

## STEMM POSTER SERIES OVERVIEW

The following five posters have been designed by Pūhoro which will be distributed into Pūhoro schools. Through the support of NZQA these posters have been created which cover the five areas covered in STEMM (Science, Technology, Engineering, Mathematics and Mātauranga) and portray key messages to encourage, inspire and remind rangatahi of their inherent connection to STEMM. The intention being to celebrate and normalise Māori in STEMM and provide rangatahi with a visual representation of belonging in those environments.

The initial draft of these posters has been completed. Our visual artist \_\_\_\_\_ is currently fine tuning these posters to ensure that the standard of them once they are sent to print is of high quality and excellence.

**HE MĀORI TONU TE PŪKAHA**

**MĀ MURI TE ARA O MUA**

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • ENGINEERING IS IN OUR WHAKAPAPA

**OUR PEOPLE WERE ENGINEERS FROM THE BEGINNING  
STUDY ENGINEERING AND BECOME THE LEGEND YOU WERE BORN TO BE**

SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN ENGINEERING

**PŪHORO**  
HE WANGA EHO NOU

# HE MĀORI TONU TE PŪRAU

◦ MĀ MURI TE ARA O MUA ◦

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • STEM IS A PART OF WHO WE ARE



MĀORI HAVE ALWAYS BEEN SCIENTISTS AND INNOVATORS  
STUDY STEM AND BECOME THE LEGEND YOU WERE BORN TO BE



SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN STEM







# HE MĀORI TONU TE HANGARAU

## MĀ MURI TE ARA O MUA

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • TECHNOLOGY IS IN OUR WHAKAPAPA



OUR PEOPLE WERE TECHNOLOGISTS FROM THE BEGINNING  
STUDY TECHNOLOGY AND BECOME THE LEGEND YOU WERE BORN TO BE



SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN TECHNOLOGY



## **STEMM BUS BUSINESS CASE**

Through the support of NZQA and in response to the observations of the Pūhoro Charitable Trust and a desire to further bring impact to those affected by STEM inequity, Pūhoro had commissioned a business case for the establishment of a mobile Science, Technology, Engineering, Mathematics and Mātauranga Māori (STEMM) education unit in Te Tai Tokerau (Northland Region).

The business case proposes the establishment of a mobile unit in Te Tai Tokerau. It is the intention for Pūhoro Charitable Trust to provide this as a new service as part of an expansion of the Puhoro programme.

The objective of this new service would be to fill gaps in STEM provision in Te Tai Tokerau and support rangatahi in that region to get access to education options that may not yet be available to them. The unique feature of this new service would be that it would be conducted via a mobile unit. This is to ensure that provision can be provided to the students wherever they are and reduce the need to rely on schools to provide the facilities and resources.

The proposal will be that the service is tested over a three- and half-year period and be phased in over time to ensure that the service is fit for purpose and set up for success in a considered way and according to the personalised needs of the Te Tai Tokerau region and the particular considerations of that region.

Puhoro has a track record of success in STEM education for rangatahi and this business case will be able to articulate and set out an innovative and impactful unit to further

## **COMMUNICATIONS NZQA & PŪHORO**

### **Promotion**

Pūhoro was proactive in the promotion of joint initiatives with NZQA during the 2021-2022 contracted year.

Pūhoro maintained a high level of communication with partner schools around the requirement to cancel EYMM's in Term 1 due to the restrictions around group gatherings, furthermore, Pūhoro undertook a pro-active campaign on social media to promote the alternative offerings of STEMM Haerenga – Wānanga Pūrau.

Pūhoro continues to promote the NZQA and Pūhoro Charitable Trust relationship on the Pūhoro Website [www.puhoro.org.nz](http://www.puhoro.org.nz) This includes promotion of previous EYMM events and Āmua Ao initiatives. Pūhoro has taken to market a specific Communications and Marketing role the outcome being that once recruitment is complete, the website, social media platforms and communications with stakeholders will continue to be improved and regularly

updated accordingly. This should further support and shine a light on the partnership with NZQA in a positive way across Pūhoro social platforms, website and communications with partner schools.

