



## Pāngarau

### Kei hopu tōu ringa ki te aka tāepa engari kia mau ki te aka matua

Hei aha tēnei rauemi?

- Hei whakaohoho whakaaro
- Hei tiro ki ou mahi aromatawai/whakaōrite i ngā mahi Pāngarau
- Hei ārahi, hei tautoko i te kohikohi, i te arotakenga o ngā raraunga kua kohia kētia.
- Hei whakaarotanga arotake i ngā mahi aromatawai kei tōu kura

**Please Note:** This collection of ideas has been designed for kaiako to refer to when considering what constitutes a quality Overall Teacher Judgement (OTJ) and how quality OTJ's are formed in Pāngarau.

### Tīhei Pāngarau!

#### He Kōrero Whānui: (mai i *Te Marautanga o Aotearoa*)

Mai rā anō, ahakoa ko wai te iwi, he mātauranga ō rātou e mārama ai rātou ki ngā pānga maha, ki ngā pāngarau o ngā āhuetanga i roto i ō rātou ao. Ko te mātauranga pāngarau tērā. Tērā ō tātou tīpuna Māori e tino mātau ana ki ngā pānga o roto i ngā ao i nōhia ai e ngā tamariki a Rangi rāua ko Papa. He āwhina nui tēnei mātauranga i ā rātou mahi o ia rā, pērā i te hanga whare, te whakaterere waka i te au moana, me te mahi māra kai. I te taenga mai o tauiwi, ka tino uru atu ō tātou tīpuna ki ngā mahi hou, pērā i te mahi tauhokohoko. He mea nui anō te mātauranga pāngarau kia eke ai rātou ki ngā taumata o ēnei mahi hou. I te takanga o te wā, kua whanake haere te mātauranga pāngarau puta noa i te ao, engari he āwhina nui tonu te pāngarau i roto i ngā whakanekeneke o tō tātou ao o ngā tau rua mano me tua atu. Ahakoa huri ki hea, kitea ai te mātauranga pāngarau e whakamahia ana i roto i ngā mahi o ia rā, i roto i ngā kaupapa ako katoa o te kura, i roto hoki i ngā tūranga mahi whānui tonu (*Te Marautanga o Aotearoa*).

#### Te Whaitake o te Ako i te Pāngarau

Ko tā te pāngarau, he whakapakari i te auahatanga o te ākonga, te whakaaro arohaehae, te whakaaro arorau me te whakaaro whaitake, me tōna āhei ki te whakatakoto rautaki, ki te whakaoti rapanga, ki te arotake, ki te whakawhitiwhiti whakaaro hoki.

E tika ana kia takea mai ngā mahi me ngā rapanga pāngarau i ngā horopaki Māori me ērā atu horopaki e taunga ana te ākonga. I roto i āna mahi pāngarau, ka whakamahi te ākonga i ngā momo rauemi me ngā taputapu e hāngai ana, ka hanga tauira, ka kimi pānga, ka matapae i te hua ka puta i tētahi mahi, ka parahau take, ka whakatau tata, ka tātai kia tōtika te otinga, ka kimi tauira, ā, ka whakawhānui i ngā kōrero mō tētahi pūāhua iti kia hāngai ki tētahi pūāhua nui.



He mea nui kia pārekareka te āhua o te whakaako i te pāngarau, e kaingākau ai te ākonga ki āna mahi me ngā rapanga ka puta hei wero i tōna hinengaro. Mā te kaiako anō e whakairo ana kupu kia māmā, kia mārama, kia whaihua hoki ngā pātai me ngā whakamārama, otirā, kia mauritau anō hoki te ākonga.

### He Kōrero Whānui mō te Aromatawai i roto i te Pāngarau

Ko tā te aromatawai, he kōhi kōrero, he kōhi whakaaro, he kōhi taunakitanga e pā ana ki te mōhio o te ākonga ki te pāngarau me āna pūkenga ki te whakamahi i taua mōhiotanga ki te whakaoti rapanga.

