



The Learning Progression Frameworks describe significant signposts in reading and writing as students develop and apply their literacy knowledge and skills with increasing expertise from school entry to the end of year 10.

Overview

This TSM contains information and suggestions for teachers to pick and choose from, depending on the needs of their students and their purpose for using the text. The material provides many opportunities for revisiting the text.

Kevin Halsall is an engineer and inventor who likes to solve problems. Over a four-year period, he designed and built the Omeo: a ground-breaking mobility device that gives people much greater freedom than a traditional wheelchair. In this article, Kevin discusses his motivation and design process, and his friend Marcus shares the impact the Omeo has had on his life.

This article:

- describes the process of designing a ground-breaking mobility device
- includes a profile of an Omeo user and co-designer
- has photographs and diagrams that support the text
- includes subject-specific vocabulary and technical information
- encourages students to think about the way people who use wheelchairs can be disadvantaged by society.

A PDF of the text is available at www.schooljournal.tki.org.nz

Texts related by theme

“Talking to the River” SJ L3 June 2018 | “Designed for Good” SJ L3 May 2017 | “Red-hot Racers” SJ L4 Oct 2011



Text characteristics

persevered. He believes movement makes people happy.

“So much joy comes from being able to run or dance or feel the ground beneath you,” he says. “When you’re in a wheelchair ... it’s really important to be able to move for the sake of moving, not just to get from A to B.”

For me, the Omeo taps into the subconscious need for movement that we all have.”

While the Omeo’s sleek design makes it eye-catching (“it goes with all my outfits,” Marcus jokes), it also becomes invisible compared with regular wheelchairs.

abstract ideas, in greater numbers than in texts at earlier levels, accompanied by concrete examples in the text, requiring students to make links to other parts of the text and to their prior knowledge

all have.”

While the Omeo’s sleek design makes it eye-catching (“it goes with all my outfits,” Marcus jokes), it also becomes invisible compared with regular wheelchairs. “You move with such efficiency and grace,” Marcus says, “and that gives you confidence.”

People will come up and ask me about my Omeo, and it’s great that it starts a conversation, but after a while, the chair disappears and they just see you.”




sentences that vary in length and in structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses), requiring students to carefully track ideas as they read



of seat. Kevin came round to take a look. “We decided that we were probably on to something,” he says.

Kevin’s first thought was to design a part that could be bolted onto a Segway, but then he realised they’d get a better result if they opened up the base; then they could adapt the electronics. It was time to make a decision. Should they design a kitset so that people could customise a Segway themselves? Or should they build a whole new mobility device?”

“They were pros and cons on both sides,” Kevin says, “but deciding to work from scratch

a significant amount of vocabulary that is unfamiliar (including academic and content-specific words and phrases), requiring students to use the context, illustrations, and/or written explanations to gain meaning



photographs and diagrams that clarify or extend the text, requiring students to make links between these and the text to gain understanding

Text and language challenges

Some of the suggestions for possible supporting strategies may be more useful before reading, but they can be used at any time in response to students' needs.



Go to The Learning Progression Frameworks – Reading: “Making sense of text: vocabulary knowledge” and “Making sense of text: using knowledge of text structure and features” to find detailed illustrations showing you how students develop expertise and make progress in these aspects.

VOCABULARY

- A number of unfamiliar words and phrases, including “tinkering”, “customise”, “littered”, “discarded”, “countless”, “rejected”, “investors”, “social media”, “viral”, “joystick”, “mundane”, “disconnect”, “crouch”, “liberating”, “off-road”, “proportion”, “tread”, “immersed”, “sleek”, “eye-catching”, “motion”, “therapy”, “archery”, “waka ama”, “efficiency”, “subconscious”
- Subject-specific terms, including “paraplegic”, “mobility device”, “higher-level injuries”
- Technological terms, including “engineer”, “self-balancing”, “kitset”, “test pilot”, “prototype”, “manual”, “active seat control”, “hands-free”, “static version”, “virtual-reality headset”
- Idioms and colloquial language, including “an ideas man”, “flash of inspiration”, “out-of-the-box solutions”, “free up”, “pros and cons”, “work from scratch”, “a big turning point”, “babbling on”, “life changing”, “a buzz”, “part of the flow”, “fills the gap”, “be pigheaded”, “don’t take no for an answer”, “world first”, “large scale”, “hot demand”, “only scratched the surface”, “to get from A to B”