## Image sharing

Within the Pūhoro Charitable Trust, we are continuing to grow a file bank of images of rangatahi engaging in different Pūhoro activities and events. As part of this, Pūhoro ensures that relevant approvals are requested from rangatahi in the event that we would like to utilise these images, share them as appropriate with stakeholders and disseminate them over online platforms. As and when needed Pūhoro and NZQA will continue to work positively to share, promote and highlight positive images of rangatahi Māori engaging in STEM activities and events. The medium through which these will be shared will be via file transfer (e.g. drop box), email or any other relevant official channel.

## NCEA me te whānau and Kāhui Akonga

Over the course of this contractual year Pūhoro has provided opportunities for NCEA me te whānau workshops to be held during the Whānau STEM expo's (Whānau days) held at the beginning of the year (2022) in the Manawatū on 19<sup>th</sup> February, Hawke's Bay on 26<sup>th</sup> February, Christchurch on 5<sup>th</sup> March and Waikato on the 19<sup>th</sup> of March 2022. Due to circumstances around the red light settings, the Auckland Whānau STEM expo was not able to proceed.

As further context to these events, the following image features the different hands-on activities that rangatahi and their whānau were able to participate in at the STEM expos held across the country.



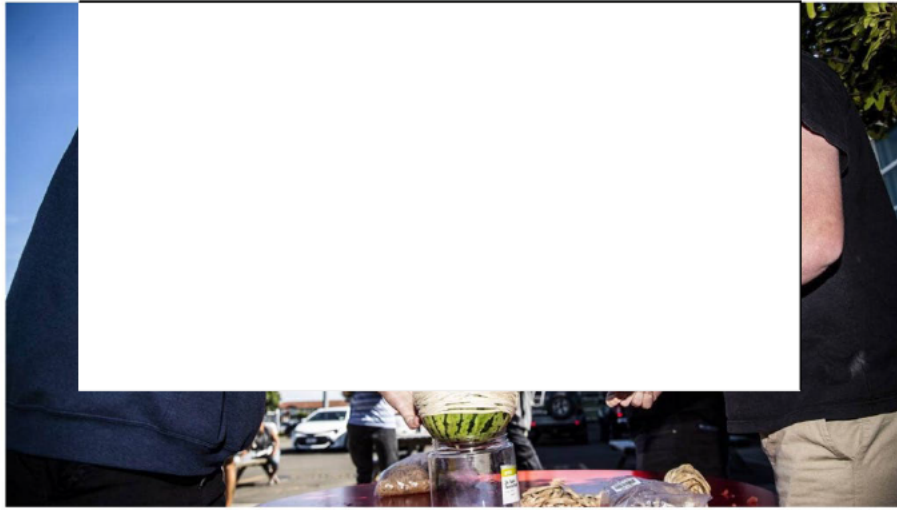
*From left to right: virtual reality, speed-cup stacking, the science of sherbet, making kawakawa balm, green screen movie maker, exploding watermelon, highest vertical jump and designing catapults. In addition to this but not mentioned is the dry ice station, the water- filtering station and the laser-timing gates (to test running speed).*

Pūhoro overall received positive feedback, and an article on the Manawatū Whānau STEM Expo was featured in

STUFF. <https://www.stuff.co.nz/pou-tiaki/300522110/phoro-work-gives-students-founding-essence-for-success>

## Pūhoro work gives students 'founding essence' for success

George Heagney · 10:29, Feb 20 2022



DAVID UNWIN/STUFF

Kahu Pomare, left, and Kiwa Pomare try to find out how many rubber bands it takes to burst a watermelon at a Pūhoro Stemm Academy whānau day at UCOL on Saturday.