E rua ngā take matua mō te aromatawai i roto i te pāngarau:

- hei āwhina i te ākonga kia mau i a ia ngā kaupapa e ākona ana;
- hei āwhina, hei whakamōhio i te kaiako i roto i āna mahi whakaako.

Ka whakamahia ngā hua o te aromatawai hei arotake, hei tiroiro i te ekenga panuku o te ākonga, hei āwhina ki te whakamahere i ngā akoranga o muri mai, hei whakawhitiwhiti kōrero hoki ki te ākonga me tōna whānau. Mā konei e pai ake ai te ako, e eke taumata ai te ākonga.

### He Mātāpono mō te Aromatawai Pāngarau

1. Ko te aromatawai tētahi wāhanga o te mahi whakaako. Ko tā te kaiako, he tiroiro, he āta whakaaroaro i ngā mahi a te ākonga i ngā wā katoa, koia hei tūāpapa mō te aromatawai.
2. Ko te mōhio ngaio o te kaiako te mea nui, e whaihua ai te aromatawai. Mā tana mōhio ki te ākonga, ki te kaupapa o te pāngarau, ki te whakaako hoki i te pāngarau, e tika ai tana aromatawai i te ākonga.
3. Kia whai wāhi te ākonga ki te whakaatu i tana mōhio, i āna pūkenga i roto i ngā mahi aromatawai. Kua te aromatawai e aro noa ki ngā mea kāore e taea e te ākonga.
4. Ko te āhua o te ngohe aromatawai, kia rite ki tētahi mahi ako kua waia kē te ākonga, kua e noho hei mahi tauhou ki a ia.
5. Me aro te aromatawai pāngarau ki te whānuitanga o te mōhio o te ākonga, me tana āhei ki te tūhonohono i ngā mea e mōhio ana ia ki te whakaoti rapanga.
6. Ko ngā aromatawai katoa, he whakatau tata i te mōhio o te ākonga ki te whakatutuki i ngā pātai, i ngā ngohe rānei o roto i te aromatawai, i taua wā tonu o te aromatawai. Arā kē atu ngā āhuatanga o waho ka pā ki te angitu o te ākonga, pērā i te tau o tōna hinengaro, o tōna tinana me tōna wairua.

Hei tauira ēnei o ngā momo aromatawai pāngarau e taea ana. Ko te mea tuatahi te mea matua, e tino mōhio ai te kaiako i te ekenga taumata a te ākonga:

- ko te āta mātakitaki, te āta whakarongo tonu a te kaiako i ngā mahi pāngarau a te ākonga i ia rā;
- ko ngā tuhituhi me ngā kōrero a te ākonga i tana pukapuka, i ana tūhuranga rānei;



- ko te angitu o te akonga ki te whakaoti i tētahi ngohe, i tētahi rapanga rānei, me āna whakamārama; (Reference: Pukapuka 2 Te Uui Aromatawai).

### He aha ngā hononga ki Ngā Whanaketanga Rumaki Māori

He mea pūtake mai ngā whanaketanga i ngā whāinga paetae o te pāngarau i roto i *Te Marautanga o Aotearoa*.

Ko tā ngā whanaketanga, he āta tohu i te tipu o te mātauranga me ngā pūkenga o te ākongā, hei āwhina i te kaiako ki te whakamahere i ngā akoranga, ki te aromatawai hoki i te ākongā. Kei roto i te pukapuka nei ētahi tauira mahi hei tohu i ngā taumata e hāngai ana ki tēnā whanaketanga ki tēnā.

E arotahi ana ngā whanaketanga ki ngā ariā matua o te pāngarau, me te tūhonohono o ngā ariā. Ko te mea nui ko tā te ākongā tūhonohono i tana mātauranga me tana whakamahi i āna pūkenga ki te whakaoti rapanga. Koia rā te take e noho mai ana te whakaoti rapanga hei tūāpapa mō ngā whanaketanga.