Possible supporting strategies

- Remind the students of strategies that are particularly useful on a first reading, such as rereading to look for clues, making connections with their prior knowledge, and/or reading on to see if the meaning becomes clearer.
- Build prior knowledge of terms related to technological processes before reading, for example, the concepts of tinkering, developing prototypes, test pilots, and rejecting ideas. If possible, link this to a model of the design process, for example, the design-thinking model. Weave in specific phrases used in the text, such as “work from scratch” and “flash of inspiration”.
- Build prior knowledge of assistive technologies and mobility devices. Explore the [Omeo website](#) before reading, and have the students share their ideas about how the Omeo differs from a traditional wheelchair. Watch the [promotional video for the Omeo](#) (formerly called the Ogo), which includes a number of phrases used in the text. Brainstorm words that describe how the Omeo looks and moves.
- Before and after reading, discuss the words and expressions that have colloquial, figurative, or connotative meanings. Make sure the students understand these words and how their meaning changes in different contexts. English language learners will benefit from explicit explanations. Discuss both the literal meaning and the actual meaning of each one. Drawings or photos of the literal meanings can also be helpful. [ELTpics](#) has photographs shared by teachers to illustrate the meaning of some idiomatic expressions.
- *The English Language Learning Progressions: Introduction*, pages 39–46, has useful information about learning vocabulary.
- See also [ESOL Online, Vocabulary](#), for examples of other strategies to support students with vocabulary.

SPECIFIC KNOWLEDGE REQUIRED

- Understanding of technological processes, for example, identifying a need, developing ideas, creating and testing prototypes, refining and extending ideas
- Some awareness of disability and assistive technologies
- Some knowledge of what a Segway and a joystick are
- Some knowledge of social media and what it means to “go viral”
- Some familiarity with reading text that includes direct quotes

Possible supporting strategies

- Make connections with technological processes and practices used in the classroom. The TKI Technology Online website provides information on technological practices such as prototyping. Provide a diagram summarising a technological design process.
- Model ways to identify and talk about disability. Note that for many people, the term “disabled people” is a source of pride and identity, and the emphasis when discussing disability should be on the barriers created by society and not on people’s physical differences. The Office for Disability Services provides useful information on the language of disability. See also [Stella Young’s TED talk “I am not your inspiration, thank you very much”](#).
- Watch an online video about how a Segway works and make comparisons with the Omeo. You could create a viewing guide for English language learners. The guide helps the students focus on the key information in the video. Write questions that require a gap-fill answer, and allow time for the students to read the guide before watching the video. The students then fill in their answers while viewing the video. Play the video again so that students can check their answers and complete any they missed. You may also need to pre-teach some of the vocabulary used in the video. Explore the Omeo website and check out some of the videos, including the [Introducing the Ogo](#) video that has had over a million views. Discuss why the video has had such widespread popularity and the role social media can play in spreading a good idea.

TEXT FEATURES AND STRUCTURE

- A non-fiction article with six sub-headings and a profile of an Omeo user and co-designer
- Numerous quotes
- Text in the present tense, with some shifts to the past tense
- Diagrams and photographs that support the text
- Pull-out quotes that emphasise important ideas

Possible supporting strategies

- Before reading, prompt the students to recall what features they are likely to find in an article. Provide opportunities for the students to talk with a partner to remind each other of the features of informational texts.
- Skim and scan the text with the students, prompting them to point out specific features and name them if possible (headings, sub-headings, sidebars/text boxes, pull-out quotes). Discuss the function of each feature, leaving the content until the students read the whole text.
- Prompt the students to use clues in the text to identify when a time shift has occurred, such as changes in tense and the mention of time passing.
- If necessary, support the students to understand the connection between ideas in a longer sentence by identifying the clauses, phrases, linking words, and the effect of punctuation.

Possible curriculum contexts



The Literacy Learning Progressions: Meeting the Reading and Writing Demands of the Curriculum describes the literacy knowledge, skills, and attitudes that students need to draw on to meet the demands of the curriculum.

ENGLISH (Reading)

- Level 3 – Ideas: Show a developing understanding of ideas within, across, and beyond texts.
- Level 3 – Structure: Show a developing understanding of text structures.

ENGLISH (Writing)

- Level 3 – Ideas: Select, form, and communicate ideas on a range of topics.
- Level 3 – Structures: Organise texts, using a range of appropriate structures.

TECHNOLOGY (Technological Knowledge)

- Level 3 – Technological modelling: Understand that different forms of functional modelling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development.

