Engagement in technology through authentic learning opportunities

Karakia Timatanga

Kia hora te marino

Kia whakapapa pounamu te moana

Hei huarahi mā tātou

i te rāngi nei

Aroha atu aroha mai

Tātou i a tātou katoa

Hui ē! Tāiki ē!

Opening Karakia
May peace be widespread
May the sea be like greenstone
A pathway for us all this day
Let us show respect for each other
For one another

Bind us all together

Webinar content outline

1. **Rationale**

2. **What does it look like in action?**

3. **Integrating digital content**

A variety of meals just for you

Mahutonga Cooks

Technology Online webinar: Engagement in teachnology through authentic learning experiences

Deidre Senior

Principal

Waitaki Valley School
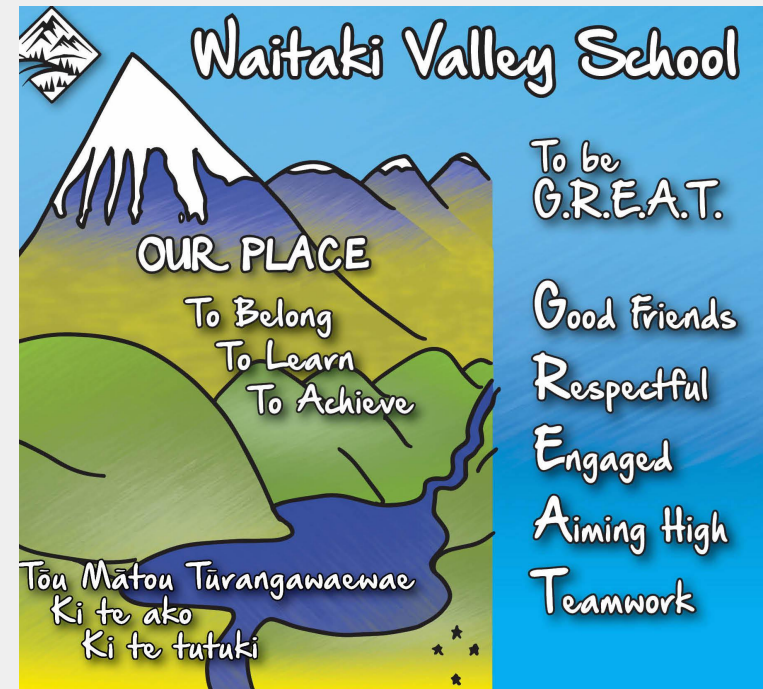
Cheryl Pym

PLD Facilitator

University of Otago

Why? What is the rationale behind this?

- Concern about teacher knowledge and understanding of technology in the NZC

- This had a flow on effect to classroom programmes that lacked depth and understanding in an authentic context

- Increase student engagement the learning process

From a PLD perspective

- Ensure a sound curriculum foundation on which to build

- Understanding the structure and application of the learning area

- Ensuring a robust delivery plan for all technological areas and learning experiences

- Increase student engagement and agency the learning process in authentic contexts