These whānau expo are significant events that help Pūhoro capture new rangatahi but also their whānau, who play a pivotal role in the growth and development of their rangatahi throughout the duration of their Pūhoro journey. Furthermore, they provide meaningful opportunities for rangatahi in the programme to connect with NZQA staff and receive relevant guidance and direction in terms of understanding NCEA and how to navigate this with their rangatahi in ways that help rangatahi be able to achieve their potential.

Rangatahi from Pūhoro continue to engage in the Kāhui Akonga. These rangatahi are from across Pūhoro regions and are a dedicated Māori student voice who gain experience and contribute to NZQA kaupapa in varied ways such as for example, providing feedback, engaging in network opportunities and creating social content online. Kaihautū continue to support rangatahi who are engaged in the Kāhui Akonga initiative with NZQA providing valuable support and supervision to ensure rangatahi are able to achieve the desired outcomes required.

*Ka tuku mihi nunui ki te tima o NZQA mō tō koutou tautoko, mō tō koutou awhi hoki.*

*Mauri Ora.*

*We express again our thanks to the team at NZQA, for their support and on-going aroha towards us here at Pūhoro. We look forward with anticipation to the work ahead and the achievement of our shared objectives.*

*Ngā mihi,*

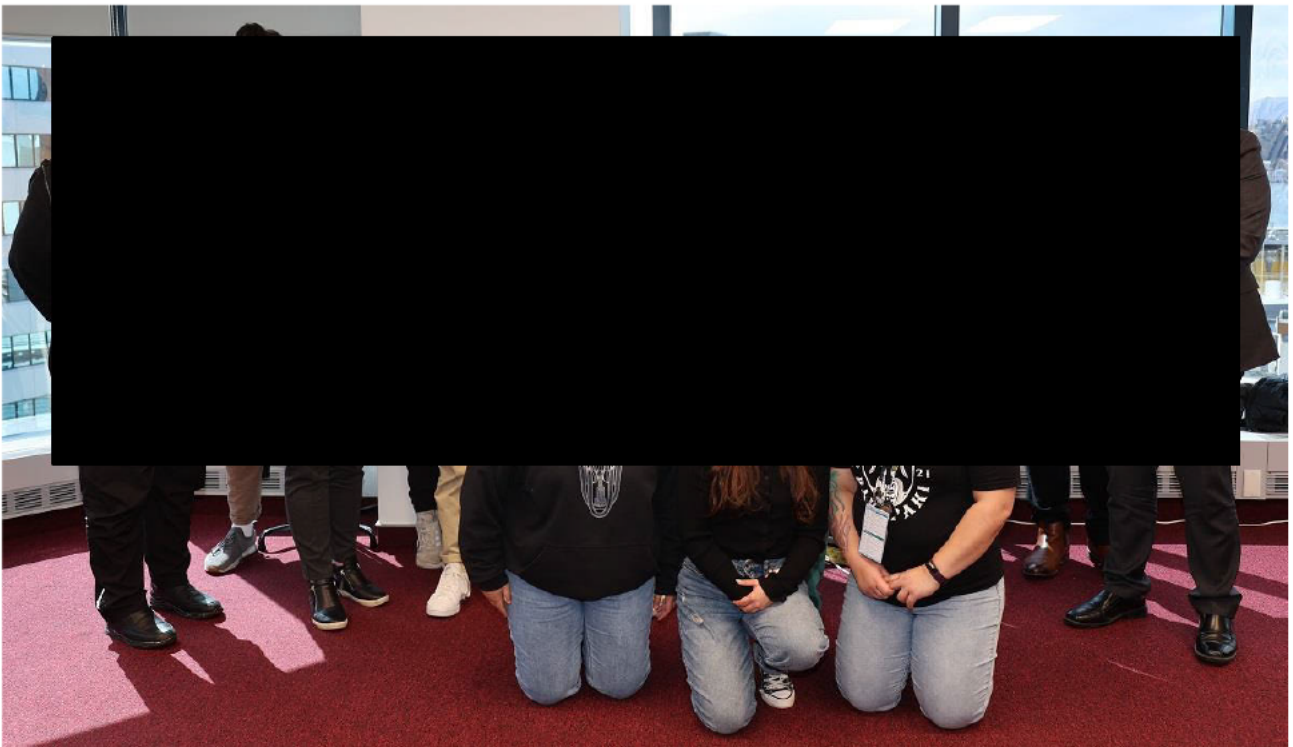
*Team Pūhoro*





# NZQA

Pūhoro Report  
(July 2022 - June 2023)



