

PAT Tuhituhi | PAT Writing

PATs

PROGRESSIVE ACHIEVEMENT TESTS

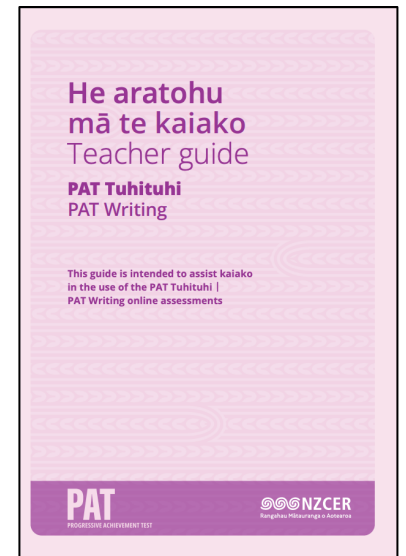


Kupu whakataki Introduction

- Develop an understanding of the PAT: Tuhituhi framework for Years 5 - 10
- Explore the writing genres and rubrics used for the assessment
- Discuss the administration and marking of the assessment
- View a sample report format currently available and how to use to support teaching and learning
- Share the development of the Year 3 -4 paper-based PAT: Tuhituhi tool

PAT Tuhituhi | Writing

- A standardised online writing assessment Years 5 - 10 (Years 3 - 4 available in Term 2)
- Aligns to the English learning area of the new curriculum
- Four writing prompts per year bracket (Y5-6 | Y7-8 | Y9-10)
- Assessment includes planning, writing and editing process
- Spelling & Grammar checker built into assessment
- Utilises AI and structured rubrics to auto-mark learners' written responses
- Norms in development Term 2





PAT Tuhituhi | PAT Writing genre

Recount

Narrate

Explain

Persuade

Each year level group (Y5 - 6, Y7 - 8, Y9 - 10) has a recommended prompt for each genre

Prompt examples

Years 5 - 6

Feeling proud (Year 5-6 | Recount)

There are times we do things that make us feel proud of ourselves. These things could be big or small.

Write a recount about something you did that made **you** feel proud. Describe what happened and explain why **you** felt proud.

Kaitiakitanga: Looking after our world (Year 5-6 | Explain)



Think about how you could help protect our environment, such as looking after the air, water, plant life, or wildlife.

Describe how **you** could take better care of our world.

Day as a bird (Year 5-6 | Narrate)



Imagine that you wake up one morning to discover that you have somehow been changed into a bird. What would you do? What would happen?

Write a story about what happened the day you were changed into a bird.

Favourite place (Year 5-6 | Persuade)



Think about a place that you really like to visit.

Write to persuade someone to visit that place. Remember to give reasons why they should visit.

Prompt examples

Years 7 - 8

Recycling in the Community (Year 7-8 | Persuade)



New Zealanders generate 1.9 kilograms of waste per person every day. Certain plastics, paper products, glass, and aluminium can be recycled instead of being sent to landfill.

Write a letter to persuade people to take part in their community recycling programme. Include facts to support your point of view.

Getting home from the middle of nowhere

(Year 7-8 | Narrate)

Imagine that you are travelling somewhere unfamiliar on a bus. Suddenly it stops, and the driver tells you to get off. The bus departs. You have no idea where you are.

Write a story about your adventures in this unfamiliar place and how you try to find your way home.

Whānau and friends (Year 7-8 | Recount)



Whānau and friends are very important. Sometimes we do fun things with them.

Write about a time you had with your whānau or friends. Describe what you did and why it was fun.

A Role Model (Year 7-8 | Explain)

A role model is a person you look up to. Think about a person you look up to.

Write about your role model and explain why you look up to them. Include details to support your explanation