- [A recipe book: Linking technology and literacy](#)
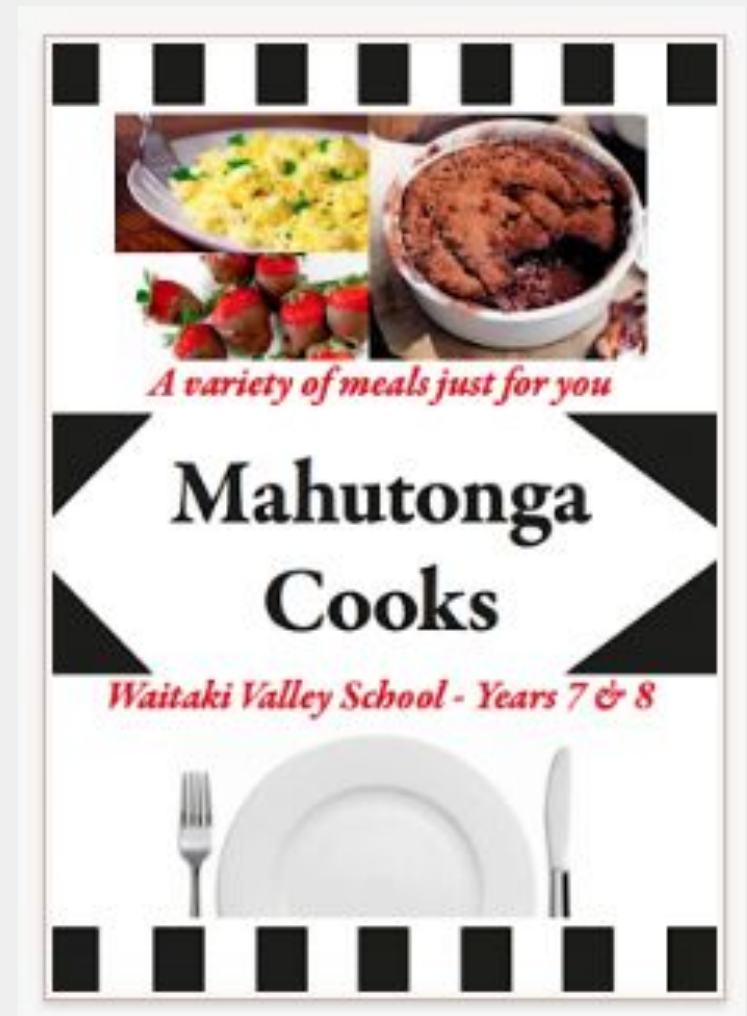
What does technology look like in action?

Purposeful, student driven learning

- [A recipe book: Linking technology and literacy](#)

- [Linking technology and literacy](#)

- [Games for rainy days](#)

- [Primary playground rededsign – a rich local curriculum opportunity](#)

https://vimeo.com/325108477/8b5f9fdbf9

What does technology look like in action?

- Development of language

- Understood the attributes (after using the attributes kits)

- [Attributes kits online – Linking technology and literacy](https://vimeo.com/325111397/c2389de179)

- Purposeful outcomes

https://vimeo.com/325111397/c2389de179

What does engagement in authentic learning opportunities look like in action?

- Students involved in the consultation process

- Recognising possibilities and opportunities

- Developing a digital outcome to support the presentation to the Board about the development of the school playground

What does this look like in action?
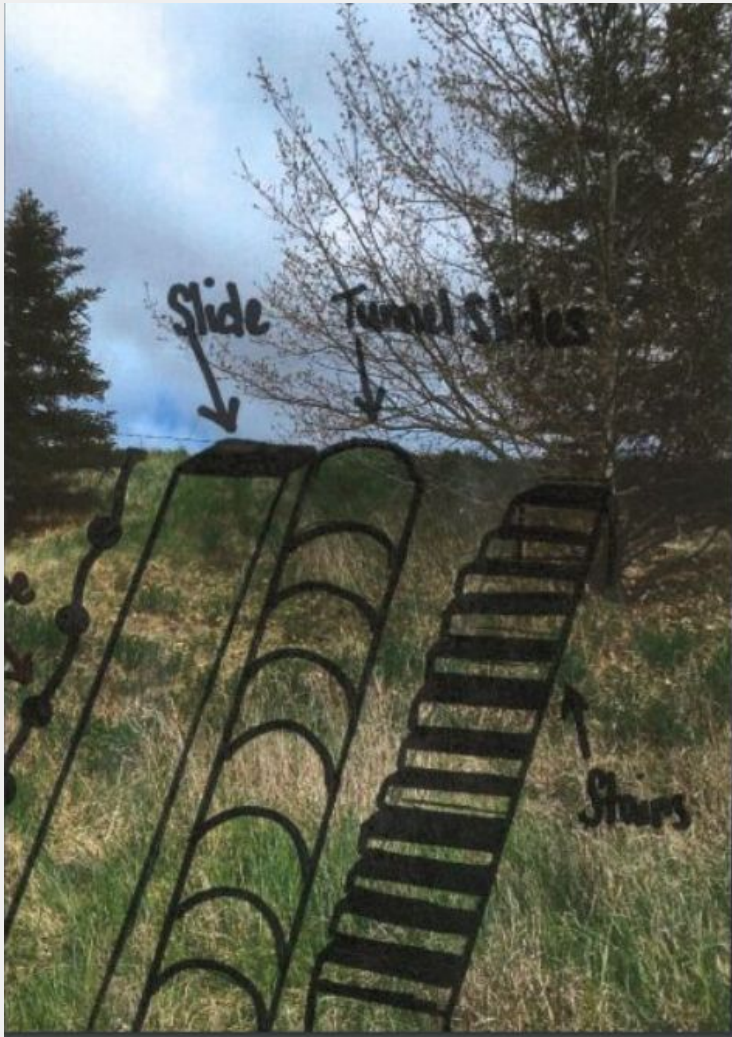
We have gone down the bank and have taken photos so we could get an idea of possible equipment to go in the space. This photo is of ways we could get up and down the bank efficiently.