HEALTH AND PHYSICAL EDUCATION (Healthy Communities and Environments)

- Level 3 – Societal attitudes and values: Identify how health care and physical activity practices are influenced by community and environmental factors.

Possible first reading purpose

- Find out how an innovative wheelchair changed the life of a disabled man.

Possible subsequent reading purposes

- Identify the process used to design and build the Omeo
- Find out about the advantages of using an Omeo compared with using a traditional wheelchair
- Identify and analyse the impact of the Omeo on people with disabilities
- Identify and discuss the challenges society sometimes creates for people using mobility devices.

Possible writing purposes

- Write an article about the way a technological design addresses a need or opportunity related to accessibility
- Create a flow chart summarising the process of developing the Omeo
- Interview someone who uses assistive technologies and ask them about how technology enhances their hauora
- Create a sales pitch for the Omeo
- Write a profile of a person who makes interesting products.



Instructional focus – Reading

English Level 3 – Ideas: Show a developing understanding of ideas within, across, and beyond texts; Structure: Show a developing understanding of text structures.

Technology (Technological Knowledge) Level 3 – Technological modelling: Understand that different forms of functional modelling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development.

Health and Physical Education (Healthy Communities and Environments) Level 3 – Societal attitudes and values: Identify how health care and physical activity practices are influenced by community and environmental factors.



Go to the Learning Progression Frameworks – Reading: “Acquiring and using information and ideas in informational texts”, “Making sense of text: using knowledge of text structure and features”, and “Making sense of text: reading critically” to find detailed illustrations showing how students develop expertise and make progress in these aspects.

First reading

- Before reading, tell the students they will be reading an informational text about a technological design process. Support the students to make connections with their prior knowledge about the various stages in this process, for example, identifying a need, brainstorming solutions, testing ideas, and creating prototypes.
- Share the purpose for reading and have the students skim the text to gain a general idea of the topic and the structure of the article.
- Prompt the students to identify the features of the text, for example, headings, photographs, and the diagram. If necessary, point out the different font used for Marcus’s profile, signalling a possible change in purpose for that text.
- Have the students ask questions before reading and look for information to answer their questions as they read.

Possible supporting strategies

If the students require more scaffolding

- Remind the students of strategies that are particularly useful on a first reading, such as asking questions, making predictions, reading on, rereading, and making connections with their prior knowledge.
- Prompt the students to use the photographs and diagrams to help make meaning of the text.
- Prompt the students to use clues in the text to identify who is being quoted.
- If the students struggle with a complex sentence, model how to break it down by identifying the main clause (containing the main idea) and the subordinate clause or clauses (containing the supporting details). Explain how the main clause makes sense and stands alone as a complete sentence, whereas the supporting clauses do not make sense on their own. Point out that in complex sentences, sometimes the main clause is in the middle or at the end of a sentence.
- Refer the students back to the knowledge-building activities they did before reading the text.

Subsequent readings

How you approach subsequent readings will depend on your reading purpose. Where possible, have the students work in pairs to discuss the questions and prompts in this section.

The process

The teacher

Provide the students with a diagram showing a technological design process, and have them work in pairs to find evidence of each step in the article. A useful model for the Omeo is [Design Thinking](#), which begins with the need to develop empathy for the people a solution is being developed for and an understanding of their needs. Alternatively, use a model that the students are already familiar with.

Encourage the students to identify what makes Kevin a successful designer.

The impact and advantages

The teacher

Have the students explore the benefits of the Omeo compared with a traditional wheelchair.

Draw the students’ attention to the title of the article (“Changing Lives”). Have the students justify whether this is a valid claim about the Omeo, using examples from the text to support their opinion.

The students:

- reread the text and locate information about stages in a technological design process
- identify the problem Kevin and Marcus were trying to solve, their motivation for designing a new mobility device, and some of the challenges they faced along the way
- identify and analyse the attributes that make Kevin a successful designer.

The students:

- draw on their prior knowledge to make comparisons between a traditional wheelchair and the Omeo
- integrate information in the text to evaluate the extent to which the Omeo can change people’s lives.

Challenges

The teacher

Explore together some of the more abstract aspects of the article, for example, how people who use mobility devices are sometimes treated and how they feel, for example, “Sometimes, they even talked about me, like I wasn’t there!” (page 37) and “the subconscious need for movement” (page 41).

Give the students a graphic organiser showing the various aspects of hauora (physical, mental and emotional, social, and spiritual well-being) and have them work in small groups to identify ways that the Omeo can enhance these.