Rubrics assess 5 elements



Focus and Purpose



Content development and elaboration



Organisation



Language use, voice, and style



Mechanics and conventions

Rubrics – one for each genre



5 Elements

PAT Writing – Narrative Rubric				
Focus and Purpose	Content Development/Elaboration	Organisation	Language Use, Voice, and Style	Mechanics and Conventions
How well the narrative guides the reader through real or imagined experiences, sets up a context and point of view, demonstrates understanding of audience and purpose, and completes the task.	How well the narrative develops real or imagined experiences/events; integrates narrative elements, such as plot, conflict, character, and setting; and uses narrative techniques (e.g., dialogue, description, narration, and/or reflection).	How well the narrative demonstrates a cohesive structure, conveys a clear sequence of events that leads to a resolution or conclusion, and uses transitions to show how different parts of the narrative connect.	How well the narrative establishes and maintains a style and tone appropriate to the audience, demonstrates effective control of language, uses precise, descriptive words and sensory and figurative language, and uses varied sentence structure.	How well the narrative demonstrates control of mechanics and conventions, including grammar, punctuation, and spelling.
6 <i>Demonstrates an insightful, in-depth understanding of the task, purpose, and audience.</i> Expertly establishes a context and point of view. Thoroughly engages readers by constructing a rich narrative that focuses on one or several themes and/or central ideas. Completes all parts of the narrative and may go beyond the limits of the task.	<i>Expertly develops real or imagined experiences.</i> Creates a vivid picture for readers by using a variety of narrative elements, techniques, and descriptive details.	<i>Demonstrates use of a cohesive and unified structure by seamlessly connecting the events in a specific sequence, leading to a resolution or conclusion.</i> Uses transitional strategies that clarify relationships between elements in the narrative. Creates very effective paragraphs.	<i>Demonstrates highly effective style and tone, precise control of language, and an exceptional awareness of audience.</i> Integrates vivid words and sensory and figurative language that clearly advance the overall style, tone, and purpose of the narrative. Consistently uses well-structured and varied sentences.	<i>Highly effective level of accuracy:</i> contains few or no errors in grammar, mechanics, punctuation, and spelling.
5 <i>Demonstrates a clear understanding of the task, purpose, and audience.</i> Effectively establishes a context and point of view. Engages readers by constructing a narrative that focuses on one or several themes and/or central ideas. Narrative is fully complete.	<i>Fully develops real or imagined experiences.</i> Creates a detailed picture for readers by using a variety of narrative elements, techniques, and descriptive details.	<i>Demonstrates use of a mostly unified structure by smoothly connecting the events in a specific sequence, leading to a resolution or conclusion.</i> Uses transitional strategies that clarify relationships between elements in the narrative. Creates effective paragraphs.	<i>Demonstrates effective style and tone, consistent control of language, and a clear awareness of audience.</i> Integrates well-chosen words, sensory and figurative language that clearly advance overall style, tone, and purpose of the narrative. Mostly uses well-structured and varied sentences.	<i>Effective level of accuracy:</i> contains a few minor errors in grammar, mechanics, punctuation, and spelling that do not interfere with the communication of the message.
4 <i>Demonstrates a competent understanding of the task, purpose, and audience.</i> Adequately establishes a context and point of view. Begins to engage the reader by constructing a narrative that focuses on one or several themes and/or central ideas. Narrative is mostly complete.	<i>Competently develops real or imagined experiences.</i> Creates a clear picture for readers by using some narrative elements, techniques, and descriptive details.	<i>Demonstrates use of a generally unified structure by sufficiently connecting events in a sequence, leading to a resolution or conclusion.</i> Uses transitional strategies that illustrate relationships between elements in the narrative.	<i>Demonstrates appropriate style and tone, suitable control of language, and a general awareness of audience.</i> Uses some descriptive words and sensory and figurative language that support the overall style, tone, and purpose of the narrative. Mostly uses correct sentence structure with some sentence variety.	<i>Competent level of accuracy:</i> contains some errors in grammar, mechanics, punctuation, and spelling that do not significantly interfere with the communication of the message. Attempts to spell more difficult words.
3 <i>Demonstrates a developing understanding of the task, purpose, and audience.</i> Provides a basic context and point of view. Constructs a narrative, though it may not be fully complete.	<i>Develops real or imagined experiences.</i> Attempts to use narrative elements, techniques, and descriptive elements to engage the reader, though the picture may not be fully clear.	<i>Demonstrates developing use of an organisational structure that connects events.</i> May lead to a resolution or conclusion. Shows some use of transitional strategies. Paragraphing is used and may be inconsistent.	<i>Demonstrates developing awareness of appropriate style and tone, some control of language, and some awareness of audience.</i> Some words and sentence structures may not support the overall style, tone, and purpose of the narrative. May use simple or repetitive sentence structures. May make some errors in sentence structure.	<i>Developing level of accuracy:</i> contains several noticeable errors in grammar, mechanics, punctuation, and spelling that may interfere with the communication of the message.
2 <i>Demonstrates an emerging understanding of the task, purpose, and audience.</i> May provide a context and point of view. Begins to construct a narrative, though it is mostly incomplete.	<i>Partially develops real or imagined experiences.</i> Uses some narrative elements, techniques, and descriptive details. Begins to develop a picture for the reader.	<i>Demonstrates emerging understanding of how to use an organisational structure to connect events.</i> Some transitional strategies may be used. Attempts to use paragraphing.	<i>Demonstrates emerging awareness of style and tone, emerging control of language, and some partial awareness of audience.</i> Attempts to use descriptive language and a consistent tone. Relies on simple sentence structures. May have some errors in sentence structure.	<i>Emerging level of accuracy:</i> contains a number of frequent errors in grammar, mechanics, punctuation, and spelling that interfere with the clear communication of the message.
1 <i>May demonstrate an initial understanding of the task, purpose, and audience.</i> Context and point of view may be ambiguous or absent. Completes few or no parts of the task.	<i>Begins to develop real or imagined experiences.</i> Narrative elements, techniques, and details are limited or absent.	<i>May begin to connect events and use an organisational structure.</i> Limited or no use of transitional strategies or paragraphing.	<i>Demonstrates initial efforts to establish style, tone, or control of language.</i> Often contains confusing or unclear word choice and demonstrates limited awareness of audience. Considerable errors in basic sentence structure.	<i>Beginning level of accuracy:</i> contains substantial errors in grammar, mechanics, punctuation, and spelling that significantly interfere with communication of the message.