1. Te Tāhuhu o te Mātauranga (2008). *Te Marautanga o Aotearoa*. Te Whanganui-a-Tara: Te Pou Taki Kōrero. Whārangi 40

### ***He aha te mea nui? He tangata, he tangata, he tangata***

An OTJ and moderation process acknowledges and builds on the idea that teacher's make professional judgements all of the time and professional judgements are valued.

What constitutes an overall teacher judgement (OTJ)?

*He kohikohinga, ko tāu i tēnei rā, i tērā wiki, i tērā marama,*

*ka whakatau tika ra i ngā kitenga e pā ana ki te ākongā.*

An OTJ has 2 clear purposes:

1. To inform teaching to ensure teachers are improving, adapting and modifying their programmes to develop rich mathematical thinkers
2. Reporting purposes. Reporting to whānau is a top priority and kura are supported to report to whānau through TWA. Te Waharoa Ararau collates OTJs and shows how these judgements correlate to TMoA and Te wāhanga ako Pāngarau. This could provide some valuable information to share with whānau to discuss where their tamaiti is working at currently, what might be the next steps for learning in the classroom, and how the whānau and kura could work together to achieve these goals.

An overall teacher judgment (OTJ) involves drawing on and applying the evidence gathered up to a particular point in time in order to make an overall judgment about a student's progress and achievement (Assessment online, <http://assessment.tki.org.nz/Overall-teacher-judgement>).



## How might quality OTJ's be formed in Pāngarau?

### He whakarāpopoto

The ideas presented below are possible sources of evidence which would then be collated to form an overall judgement about where a child is currently working.

This OTJ could then be used as a part of a report on the progress of ākonga to ākonga, to kaiako, to whānau, to BOT and to MOE in relation to *Te Marautanga o Aotearoa*.

**The following ideas are a guide only.** Kaiako should always be clear about the purpose of why, what and when they are gathering information on ākonga.




### Observation of Process

Focussed classroom observations - This could be within the kura, by kaiako, tumuaki or with another available resource person. They could also include SKYPE classroom observations:

- Recorded comments in modelling books - these are both kaiako or ākonga recordings and examples of work as compiled in the modelling book.
- Student self/peer assessment - Te Ekenga Panuku in the front part of Te Whakamahere (Book 3) provides an opportunity for self/ peer/ teacher assessment.
- Ngā Tairongo o te kaiako - This includes those things a kaiako knows/ feels/ sees/ senses etc about a child as opposed to what skills the child may be demonstrating.

### Tool Outcomes

Evidence obtained from assessment tools e.g. The following sections details tools appropriate for the strand Tau.

-  **Uiuui Aromatawai** - A diagnostic interview which can ascertain the kaupae level of an ākonga, regardless of their stage, for rautaki and Mātauranga. Accessible through NZMaths.
-  **GLOSS** - These examples are accessible through NZMaths and are administered in a one on one interview situation. They provide us with a global strategy stage and can be used with ākonga from kaupae 0-8.
-  **IkaN** - This is a mātauranga whakamātautau accessible on NZMaths. It provides a big picture of stage levels for mātauranga domains for Kaupae 4-8.



- **Teacher created probes** e.g. Variations of rapanga or successful tasks developed by the kaiako.



- **Tihei Pāngarau** **Tasks from Tihei Pāngarau** e.g. Aromatawai pages that use examples from the student workbook and link these back to *Te Marautanga o Aotearoa*.

- **E-asTTle** - is an online assessment tool, developed to assess students' achievement and progress in reading, mathematics, writing, and in pānui, pāngarau and tuhituhi. The reading and mathematics assessments have been developed primarily for students in years 5–10, but because they test curriculum levels 2-6 they can be used for students in lower and higher year levels. E-asTTle provides teachers and school leaders with information that can be used to inform learning programmes. It is a written assessment and provides information and pathways for individuals in all whenu.



- **Ngā Tauaromahi** - These are compiled exemplars that link to TMoA. There are examples at different taumata and whenu.



