Written Text

Use the piece of challenging text you brought with you today alongside the template provided to examine the suitability of it in a Year 9 or 10 Maths class.

What aspects might students struggle with, and how will this impact on your teaching?

What to Think About When Using Written Text by Helen Panayiodou (Team Solutions 2012)

Features to think about	Reading Sample
What is the purpose of this reading?	
What academic language is in this text?	
What prior knowledge is needed?	
What features of the text do students need to know about? e.g bullet points, map	
How will students process this information?	
How will students record information?	
How will students communicate their knowledge and ideas?	
How will you know students have understood the text?	

Class set of Roadblocks and Strategies

Road Blocks	Strategies

Strategies of Good Readers

Good readers will:

- Re-read
- Read forwards and backwards for comprehension
- Self-correct
- Attack new/unfamiliar vocab
- Read everything on the page
- Visualise as they read
- Re-establish concentration if it is lost
- Use headings, sub-headings, titles, captions, graphics etc
- Ask questions of the text
- Notice/pay attention to words in bold, italics, capitals, underlining
- Skim and scan
- Read at different speeds
- Activate prior knowledge and put this on hold if need be
- Make predictions
- Take breaks
- Make notes/annotations
- Continue reading – persevere – they don't give up

The Three Level Reading Guide

Purpose:

Three level thinking guides promote active reading for meaning at different levels and encourage critical reading. The class discussion that takes place after the students have completed the guide is an important part of this strategy.

Three Levels of Thinking

A three level thinking guide consists of a series of statements, about a specific text, presented at three levels of thinking:

Level One	knowledge fact	reading on the lines
Level Two	comprehension interpretation	reading between the lines
Level Three	application analysis synthesis evaluation	reading beyond the lines

Some Tips for the Teacher

Select a text with content that is worth studying with close attention, because the guide takes time to prepare and to work through with the class. Begin by writing the higher level three statements and work backwards to levels two and one.

Do not use this strategy as a homework exercise or as a test. The value of the activity lies in the discussion it generates among the students as they give their views and justify what they say by referring back to the text.

Provide plenty of time for the students to work through the guide, because it has the potential to stimulate a lot of lively discussion and debate in the classroom.

Three Level Reading Guide For Students

Level One: Literal Meaning – Reading on the lines - the answers are in the story.

Select the statements which say what the text says.

Level Two: Inference/Reading between the lines - to interpret what the author might mean

Select the statements which you think are true from what the text says. Be prepared to give reasons for your answers.

Level Three: Evaluative – Reading beyond the lines - I will have to think for myself.

Select the statements you think the author would agree with. Be ready to give reasons for your answers.

What's Important? Extracting Main Ideas from Text

Individual – group activity

Instructions:

- Students read a piece of text quietly on their own
- Each student is given a few post-it notes on which they record: slightly important, important, most important ideas from a piece of text
- In groups of 4-5 students share their post-its. The group discusses and categorises all the post-its on an A3 sheet to extract which ideas are most important in the text.

The most important and valuable aspect of this activity is the rich talk about the ideas in the text which emanates from the group discussion as they categorise each post-it.

Extracting Main Ideas

Slightly Important	Important	Most Important

Writing Activities

- Inquiry into your students' writing
- Strategies of good writers
- Vocab toolbox – for writing about statistics
- Summarising In Your Own Words
- Visuals – word bank – sentence – paragraph – write own word problem

Writing Inquiry

“Since any teaching strategy works differently in different contexts for different students, effective pedagogy requires that teachers inquire into the impact of their teaching on their students.”

NZC p35

Preparing your students to write

Writing inquiry:

Use the A3 template provided to inquire into the Year 9/10 student writing you brought with you today. Be specific when describing the skills each student does/doesn't use in their writing. You can continue this process when you return to school, share with colleagues, and report back on the inquiry in the second workshop.

Focus questions for feedback: How has this inquiry informed your literacy teaching? What have you changed in your practice?



Writing Inquiry Frame

asTTle Writing Rubric: Ideas, Structure, Organization, Vocabulary, Sentence Structures, Punctuation, Spelling	Features of Writing	Describe what is/is not evident in the writing Student 1	Describe what is/is not evident in the writing Student 2	Describe what is/is not evident in the writing Student 3
	Audience/Purpose <ul style="list-style-type: none"> • Writing suits the audience for the task • Meets the purpose for the activity 			
Structure Organization Sentence Structures	Structure/organisation <ul style="list-style-type: none"> • Uses titles, subheadings, appropriate divisions • Ideas are clearly organised (sentences/bullet points/lists) • Sentences are organised into appropriate paragraphs and are grammatically correct 			
Ideas	Content/Ideas <ul style="list-style-type: none"> • Relevant • Uses topic statements • Supports with evidence/details 			
Vocabulary	Vocab/language features <ul style="list-style-type: none"> • Uses subject terminology correctly 			
Punctuation Spelling	Text Features <ul style="list-style-type: none"> • Uses spelling and punctuation accurately 			
	Specific Literacy Need			

Strategies of Good Writers

Good writers will:

- Determine their purpose and audience
- Invest time in their writing
- Find, select and use the most appropriate content or ideas
- Use topic statements
- Use suitable vocabulary/subject terminology
- Structure and sequence content appropriately, using headings/sub-headings/captions as necessary
- Use connectives to link ideas
- Present the text, with suitable visual material for the intended audience
- Attend to surface features (spelling, grammar and punctuation)
- Edit – review drafts (edit later and edit lots)
- Proof read the writing and make necessary corrections
- Ask for feedback on their writing
- Share their writing with others

Vocab Toolbox For Writing a Report on Fabrics

Types		Common Uses
Natural	Synthetic	
Attributes		Care
Summary/Conclusion		

Summarising in Your Own Words

- Read the article on Iconic Te Rewa Rewa: Challenges and Solutions. Jot down 20 important words from the article
- Now choose the 6 MOST important words
- Now use those six words to sum up the article in a couple of sentences

Writing Based on Visual Texts

1. Choose one of the visuals and create a word bank to critique the design of the object you see, using appropriate subject vocab that students might use. Include technical terminology. (As an extension you could include some words that are NOT applicable).
2. Swap your visual with another group. This group will use your word bank, and add to it, writing a few sentences to form a paragraph, explaining elements of the design.
3. Higher level thinking task – write suitable questions that could be used about this visual.
4. Next step – use one of these as a stimulus to design/develop a new product.

Resources

- Reading for Understanding by Ruth Schoenbach, Cynthia Greenleaf and Lynn Murphy
- Effective Literacy Strategies in Years 9-13 Ministry of Education
- TKI – Literacy Online
- TKI – ESOL Online
- TKI – Literacy Leadership