Score categories
1 - 6

- Progress indicators represent a progression of writing for each element
- Scoring is subject related
- Scoring is not age related
- Rubric allows for true position and progress in writing elements

Exploring 'Narrate rubric and exemplars'



PAT Writing – Narrative Rubric				
Focus and Purpose	Content Development/Elaboration	Organisation	Language Use, Voice, and Style	Mechanics and Conventions
How well the narrative guides the reader through real or imagined experiences, sets up a context and point of view, demonstrates understanding of audience and purpose, and completes the task.	How well the narrative develops real or imagined experiences/events; integrates narrative elements, such as plot, conflict, character, and setting; and uses narrative techniques (e.g., dialogue, description, narration, and/or reflection).	How well the narrative demonstrates a cohesive structure, conveys a clear sequence of events that leads to a resolution or conclusion, and uses transitions to show how different parts of the narrative connect.	How well the narrative establishes and maintains a style and tone appropriate to the audience, demonstrates effective control of language, uses precise, descriptive words and sensory and figurative language, and uses varied sentence structure.	How well the narrative demonstrates control of mechanics and conventions, including grammar, punctuation, and spelling.
Demonstrates an insightful, in-depth understanding of the task, purpose, and audience. Expertly establishes a context and point of view. Thoroughly engages readers by constructing a rich narrative that focuses on one or several themes and/or central ideas. Completes all parts of the narrative and may go beyond the limits of the task.	Expertly develops real or imagined experiences. Creates a vivid picture for readers by using a variety of narrative elements, techniques, and descriptive details.	Demonstrates use of a cohesive and unified structure by seamlessly connecting the events in a specific sequence, leading to a resolution or conclusion. Uses transitional strategies that clarify relationships between elements in the narrative. Creates very effective paragraphs.	Demonstrates highly effective style and tone, precise control of language, and an exceptional awareness of audience. Integrates vivid words and sensory and figurative language that clearly advance the overall style, tone, and purpose of the narrative. Consistently uses well-structured and varied sentences.	
Demonstrates a clear understanding of the task, purpose, and audience. Effectively establishes a context and point of view. Engages readers by constructing a narrative that focuses on one or several themes and/or central ideas. Narrative is fully complete.	Fully develops real or imagined experiences. Creates a detailed picture for readers by using a variety of narrative elements, techniques, and descriptive details.	Demonstrates use of a mostly unified structure by smoothly connecting the events in a specific sequence, leading to a resolution or conclusion. Uses transitional strategies that clarify relationships between elements in the narrative. Creates effective paragraphs.	Demonstrates effective style and tone, consistent control of language, and a clear awareness of audience. Integrates well-chosen words, sensory and figurative language that clearly advance overall style tone, and purpose of the narrative. Mostly uses well-structured and varied sentences.	
Demonstrates a competent understanding of the task, purpose, and audience. Adequately establishes a context and point of view. Begins to engage the reader by constructing a narrative that focuses on one or several themes and/or central ideas. Narrative is mostly complete.	Competently develops real or imagined experiences. Creates a clear picture for readers by using some narrative elements, techniques, and descriptive details.	Demonstrates use of a generally unified structure by sufficiently connecting events in a sequence, leading to a resolution or conclusion. Uses transitional strategies that illustrate relationships between elements in the narrative. Uses suitable paragraphs.	Demonstrates appropriate style and tone, suitable control of language, and a general awareness of audience. Uses some descriptive words and sensory and figurative language that support the overall style, tone, and purpose of the narrative. Mostly uses correct sentence structure with some sentence variety.	
Demonstrates a developing understanding of the task, purpose, and audience. Provides a basic context and point of view. Constructs a narrative, though it may not be fully complete.	Develops real or imagined experiences. Attempts to use narrative elements, techniques, and descriptive elements to engage the reader, though the picture may not be fully clear.	Demonstrates developing use of an organisational structure that connects events. May lead to a resolution or conclusion. Shows some use of transitional strategies. Paragraphing is used and may be inconsistent.	Demonstrates developing awareness of appropriate style and tone, some control of language, and some awareness of audience. Some words and sentence structures may support the overall style, tone, and purpose of the narrative. May make some error sentence structures.	
Demonstrates an emerging understanding of the task, purpose, and audience. May provide a context and point of view. Begins to construct a narrative, though it is mostly incomplete.	Partially develops real or imagined experiences. Uses some narrative elements, techniques, and descriptive details. Begins to develop a picture for the reader.	Demonstrates emerging understanding of how to use an organisational structure to connect events. Some transitional strategies may be used. Attempts to use paragraphing.	Demonstrates emerging awareness of style and tone, emerging control of language, and some partial awareness of audience. Attempts to use descriptive language and a consistent tone. Relies on simple sentence structures. May have some errors in sentence structure.	
May demonstrate an initial understanding of the task, purpose, and audience. Context and point of view may be ambiguous or absent. Completes few or no parts of the task.	Begins to develop real or imagined experiences. Narrative elements, techniques, and details are limited or absent.	May begin to connect events and use an organisational structure. Limited or no use of transitional strategies or paragraphing.	Demonstrates initial efforts to establish style and tone, or control of language. Often contain confusing or unclear word choice and demonstrates limited awareness of audience. Considerable errors in basic sentence structure.	