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**Pou Hiranga: Senior Advisor Pūhoro**

*Ngāti Tūwharetoa*

*“Tai Timu, Tai Pari”*

*- The Tide Ebbs, The Tide Flows.*

*Pūhoro have moved through a number of significant events moving into 2023, and through the uncertain times, Pūhoro has continued to move from strength to strength thanks to the commitment and resilience of both our rangatahi and staff at the Pūhoro Charitable Trust.*

*With the departure of our Manahautū, Naomi Manu, our Chief Operations Officer, Kemp Reweti, has now taken the reigns as Acting Manahautū until we appoint someone to the role permanently. With this brings both joy and sadness, as we farewell Naomi whilst ushering in a new era with Kemp, who has been beside Naomi for many years and has been committed to the Pūhoro kaupapa since it was established in 2016.*

*This year has also experienced Cyclone Gabrielle and its devastation across the North Island, which left many whānau displaced and without support. Despite its harrowing effects, Pūhoro was proud of the resilience of our rangatahi, who despite the odds continued to move on with life as best as possible, with the unwavering support of their amazing Kaihautū.*

*With the many ebbs and flows, we have much to celebrate. Please find below a high-level summary of our deliverables over the 2022-2023 period.*

*He Waka Eke Noa!*

## **BACKGROUND**

The Pūhoro Charitable Trust (Pūhoro) and NZQA both have strategic objectives to lift ākonga Māori achievement in Science, Technology, Engineering and Mathematics (STEM) related subjects. It is this commonality that brought both parties together over the past seven years to explore initiatives that that fulfil our common commitment.

Pūhoro exposes secondary ākonga Māori to a breadth of NCEA choices and careers across the science and technology sectors, introduces them to role models, and facilitates weekly engagements and hands-on wānanga to support ākonga Māori success in NCEA.

## **2022-2023 DELIVERABLES**

Both Pūhoro and NZQA agreed to:

- work together and share information about how to increase ākonga Māori participation and achievement in STEM related areas
- maintain good relationships with each other at all times
- meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required
- act in good faith at all times
- be transparent with each other without breaching confidentiality, and
- acknowledge each party's priorities and use best endeavours to support them.

This report presents a high-level update on our agreed deliverables for the 2022-2023 period.

The agreed deliverables for the 2022-2023 period included:

1. Ākonga engagements at Wānanga
2. NCEA Workshops and Training
3. Te Kāhui Ākonga support, and
4. Communications.

## 2023 Ākonga Engagements at Wānanga

### ***Pūhoro agreed to:***

- *Schedule and coordinate the delivery of at least six NCEA me te Ākonga workshops and deliver to a minimum of 500 rangatahi*
- *Deliver STEM activities to rangatahi, and*
- *Recognise NZQA as a sponsor and include branding in wānanga promotions.*

Pūhoro delivered 19 Wānanga over the 2022-2023 period across the following regions:

- Auckland
- Waikato
- Rotorua
- Hawke's Bay
- Manawatū, and
- Christchurch

In each of those regions, we included the NCEA me te Ākonga workshops in our Year 11 programme and delivered to 737 ākonga, kaiako, and Pūhoro group leads.

Pūhoro also developed the following hands-on STEM workshops which were delivered to over 1,150 ākonga across Years 11 and 12:

**Science:** Climate Change - Water Pollution  
Catapults

**Technology:** Build a PC

**Engineering:** Waka Wars  
Robotics

**Maths:** Blockchain

NZQA continues to be promoted as a Pūhoro partner in the introduction sessions at all Wānanga and we would be happy to display an NZQA banner at future Wānanga should you want to entrust us with one.