What does this look like in action?

As a fun idea we would like to add a treehouse over by the pool. There will be fun ways to get up and down like a rope or a ladder. There will be different levels where people can sit and talk or you could challenge yourself and try to climb to the top. At the side of the tree we would put a swing.

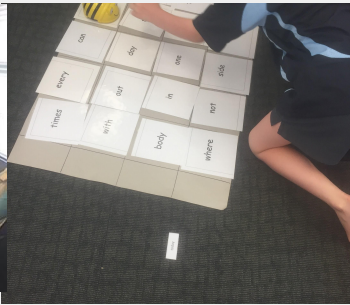# Integrating in an authentic context

The strands

- Provide the overarching structure to authentic learning experiences

- Are not optional (NZC, page 38)

- Described separately but are interwoven in reality

- Achievement objectives and progress outcomes are enacted within the strands and selected and combined as relevant to the context and learning needs

Technological areas

The technological areas provide contexts for learning. Over the course of years 1–10, students learn in all five technological areas:

- Computational thinking for digital technologies

- Designing and developing digital outcomes

- Designing and developing material outcomes

- Designing and developing processed outcomes

- Design and visual communication

Where are we at now?

- Development of teacher understanding and integrating digital technologies content into our learning areas

- Using computational thinking to support reading and vocabulary development

Digital Technology Integration	Bee-bots used throughout the week with the Oranges and Blueberries groups to find particular words on the grid. Required to give step-by-step instructions to peers as to how to get to new word from previous word. De-bugging as required.
	Progress Outcome 1
	Students use their decomposition skills to break down simple non-computerised tasks into precise, unambiguous, step-by-step instructions (algorithmic thinking). They give these instructions, identify any errors in them as they are followed, and correct them (simple debugging).

What does this look like in action?