Exemplar 3: Getting home from the middle of nowhere (Narrate)

Focus and Purpose 2 [1.5]

Holistic feedback: This narrative response inadequately communicates the writer's message, revealing a lack of understanding of the task, purpose, and audience. The context and point of view are unclear, completing few or no task components.

Commentary: A context and purpose are given (wants to ride a bike but can't find it). We can tell it's a story/narrative, but it's not developed.

The narrator wants to get home and mostly keeps to that idea, but the context and point of view are not established beyond wanting to go home.

Content Development/Elaboration 1.2

Holistic feedback: Real or imagined experiences are inadequately developed with minimal use of narrative techniques or details.

Commentary: Events are listed (bus, train, taxi), but there's little detail about setting, characters, or feelings. Few examples of narrative techniques (dialogue, description) "where/home please". Not enough elaboration to engage the reader.

i want go home fast. first i look for my bike but no bike. So i walking to the stop for the bus. long road. i wait and wait but the bus not come. then i think ok i try the train. i see the station but i go the wrong way. i am tired. later i see a tarin so i run and i sit the train. this train going to city not my place. i get off. there is one taxi and the taxi driver say where. i say home please Karori. the taxi go slow then fast. after that i see my street. i walk the last bit to my home. the end

Organisation 1.4

Holistic feedback: The organisational structure lacks evidence, with no transitional strategies or adequate paragraphing/formatting.

Teacher Commentary: There is a loose sequence (look for bike, bus, train, taxi, home), with simple connectors used ("so," "then," "after that"). Paragraphing isn't used.

Language Use, Voice and Style 1.2

Holistic feedback: Style, tone, and language control are minimal.

Commentary: Language is repetitive. Personal tone is not yet established - little descriptive or specific language is used. The writer is developing their control of language with phrases like "i want go," "this train going".

Mechanics and Conventions 1.1

Holistic feedback: Narrative contains major errors in grammar, mechanics, punctuation, and spelling, severely hindering communication.

Commentary: Many grammatical, spelling and punctuation errors interfere with the reader's understanding, including frequent errors in capitalisation, grammar, and punctuation ("i," run-on moments, missing commas and full stops.)

Administering the assessment



Administering the assessment



Kaiako support ākonga planning, idea generation and fact finding prior.



Ākonga respond to a given prompt (narrate, recount, persuade, explain).



Ākonga have 34 mins to plan, write and edit – with the use of online tools.



Ākonga are asked to complete a short reflection activity.

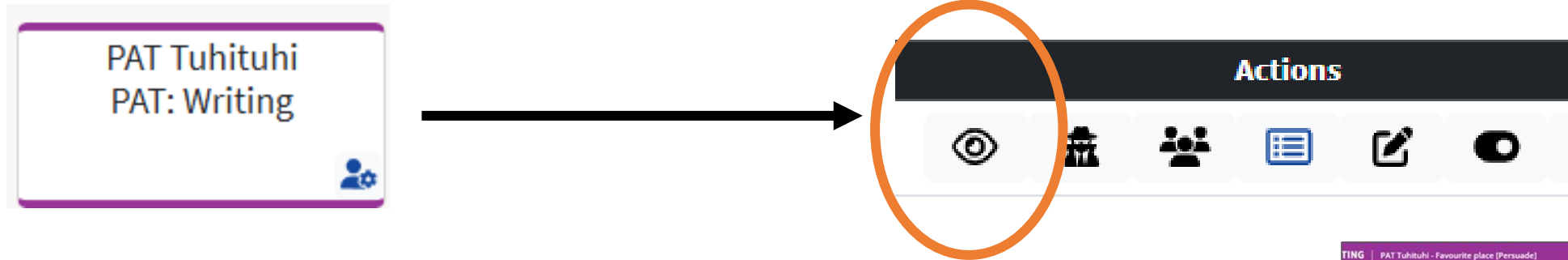
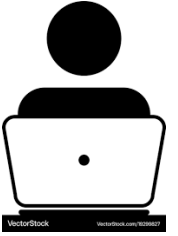


The submitted response is autoscored and automatically provided with holistic feedback.