METACOGNITION

- *What strategies did you use to make sense of the technological information in the text?*
- *How did reading Marcus’s story help you to understand the impact the Omeo can have on people’s lives? How did this section differ from the rest of the text? How do the two components of the article work together?*

The students:

- discuss the importance and pleasure of being able to move freely
- reflect on ways that people who use mobility devices are treated and make connections with their own responses to disabled people
- identify aspects of hauora that can be enhanced by the Omeo, including making inferences about how the Omeo can enhance a person’s mental, emotional, and social well-being.

GIVE FEEDBACK

- *You’ve definitely grasped the sense of freedom that the Omeo provides. Making connections to your own love of moving around and physical activity was a good way of helping you identify with Marcus and how he feels.*
- *Your inferences about the impact of the Omeo on people’s hauora show that you have read the text closely and thought about some of the challenges a traditional wheelchair can present.*



The Literacy Learning Progressions



Assessment Resource Banks

Instructional focus – Writing

English Level 3 – Ideas: Select, form, and communicate ideas on a range of topics; Structures: Organise texts, using a range of appropriate structures.

Technology (Technological Knowledge) Level 3 – Technological modelling: Understand that different forms of functional modelling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development.

Health and Physical Education (Healthy Communities and Environments) Level 3 – Societal attitudes and values: Identify how health care and physical activity practices are influenced by community and environmental factors.



Go to the Learning Progression Frameworks – Writing: “Creating Texts to communicate current knowledge and understanding” and “Using writing to think and organise for learning” to find detailed illustrations showing how students develop expertise and make progress in these aspects.

Text excerpts from “Changing Lives: The Omeo Story”

Examples of text characteristics

Teacher (possible deliberate acts of teaching)

Page 34


Kevin Halsall is an ideas man. Nothing makes him happier than solving a problem. After watching his friend Marcus Thompson, a paraplegic, struggle to get around in his wheelchair, Kevin started thinking about ways he could help.

DESCRIBING A TECHNOLOGICAL PROCESS

Articles about an invention are often structured around the design process, usually beginning with a problem that needs to be solved.

Discuss elements of the design process in the article, for example, a problem that needs solving, a creative idea, adapting an existing product for another purpose, testing ideas, overcoming challenges, and creating prototypes.

Invite someone who is an inventor or innovator to discuss their problem-solving strategies and creative processes with the class. Alternatively, the students could research and write about the development of another innovative product.

Co-construct a graphic organiser that the students can use to structure an article about a design process that created an innovative product or solved a problem.  You could do this using Google Slides. Project the slide for the class to see. The students could then make their own copy, or you could share it to each of them.

Page 41

Marcus Thompson loves surfing, waka ama, archery, and basketball. He broke his back in a skiing accident sixteen years ago.

PROFILES

A profile is a short description of a person (or organisation). Providing background information about a person can fill in the gaps about who they are and what is important to them.

Have the students discuss what they learned from the profile of Marcus Thompson on page 41, for example, why he needs a wheelchair, how he feels about movement, and some of his experiences as a wheelchair user.

Have the students discuss the writer’s purpose for including the profile.

Brainstorm useful information to include when writing a person’s profile, for example:

- something they like to do
- something they feel strongly about
- a turning point in their life.

Sometimes writers add a personal observation about the way a person sits, moves, or speaks to help readers visualise what they are like.

Have the students write a short profile of a significant person in their lives. Encourage them to include a quote that allows the person’s voice to come through in the profile.

Page 38

In fact, he says a lot of places are tricky. “You don’t have to be on much of an angle to tip over.”

INCLUSION OF QUOTES

The inclusion of quotes in an article allows the voice and personality of the subject to come through and can provide evidence to support what the writer says.

Discuss the quotes in the article and how these convey the ideas and personalities of Kevin and Marcus and how they also back up statements the writer makes.

Encourage the students to incorporate quotes into their profile or another piece they are writing.

GIVE FEEDBACK

- *It’s good to see you experimenting with using quotes – that’s a new tool you’re adding to your writing. Try reading your text aloud to make sure that it flows and that it’s clear who is being quoted.*
- *The details that you included in your profile of your football coach really captured her energy and the way she motivates the team.*

METACOGNITION

- *What techniques have you used to help your reader understand what motivates your subject?*
- *What decisions did you make when selecting what to include in your profile?*



The Literacy Learning Progressions