Example: Using computational thinking to support a reading programme
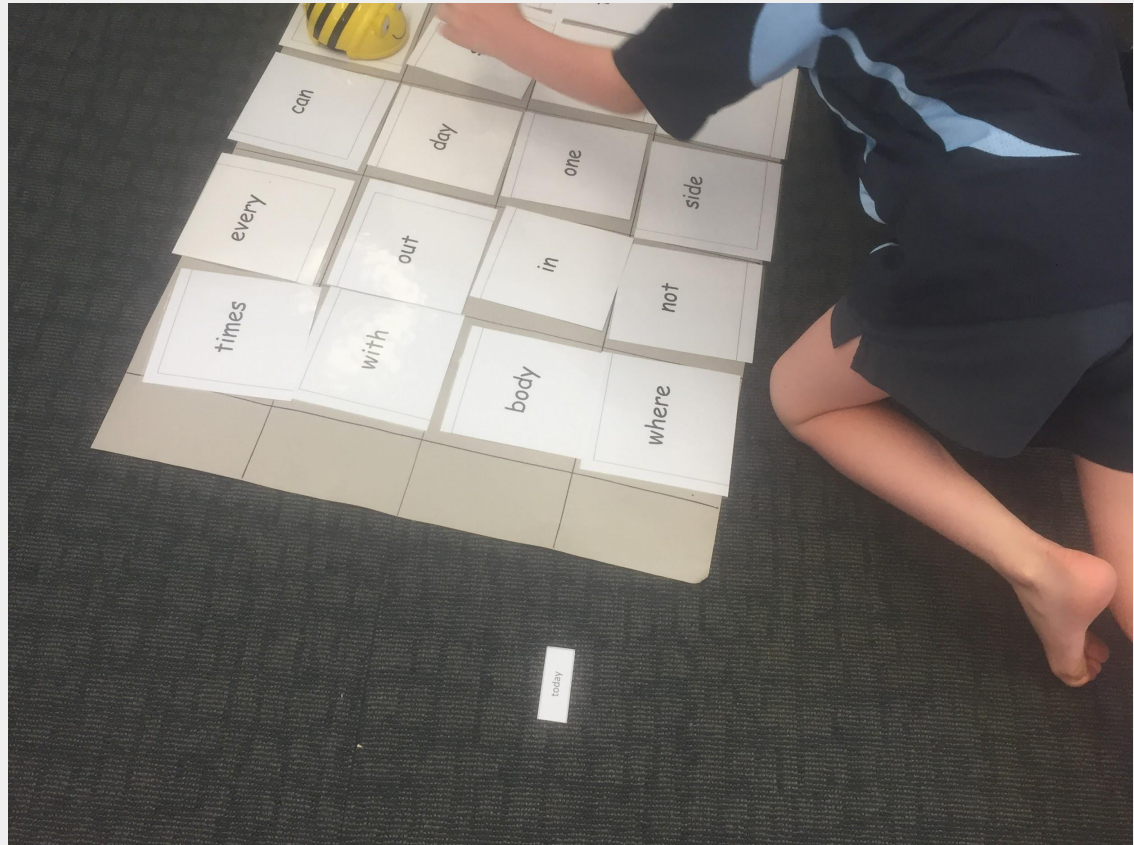
What does this look like in action?

- An indoor board game development and integrating computational thinking

- Using an existing context for teacher learning

- How can we strengthen our existing technology learning opportunities by adding a focus on digital technologies progress outcomes?

School wide examples

Technological Writing Exemplar Level 3

Context/Focus: Children were expected to outline the main attributes that their class had identified for their playground designs. This was used as a mid point evaluation of student understanding.
The fishbone organiser was used to clarify their understanding of the information gathered.

Technology

Brief Development
- Describe the physical and functional nature of the outcome they are going to produce and explain how the outcome will have the ability to address the need or opportunity
- Describe attributes for the outcome and identify those which are key for the development and evaluation of an outcome

Planning For Practice
- Identify key stages, and resources required, and record when each stage will need to be completed to make sure an outcome is completed
- Explain progress to date in terms of meeting key stages and use of resources, and discuss implications for what they need to do next

Outcome Development & Evaluation
- Describe design ideas (either through drawing, models and/or verbally) for potential outcomes
- Evaluate design ideas in terms of key attributes to develop a conceptual design for the outcome
- Select materials/components, based on their performance properties, for use in the production of the outcome
- Produce an outcome that addresses the brief
- Evaluate the final outcome against the key attributes to determine how well it met the need or opportunity

Literacy Learning Progressions
- understand their purposes for writing and identify writing processes that are appropriate for those purposes
- generate content that is usually relevant to the task, supporting or elaborating their main ideas with detail that has been selected with some care
- use an overall text structure that is appropriate for their purpose
- organise related ideas into paragraphs and beginning to use cohesive devices to link paragraphs
- use written language features (such as emotive vocabulary) and visual language features (such as headings, charts, or maps) to extend or clarify meaning and to engage their audience
- select vocabulary that is appropriate to the topic, register, and purpose
- use simple and compound sentences that are correct grammatically and have a variety of structures, beginnings, and lengths and using some complex sentences that are mostly correct grammatically
- use their knowledge of how words work, along with their knowledge of word derivations, to fluently and correctly encode most unfamiliar words, including words of many syllables
- correctly spell all high-frequency words used in their writing
- use basic punctuation that is mostly correct
- attempt some complex punctuation
- use a variety of planning activities, such as constructing flow charts, for those writing tasks that need to be planned
- independently revise and edit their writing to clarify its meaning and add impact, often in response to feedback
- proofread to check the spelling, grammar, and punctuation, using appropriate computer- based or print tools

Highlighted points are those that the child has achieved in this piece of writing.