Key discussion points with ākonga

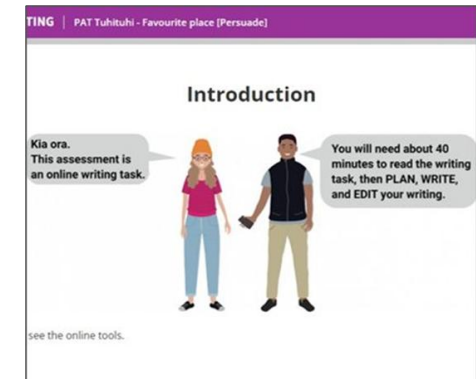
- Practice writing online e.g. responses in reading.
- Discuss and practice using editing tools:
Highlight Delete Undo Enter Backspace
- Discuss with ākonga the purpose is see what they can write independently online. Reinforce the focus is on learning and not the mark.
- If appropriate discuss responsible AI use and that it's not being used in this assessment.

Kaiako - Preview the assessment



Ākonga – Show the assessment demo to class

<https://www.nzcer.org.nz/assessments/pats/tuhituhi-writing>



PAT Tuhituhi | PAT Writing

- [Aratohu kaiako \(Teacher guide\)](#) for PAT Tuhituhi available [here](#)
- Rubrics now available: [Persuasive](#) | [Narrative](#) | [Recount](#) | [Explain](#)
- [Background information: Introducing PAT Tuhituhi](#)
- Sample tests: [Persuasive writing](#) and [narrative writing](#)
- [See the assessment tasks here](#)

Automarking



Automated marking system

- Uses automated scoring system called Intellimetric developed by Vantage. Techniques include natural language processing, text analysis and statistical model.
- Programmed by expert human markers as part of the development process.
- Trained on Aotearoa-specific rubrics and tasks adapted to fit our context.
- Functionality available for kaiako to manually mark the text if required.

Unable to be auto-marked – some results require a **NEEDS REVIEW** for the following reasons:

Off-topic – writing does not align with the writing task

Repetitious

Unknown words

Insufficient development

Poor syntax

Copied question

Current reporting available



Current reports available

- Individual reports show ākonga performance across the five rubric elements.
- Rubric list reports are for group-level analysis.
- Student reflections give insight into how ākonga feel about writing.

List Report

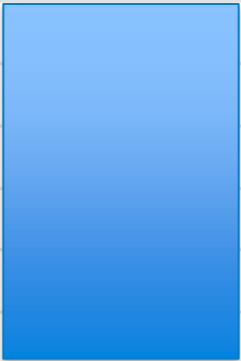
Year level	Number of Students (Completed)
Year 8	6 / 6

PAT Writing - Explain Rubric

[PAT Writing - Explain rubric](#)

Year level	Number of Marks	Focus	Content	Organisation	Style	Conventions	Mean Scale Score	Standard Deviation Score
Year 8	6	3.8 / 6	3.5 / 6	3.4 / 6	4.0 / 6	3.7 / 6	73.9 (64.8)	11.9 (19.4)