## **NCEA Workshops and Training**

### ***Pūhoro agreed to work with NZQA to:***

- *Coordinate NCEA me te Whānau workshops for Pūhoro whānau, and*
- *Coordinate training in NCEA me te Ākonga for at least 15 Pūhoro Kaihautū.*

Pūhoro held whānau engagements in Manawatū, Christchurch and Hawke's Bay within the last six months. Pūhoro Kaihautū utilised the NCEA me te Whānau workshop tools and materials to engage parents and whānau to increase their knowledge of NCEA and to empower confidence to support their rangatahi to succeed. In total, 121 whānau participated.

More than 15 Pūhoro Kaihautū were trained to deliver the NCEA me te Ākonga workshop. This training has equipped them with the knowledge to further support our Pūhoro rangatahi to better understand and navigate the NCEA system.

## **Te Kāhui Ākonga support**

### ***Pūhoro agreed to:***

- *Work with NZQA to maintain 'Te Kāhui Ākonga' (TKA) representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms, and*
- *Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.*

There are currently 12 Pūhoro rangatahi engaged as members of Te Kāhui Ākonga. As agreed these members have a representative balance across secondary and tertiary, Māori-medium and mainstream, and gender and regional diversity.

There is regular engagement from these members throughout the year and a minimum of nine ākonga have attended recent in-person hui. These tauira are also supported by two Kaihautū that attend hui alongside them.

## **Communications**

### ***Pūhoro agreed to:***

- *Include NZQA brand in Pūhoro communications and social media promotions (as applicable)*
- *Provide access to and permissions for Pūhoro student photo library, and*
- *Coordinate interviews with Kaihautū, ākongā and their whānau for NZQA's reporting and publicity requirements.*

Pūhoro has promoted and acknowledged our NZQA partnership at Wānanga in each of our operating regions. NZQA has also been acknowledged and tagged into relevant social media comms where an NCEA me te Ākongā workshop has been delivered.

Pūhoro is happy to share student images with NZQA for reporting and promotional purposes but did not receive any such requests over the 2022-2023 period.

Ākongā interviews were coordinated and conducted in early 2023 and their stories were promoted on NZQA's corporate Facebook page.

## **HE MIHI: OUR THANKS**

Since the beginning of our partnership, we have witnessed the profound impact of our collaborative efforts in empowering our rangatahi to engage with STEMM. Because of our partnership, our rangatahi are growing an awareness of the vast array of opportunities within STEMM. Together, we are shaping a generation of innovative and diverse leaders who will drive technological advancements in Aotearoa and contribute to a sustainable future. As we move forward through 2023, we remain committed to strengthening this partnership, by continuing to inspire and equip rangatahi with the tools they need to excel in STEMM and make a meaningful impact in their communities and beyond. Again, Pūhoro extends our aroha and thanks to NZQA for your unwavering commitment to a STEM-led Aotearoa.