Where to Next (Technology)
- To consult with stakeholders and use the stakeholder feedback to refine and describe their design ideas.
- To explain how the outcome will address the need or opportunity. In this instance this will include putting together a conceptual design to present to the Board of Trustees.

Where to Next (Writing)
- Use this as the plan to further explain decisions that they make or ideas that they wish to develop.

School wide examples

Technological Writing Exemplar Level 2

Context/Focus: Students were outlining the intended outcome of an inside game that they were to design and construct. Constraints included the game must be used inside the learning space, or in the school gym. The intended users/stakeholders are the peers of this class.

Technology

Brief Development
- Explain the outcome to be produced
- Describe the attributes for an outcome that take account of the need or opportunity being addressed and the resources available

Planning For Practice
- Identify key stages required to produce an outcome
- Identify the particular materials, components and/or software required for each key stage

Outcome Development & Evaluation
- Describe potential outcomes, through drawing, models and/or verbally
- Evaluate potential outcomes in terms of identifies attributes to select the outcome to produce
- Produce an outcome in keeping with the brief
- Evaluate the final outcome in terms of how successfully it addresses the brief

9/8/18 My intended outcome ①

What am I making?

I am making a game that I am going to call stand up sit down. I am going to have luminated cards that might say stand up if there is it o possible that they sit can be out and it can be raining sit do or sit down if you think it impossible.

Why am I making it? What will it be used for?

I am making in it because I think that it will be fun for this class and an easy game to play It will be used for playing with on wet days.

Where will it be used?

It will be used inside on a wet day.

What might it look like?

I am hoping it will look like a cool colourful (Textured) box with a card holder for the cards and the holder will be decorated as-well as the cards.

What might it be made from?

I am hoping it will be made from cardboard, and the cards will be luminated the card holder will be made out of plastic or cardboard.

Literacy Learning Progressions
- create content that is mostly relevant to the curriculum task, covers a range of ideas, experiences, or items of information, and often includes detail and/or comment that supports the main points
- use vocabulary (in particular, nouns, verbs, adjectives, and adverbs) that clearly conveys ideas, experiences, or information
- use language and a simple text structure that are appropriate for the purpose, and linking words to show sequence
- use written language features (such as similes and onomatopoeia) and visual language features (such as illustrations and diagrams) to support meaning
- expand their writing vocabulary by using strategies such as applying their knowledge of the meaning of most common prefixes and most common suffixes
- expand their writing vocabulary by using mainly simple and compound sentences, along with some complex sentences, that vary in their beginnings, structures, and lengths and are mostly correct grammatically; correctly using subject–verb agreement, tense agreement, and pronouns and prepositions
- encode by using their knowledge of diverse phoneme–grapheme relationships, of the meaning and spelling of morphemes, and of common, reliable spelling rules and conventions
- encode by using their visual memory to help them spell personal vocabulary and high-frequency words correctly
- use capital letters, full stops, question marks, and exclamation marks correctly and use speech marks, commas for lists, and apostrophes for contractions correctly most of the time.
- select and use tools and strategies to plan and organise ideas and information to meet their purposes for writing
- use reference sources to check the meanings of words and to find new words
- revise and edit their writing for clarity, impact, and fitness for purpose, often in response to feedback
- reread their writing at various stages to check for meaning and fitness for purpose
- proofread for accuracy of spelling, grammar, and punctuation
- make choices, when appropriate, for publishing in a variety of media, including digital and visual media.

Highlighted points are those that the child has achieved in this piece of writing.

School wide examples

Technological Writing Exemplar - Level 1

Context/Focus: This child had been at school for 11 months. The task was to design and explain a game that could be played inside at wet lunchtimes.