* Numbers in brackets provide national reference group statistics

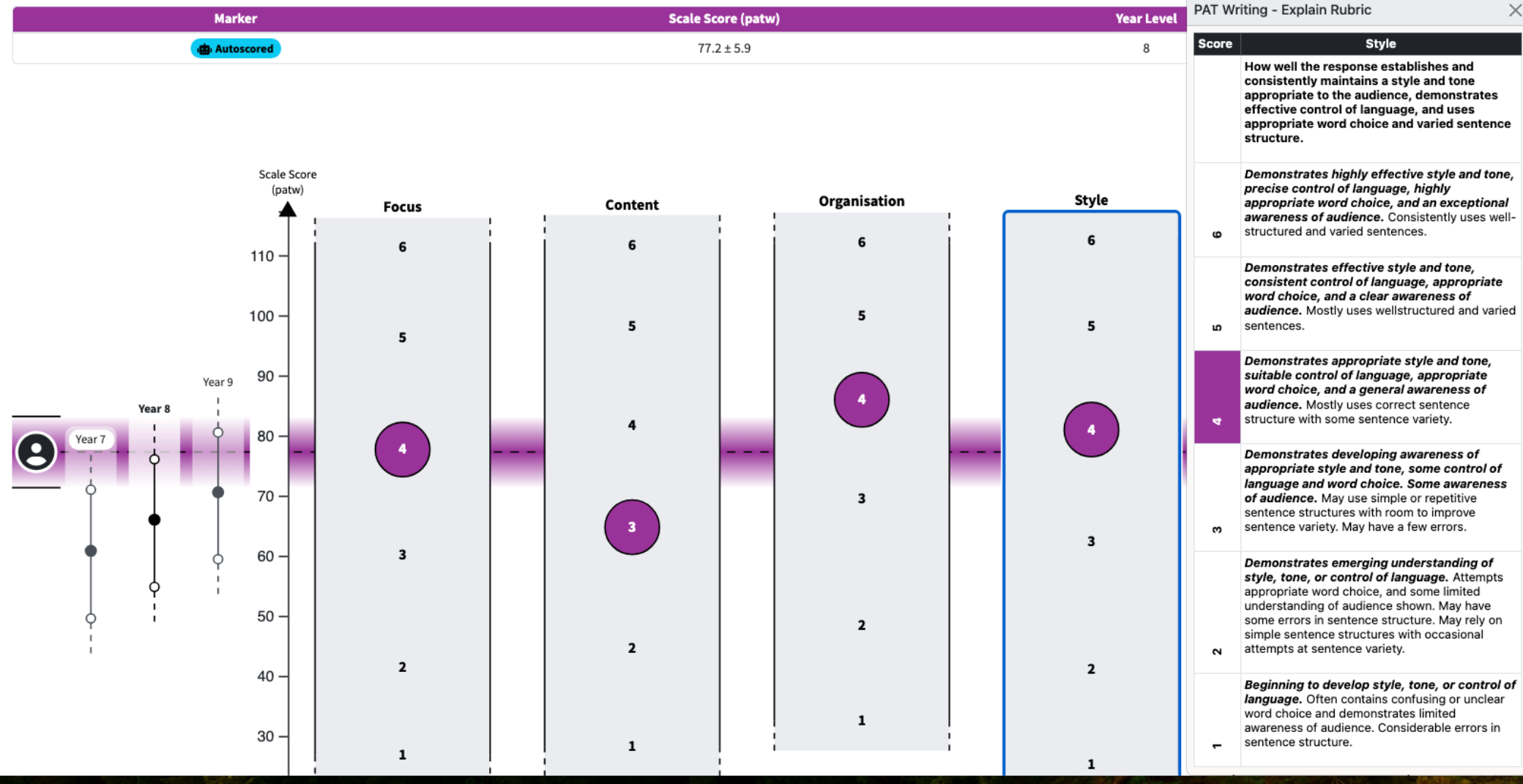
Successful Markings									
Name	Year Level	Focus	Content	Organisation	Style	Conventions	Scale Score	Marker	Actions
Full Name...		Search score	Search score	Search score	Search score	Search score			
	Year 8	3.7 / 6	3.4 / 6	3.5 / 6	4.4 / 6	4.1 / 6	77.2 ± 5.9	 Autoscored	
	Year 8	2.7 / 6	2.6 / 6	2.5 / 6	2.9 / 6	2.5 / 6	54.3 ± 6.4		
	Year 8	5.0 / 6	4.4 / 6	4.2 / 6	4.8 / 6	4.6 / 6	90.7 ± 5.8	 Autoscored	
	Year 8	3.9 / 6	3.6 / 6	3.5 / 6	4.2 / 6	3.7 / 6	77.2 ± 5.9		
	Year 8	3.9 / 6	3.6 / 6	3.4 / 6	3.9 / 6	3.4 / 6	73.7 ± 6.0	 Autoscored	
	Year 8	3.6 / 6	3.2 / 6	3.2 / 6	3.7 / 6	3.7 / 6	70.0 ± 6.1	 Autoscored	

Individual Report

PAT Writing - Explain Rubric

[PAT Writing - Explain rubric](#)

U:
AI



Individual Report – additional

Holistic comment (AI), Writing Planning Editing TABS, Self review

Holistic comment

The response demonstrates a clear understanding of the task, purpose, and audience, adequately establishing and maintaining a thesis/controlling idea throughout. Most task components are completed. The development of ideas includes the integration of some specific details and source-based evidence, supported by sufficient elaborative techniques. The structure is generally unified, featuring an adequate introduction and conclusion, along with satisfactory paragraphing and transitional strategies. The style and tone are appropriate, showcasing adequate language control, domain-specific word choice, and a general awareness of the audience. The sentence structure is mostly correct, offering some variety. While containing some errors in grammar, mechanics, punctuation, and spelling, they do not significantly impede message communication.