- **He Pūkete Aromatawai** - A collection of rich mathematical tasks at various taumata levels and across whenu. They are designed to be used after some teaching has occurred and used on a one to one with the kaiako recording what the ākonga says/does and then relating this to Ngā Whanaketanga. This resource can be ordered through Down the Back of the Chair.



- **Ekenga Panuku** – Te Pukapuka Tuatoru- Te Poutama Tau. These sheets can be used as a monitoring tool for kaiako/ ākonga when teaching Tau. They can be utilised as a teacher assessment/ self-assessment/ peer assessment. NB: More than one indication may be needed to show if an ākonga has achieved the particular objective. These sheets are in the front part of Pukapuka 3 Te Whakamahere.



- **Examples from Ngā Whanaketanga Rumaki Māori (NWRM)**. E.g. These examples of rapanga could be used to determine what ākonga know before teaching a whenu, as a task during a teaching lesson or at any time during the teaching of the whenu.



## Learning Conversations

Evidence arising from learning conversations can also become a rich source of evidence showing student achievement. To compliment this source of evidence teachers should also consider the following questions:

- Are we collecting evidence to show representations other than in written form e.g whakaahuahanga ā kupu, ā pikitia, ā tohu, ā rauemi? How might we do this? How often?
- What about evidence demonstrating such things as whakaaro arorau, whakaaro whitake, whakaaro auaha?

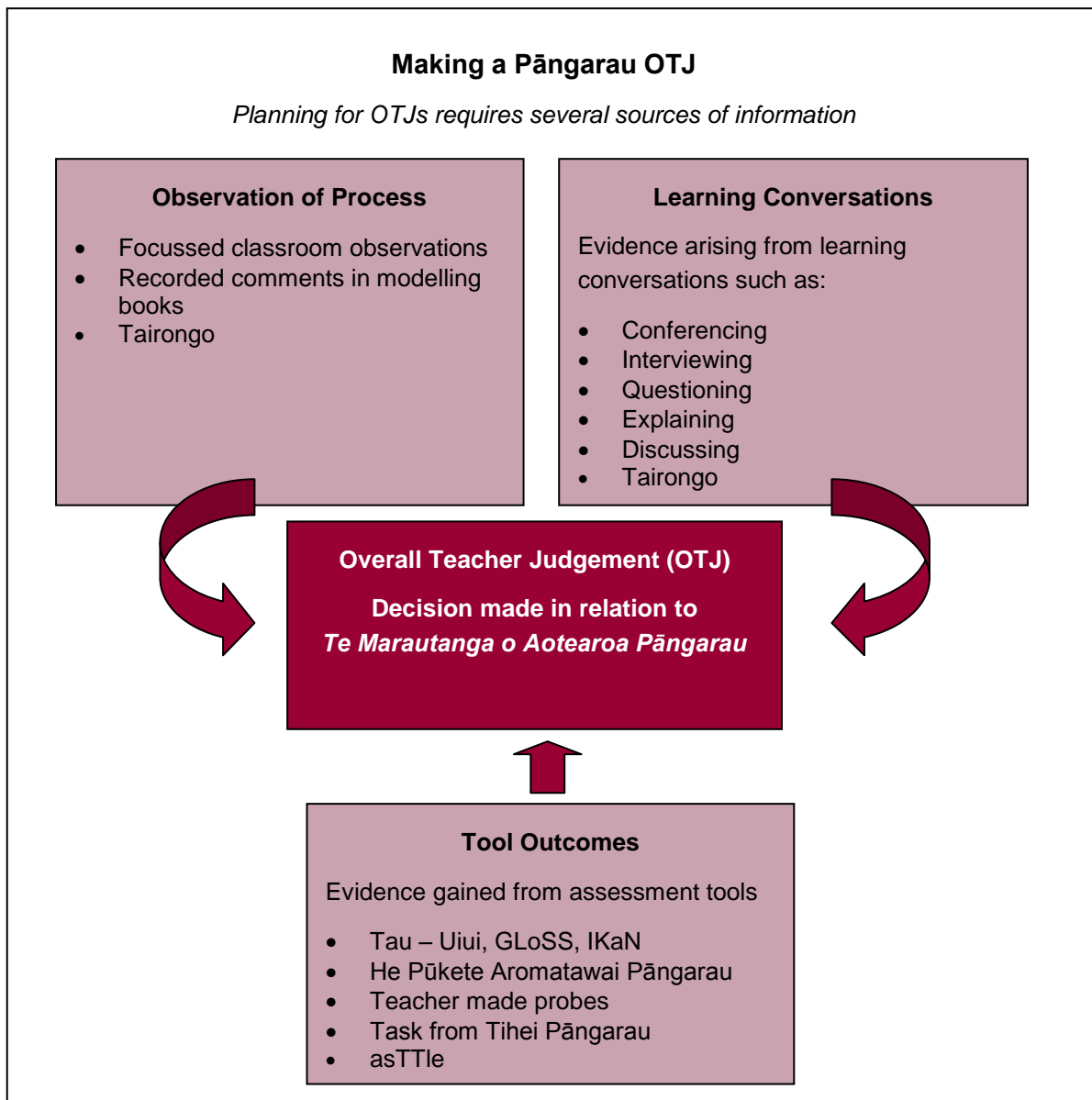
These may be gathered through the following interactions that take place in the classroom, between ākonga with other ākonga, between the kaiako and ākonga, ākonga and other adults in the classroom, and lastly ākonga by themselves:

- Conferencing
- Interviewing
- Questioning
- Explaining
- Discussing.



## How are OTJs made?

Diagram 1: The Process of making an OTJ



### Important things to consider:

OTJs to be developed:

- over time
- through implementing a regular schedule, at least once a term, in Kura for gathering evidence, making OTJ's and moderating
- by drawing upon multiple sources of evidence
- through moderating in pairs/syndicate/leadership team (Internal) and where possible externally i.e. a kura close by or with similar visions etc
- through the process of Triangulation. This 'triangulation' of information increases the dependability of the overall teacher judgment.



## Moderation: Te Whakaōrite

*Hei whakaarotanga māu...*

*Moderation ensures....*

*kia rite te reka o tāu pūhā ki te reka o te pūhā o tētahi atu (Pohatu, 2013).*

*Kia rere pai te mahi nei, kia pono, kia ū, kia ngākau tapatahi ki a koe i te tuatahi,  
ki te ākonga, ki te/ngāhoa mahi.*

Moderation is the process of teachers sharing their expectations, knowledge and understanding of curriculum levels with each other in order to improve the consistency of their decisions about student learning (<http://assessment.tki.org.nz/Overall-teacher-judgement>).

Samples of work are often analysed/discussed/negotiated in pairs/small groups. This is moderation, and agreement about rating ākonga samples of work should be reached.

**Robust/valid data<sup>1</sup>**

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<sup>1</sup> **Robust/valid data** - When working with data to analyse results and draw conclusions, it is essential that the data with which you are working is 'clean'. This means that it is consistent, accurate and complete. The person working with the data should be alert to any anomalies, either within the numerical data itself or the demographic information attached to it. Making sure that data is clean before starting to work with it will help prevent misinterpretations, or having to go through the process again if problems further down the track are discovered – taken from (<http://assessment.tki.org.nz/Overall-teacher-judgement>).

The reliability of an assessment tool is the extent to which it measures learning consistently. The validity of an assessment tool is the extent by which it measures what it was designed to measure. (<http://assessment.tki.org.nz/Overall-teacher-judgement>).





## He Huarahi, Hei āwhina

### Establishing a clear process to gather/create/confirm OTJ - Suggested Guidelines<sup>2</sup>:

- Hei Whakaarotanga: he Tukunga whakaako/ kohi taunakitanga
- Kohi raraunga i mua i te whakaako
- Whakarite te akomanga/ ngā akonga kia whakaako pāngarau
- Whakaako
- Kohi taunakitanga i a koutou e whakaako ana
- Whakaemi taunakitanga kia whakaaro kei hea te ākongā e hāngai ana ki ngā whanaketanga pāngarau?
- Noho tahi kia whakaōrite, **kia tau i te ekenga panuku o te tamaiti/ākongā**
- Whakarite wā ia wāhanga o te tau, mō te whakaōrite i ētahi mahi ā ngā ākongā, ngā mahi aromatawai hoki.