Technology (TP)
Brief Development
- ==Communicate the outcome to be produced==
- Identify attributes for an outcome

Planning For Practice
- Identify what they will do next
- Identify the particular materials, components and/or software they might use

Outcome Development & Evaluation
- ==Describe potential outcomes, through drawing, models and/or verbally==
- Identify potential outcomes that are in keeping with the **attributes**, and selects one to produce
- Produce an outcome in keeping with identified attributes

Transcript:
Rules: The game is Snap the word.
If the person who is picking up the card shows the other person and that person has to get it on (the board) before the other person says the word. If the person gets it on before the other person says the word you get another turn.
2 people.

Literacy Learning Progressions
- use simple planning strategies to organise their ideas and then apply their planning as they turn ideas into connected sentences
- ==develop content that is related to the curriculum topic, with some (mostly relevant) detail==
- ==use appropriate text structures for text types such as simple recounts, descriptions, and reports==
- attempt some variety and precision in the use of adjectives, nouns, and verbs
- ==use their personal content vocabulary of written words as well as words and phrases that are part of their expanding oral vocabulary==
- compose mainly simple and compound sentences, with some variation in their beginnings
- use simple conjunctions correctly, with subject–verb agreement and noun–pronoun agreement
- ==use their visual memory to spell personal vocabulary and high-frequency words==
- encode unfamiliar words by using their knowledge of ==phoneme–grapheme relationships, along with their developing awareness of spelling conventions,== to select correct spelling patterns for sounds in words
- Encode unfamiliar words by applying their growing knowledge of useful spelling rules and their growing knowledge of morphology
- apply their expanding knowledge of graphemes to write words correctly
- ==form all lower-case and upper-case letters correctly with increasing speed and automaticity==
- use full stops, question marks, or exclamation marks to end sentences and use capital letters correctly to begin sentences and for familiar proper nouns
- ==proofread their text to check== punctuation and ==spelling==
- revise their text (often in response to feedback) and edit it for clarity and accuracy of meaning

Highlighted points are those that the child has achieved in this piece of writing.

Where to Next (Technology)
- To describe the attributes or components of the game.
- To explain the proposed materials to be used.

Where to Next (Writing)
- Vary sentence beginnings
- Correct use of capital letters
- Identifying and clarifying the unknown words.

Waitaki Valley School online

1. **Robust technology planning in syndicates and across the school**

2. **Moving towards integrating the digital progress outcomes**

3. **Developing more school based exemplars**

Technology Online resources

- [Technology in the NZC](#)

- [Digital technologies (DT) professional supports](#)

- [DT questions and answers](#)

- [Resources](#)

- [Webinar recordings](#)

Games for rainy days, years 1 – 3

Years 1–3 students explore attributes of games and create their own. Read more

`YR` `TA` `CC` `TS`

Primary playground redesign – a rich local curriculum opportunity

A redesign of the school playground became a rich learning opportunity for years 7–8 students. Read more

`YR` `TA` `CC` `TS`

Astronomy and e-textiles

Primary and intermediate schools build connections between an annual Matariki exhibition at Kiwi North museum and the technology learning area. Read more

`YR` `TA` `CC` `TS`

Year 12 student outcome: A pie for Sweeney Todd

Year 12 student, Chad, designed and developed a pie for a production of Sweeney Todd. Read more

`YR` `TA` `CC` `SS`

Top scholar DVC: Digital modelling tool

Tessa van den Beuken designed a unique product called Freeform, a computer input device for graphic designers and artists. Read more

`YR` `TA` `CC` `SS`

A recipe book: Linking technology and literacy

Years 7–8 students develop a book of family recipes to print and sell, combining technology and literacy, and connecting with their school community. Read more

`YR` `CC` `TS`

MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

Technology Online

Kaua e rangiruatia te hāpai o te hoe; e kore to tātou waka e ū ki uta

Technology Online newsletter

- **See the Technology Online newsletter [here](#)**
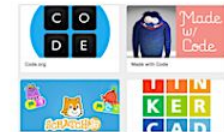
Karakia Whakamutunga

Ka whakairia te tapu
Kia watea ai te ara
Kia tūruki whakataha ai
Kia tūruki whakataha ai
Hui e Tāiki e

Restrictions are moved aside
So the pathway is clear
To return to everyday activities
Enriched and unified

if we didn't think we were going to change the world, we wouldn't be here.

hugh