Writing Planning Editing

Tilly is my role model because.

Tilly pushes through difficult situations such as friend drama. Tilly will always come up with a solution to help people. Even if Tilly has a problem with that person, she will still help them and that encourages me to do the same.

Tilly is extremely trustworthy because when you tell her a secret she will keep it Tilly is like a one-way door. Once you tell her something you don't want to share, she will keep it and never let it go unless their permission is granted.

Tilly is an amazing friend because of her supportive behaviour towards others and her friends.

Tilly is like the colour pink, bright and cheerful. Tilly's personality is amazing because of her jokes and, in an uncomfortable situation, she will always find a way to make it better.

Tilly is also an amazing person in general. Tilly is superb at maths and encourages me along with difficult problems.

Tilly leads by example, and is always someone I will look up to.

Self Review

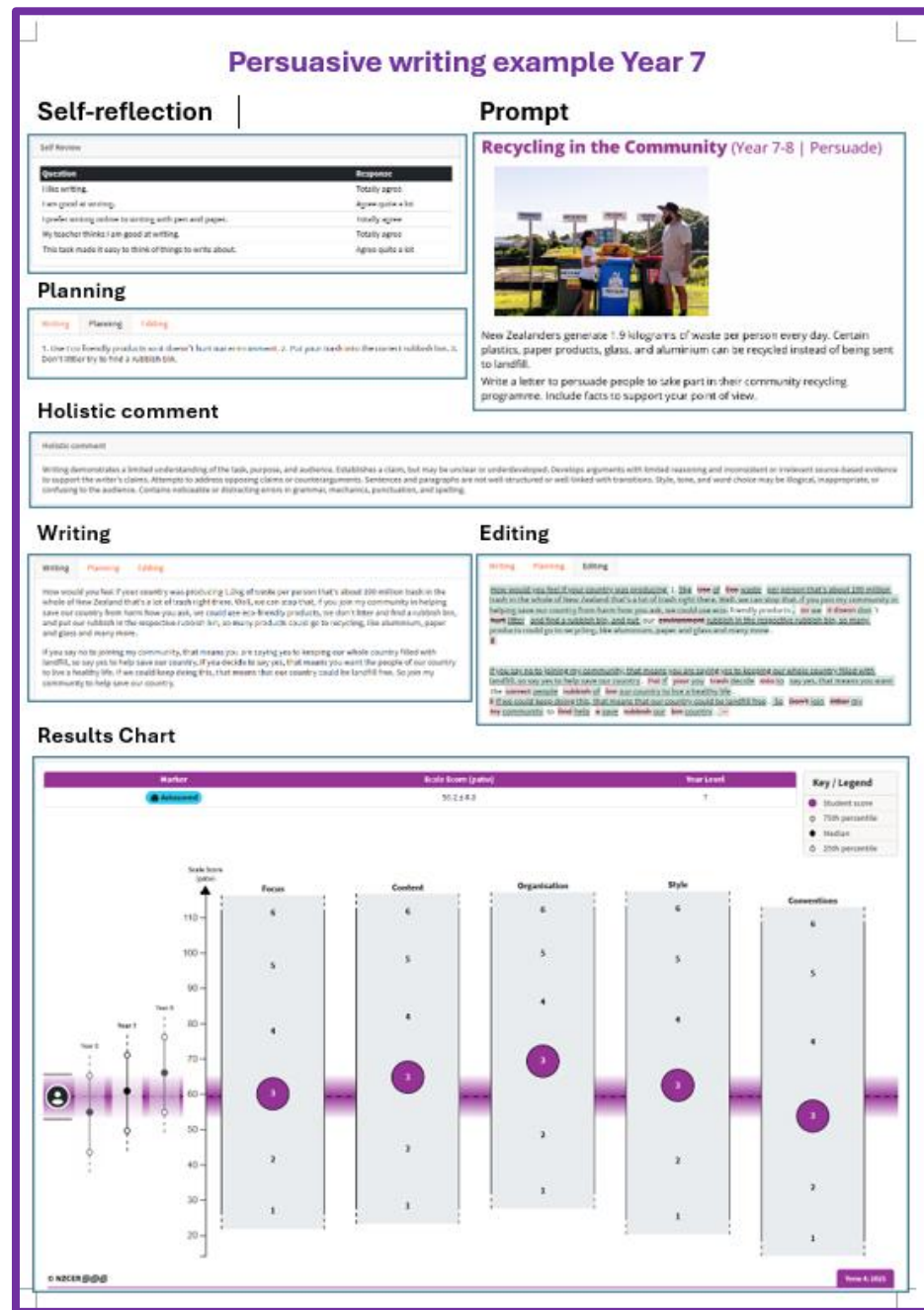
Question	Response
I like writing.	Totally agree
I am good at writing.	Agree quite a lot
I prefer writing online to writing with pen and paper.	Agree a little
This task made it easy to think of things to write about.	Do not agree at all
My teacher thinks I am good at writing.	Agree quite a lot