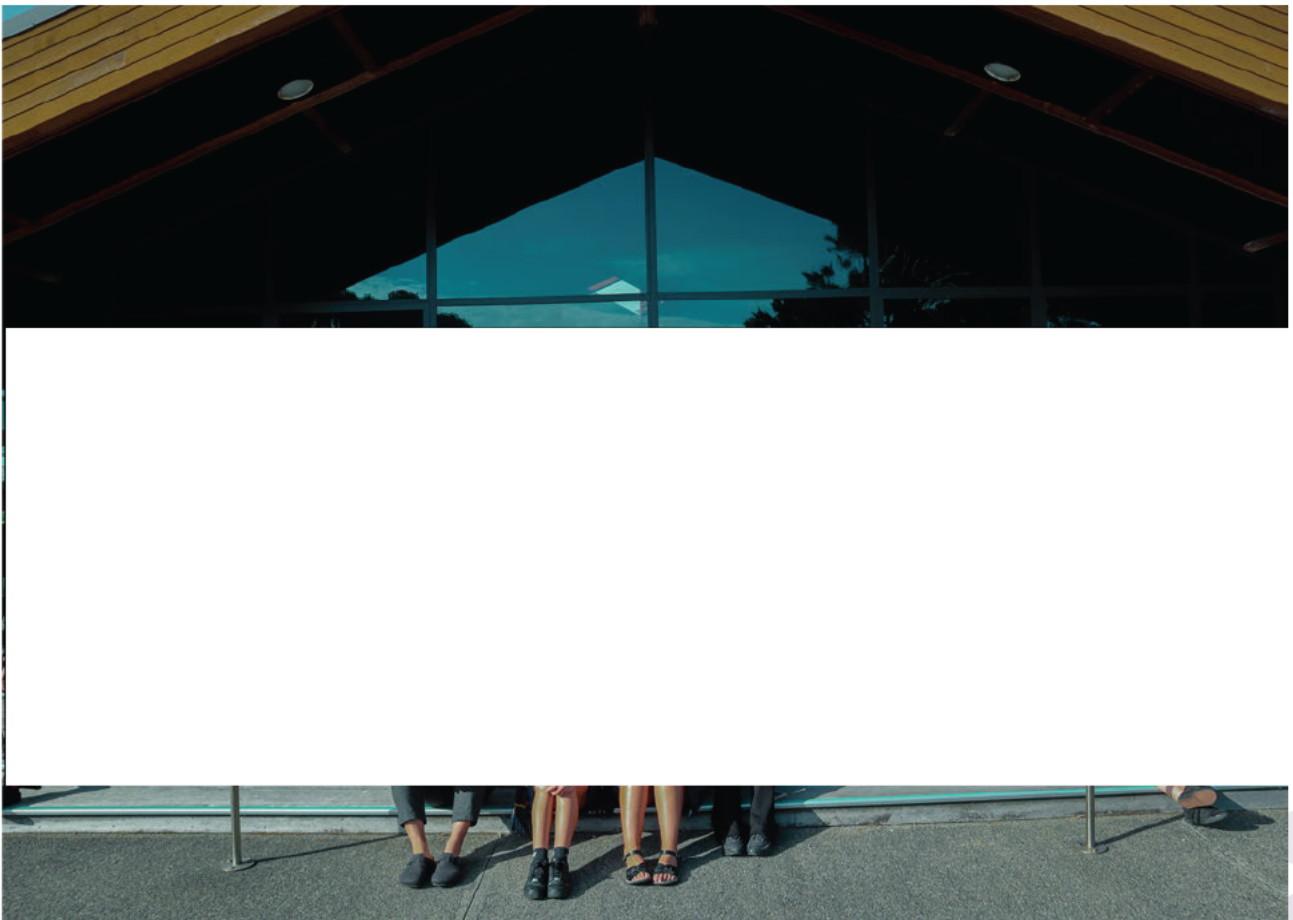
***He Waka Eke Noa – We're all in this together!***

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**NZQA**

Pūhoro Report  
(July 2023 - June 2024)

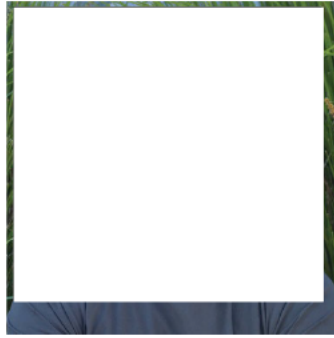


Ākonga at the Horowhenua Term 2 Wānanga



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— Pou Hiranga: Senior Advisor Pūhoro

*Ngāti Tūwharetoa*

*It is my pleasure to present this report on behalf of the Pūhoro Charitable Trust, highlighting our collaborative efforts over the past year. Pūhoro and NZQA share a strong commitment towards elevating rangatahi achievement. This shared vision has allowed us to explore and implement initiatives that support our collective goal of engaging more rangatahi and whānau in STEMM and NCEA.*