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<sup>2</sup> A useful resource on nzmaths lists assessment tools. [http://www.nzmaths.co.nz/te-aromatawai?parent\\_node](http://www.nzmaths.co.nz/te-aromatawai?parent_node)

## Making an OTJ

Table 1: An example of using multiple high quality sources of information over time

Wāhanga 3, 2013 Ingoa:

Ngā Ākonga Rūma ____ Tau ____	Tairongo <sup>3</sup> Ref: Rukuhia Rarangahia Position Paper	Ngā aromātawaii me ngā whakaakoranga	Tā te ākonga mahi	Ngā Whakamātautau (Ā-Tā)	Taunakitanga (Ā-Waha) e.g Audio	Taunakitanga ataata- e.g. Photos, Video, Powerpoints... (Ā-Tinana)	Taunakitanga- whakaaro arorau, whaitake, auaha	Kōrero i waenganui i ngā kaiako

<sup>3</sup> [1] NOTES: “Tairongo are more about who the ākonga are as opposed to what they can do”. (E.g. tōna mana āhua ake, tōna kawē i a ia anō, tōna wairua, tōna mauri, ōna pīkautanga, their spirit, nature, character, temperament, personality, behavioural tendencies in different contexts, environments and with different audiences). Acknowledgement to Chrissie Ward table 1, page 11.



## Suggestions for sources of evidence when teaching each whenu.

### Tau & Taurangi (Matua)

- Table 2: Sources of Evidence in Tau

Tairongo	He Mahi Aromatawai	He Taunakitanga	He Hononga ki Whenu, Mahi kē Atu Rānei
Teachers use of senses and knowledge of ākonga confirms ākonga knowledge: <ul style="list-style-type: none"> <li>- Mātakitaki</li> <li>- Whakarongo</li> <li>- Kōrero</li> <li>- Mahi a ringa</li> <li>- Tuakiri</li> </ul>	Uiui Gloss Ikan He Pūkete Aromatawai He Tau Anō te Tau Tīhei Pāngarau Kaiako/kura ngohe Ekenga Panuku Rapanga	Modelling book Samples of work Recorded conversations template (see page x) Photos Videos	

Table 3: Sources of Evidence in (Te Tauira me te Pānga, Te Ine, Te Hanga, Te Wāhi, Te Ahunga me te Panoni, Tauanga me te Tūponotanga).

Tairongo	He Mahi Aromatawai	He Taunakitanga	He Hononga ki Whenu, Mahi kē Atu Rānei
Teachers use of senses and knowledge of ākonga confirms ākonga knowledge: <ul style="list-style-type: none"> <li>- Mātakitaki</li> <li>- Whakarongo</li> <li>- Kōrero</li> <li>- Mahi ā-ringa</li> <li>- Tuakiri</li> </ul>	He Pūkete Aromatawai He Tau Anō te Tau He Tauaromahi Tīhei Pāngarau Kaiako/kura ngohe Ngohe tūhurutanga Rapanga	Modelling book Samples of work Recorded conversations template (see page 13, figure x) Photos Videos	



Table 4: Some useful prompts to consider

	Tō te tirohanga tumuaki/kaiako?	Tō te tirohanga ākongā?
What is quality evidence?		
How do we gather quality evidence?		
What sort of evidence is best fit for the whenu/task?		
What do we integrate and why?		
Has the kura considered the ethics around collecting, storage and disposal of evidence?		N/A

He mihi manahau ki a

- Tuteira Pohatu
- Ian Christensen – He Kupenga Hao i te Reo
- Kia Atamai Educational Trust - Cath Rau & Chrissy Ward
- tki.org.nz
- Te Roopu Pāngarau o Te Toi Tupu