Persuasive writing

Year 7

Reporting example



Year 3 – 4 PAT Tuhituhi development

Paper based assessment

- Same four genre (explain, persuade, narrate, recount)
- One rubric that covers all four genre – specifically adapted for writing development at Year 3 – 4
- Rubric has more variation in some score categories as some areas needed more granular view
- Tool does not assess handwriting

Tool development process

- Trial process with schools across New Zealand (end Term 1)
- Scripts being marked against the adapted rubric that reflect
- Marking of scripts is validating the rubric
- Research informed and this reflect the scores from students writing

Release of new tool

- Pushing for availability beginning of Term 2 with manual marking against the rubric
- Scoring available mid-term 2 including entering into NZCER Assist

Future development

- Paper or online assessment selection, at the moment separate scoring systems due to the mode.
- Auto marking will come later for Year 3 – 4 and paper mode assessments
- Exemplars to support Year 3 – 4 writing



Year 3 – 4 PAT Tuhituhi Elements (draft)

Element	Elaboration
Focus and purpose (5)	The relevance and quality of ideas students have expressed and how focused these ideas are throughout the response.
Content development and elaboration (5)	The elaboration of ideas.
Organisation (5)	The overall arrangement of ideas and how this creates cohesion.
Language elements (5)	The use of specific and relevant language elements and techniques to inform, narrate, and persuade, and how developed these are.
Vocabulary and tone (5)	The range, quality, and effectiveness of vocabulary choices, and how this creates and maintains purposeful style and tone.
Sentence structure (6)	The control and accuracy of sentence structures.
Spelling (6)	The accuracy of spelling attempts, in the context of the difficulty of the words a child has chosen to spell.
Punctuation (7)	The accurate and varied use of sentence punctuation markers to guide reading.

(#) Number of score categories

DRAFT Prompts

Years 3 - 4

Writing task:

Recount

Think about the first time you did something new.
What did you do? How did you feel?

Write to recount the first time you did something new.

Writing task:

Narrate



Imagine you wake up on a pirate ship.
Write a story about your adventure on the ship.

Writing task:

Explain



What makes a good friend?
Write to explain how to be a good friend.

Writing task:

Persuade



Should pets be allowed at school? What do you think?
Write to persuade someone to agree with you.

Future PAT: Tuhituhi developments

National reference information (norms) – Term 2

Full reports - Term 2

- Year group and collated class reports (the equivalent of an item report, showing how ākonga collectively responded to particular tasks or genre)
- Schoolwide reporting including ethnicity, scale level and gender filters
- Whānau reports, including where a student's piece of writing sits within the new progress descriptors.

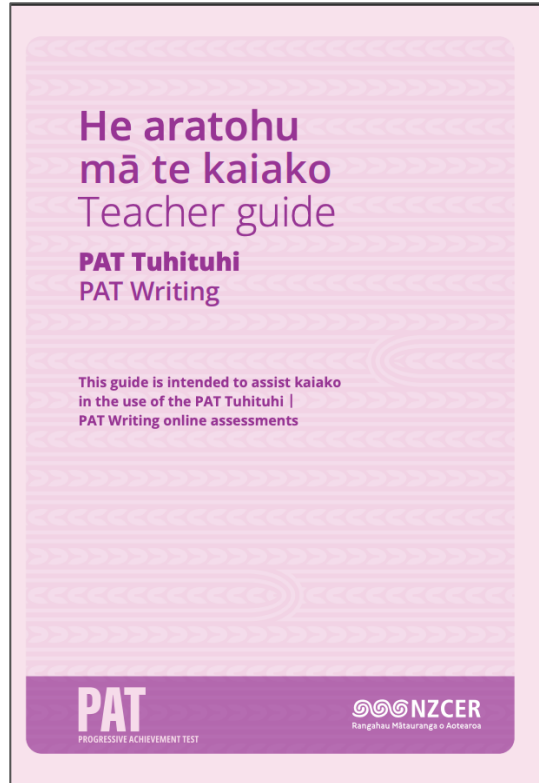
Larger library of prompts to be developed

Teacher generated prompt function is in development and use Assist to mark

On-going review and improvements to the scoring model and tasks.



Implementation and support



[Kaiako guide available online](#)

Helpdesk provides administrative and technical support.

assessmentservices@nzcer.org.nz.

Education advisors offer schools and sector online or face to face PLD and analysis support
education.adviser@nzcer.org.nz