*In partnership with NZQA, Pūhoro have been dedicated to exposing ākonga to a wide range of NCEA and career opportunities within STEMM. Our shared kaupapa has introduced ākonga to inspiring role models, has given them necessary work experience through Te Kāhui Ākonga, and has provided them with regular engagements and hands-on wānanga designed to bolster their success in STEMM and NCEA. These touchpoints have in earnest, created a platform where rangatahi can share their voice and contribute meaningfully to an ever-evolving education system.*

*Since July 2023, we have continued to build on our previous achievements. This report outlines our progress in meeting the agreed deliverables, showcasing the impactful mahi we have accomplished together in our participating regions.*

*Please accept this provisional report, with a full report to be sent at the conclusion of our Term 2 Wānanga on 05 July 2024 as agreed.*

*He Waka Eke Noa!*

## 2023-2024 DELIVERABLES

As per the previous year both Pūhoro and NZQA agreed to:

- *work together and share information about how to increase ākonga Māori participation and achievement in STEM related areas; and*
- *maintain good relationships with each other at all times;*
- *meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required;*
- *act in good faith at all times;*
- *be transparent with each other without breaching confidentiality; and*
- *acknowledge each party's priorities and use best endeavours to support them.*

To date our mutual relationship has been a success and this is reflected in the mahi that has been completed together across the country. The following presents an update on our agreed deliverables for the 2023-2024 period.

The agreed deliverables for the 2023-2024 period include:

- 1. Ākonga engagements at Wānanga**
- 2. NCEA Workshops and Training**
- 3. Te Kāhui Ākonga support, and**
- 4. Communications.**

## 2024 Ākonga Engagements at Wānanga

### ***Pūhoro agreed to:***

- *Schedule and coordinate the delivery of NCEA me te Ākonga workshops in at least six (6) Pūhoro wānanga, and deliver to a minimum of 500 ākonga*
- *Deliver STEM activities to rangatahi, and*
- *Recognise NZQA as a sponsor and include branding in wānanga promotions.*

Pūhoro delivered fourteen (14) wānanga from July 2023 – June 2024 across the following regions, with **three wānanga to be completed** during the first week of July 2024 to see out the Term 2 wānanga series:

### **Completed:**

- ***Te Tai Tokerau***
- Waikato
- Rotorua
- Hawke's Bay
- ***Manawatū x 2***
- Wanganui
- ***Horowhenua***

### **To be completed by 5 July 2024:**

- ***Auckland x 2***
- ***Christchurch***

In each of the above regions in ***bold italic***, we included the NCEA workshops in our Year 11 programme and have so far engaged **865 ākonga** through wānanga. These numbers do not include NCEA engagement in schools (see *NCEA Workshops and Training*). As previously agreed via email, we have completed **four NCEA workshops**, with the remaining three to be completed by 5 July 2024, bringing the **total workshops completed at wānanga to seven (7)**. This metric upon completion will have fulfilled the requirement of 6 as per our *2024 Akonga Engagements at Wānanga* deliverables.

Pūhoro also developed the following hands-on STEM workshops which were delivered to over 1,500 rangatahi from July 2023 – June 2024:

**Science:** Te Mauri o te Taiao – Reforestation  
Climate Change (water testing)

**Technology:** Genetics (reproduction)  
Ngā mata o te Ariki (Robotics)  
Solar Cars

**Engineering:** Rona me te Marama (hydraulics)  
Catapults

**Maths:** Ngā hau o Tāwhirimātea (wind-powered *Strandbeest* model design)

NZQA continues to be promoted as a Pūhoro partner in the introduction sessions at all Wānanga and we would be happy to display an NZQA banner at future Wānanga should you entrust us with one.

## **NCEA Workshops and Training**

***Pūhoro agreed to work with NZQA to:***

- *Coordinate 6 NCEA me te Whānau workshops for Pūhoro whānau, across Pūhoro regions and*
- *Coordinate training in NCEA me te Ākonga for at least six (6) Pūhoro Kaihautū.*

In January of this year **eight (8) Kaihautū**, and rangatahi from Te Kāhui Ākonga engaged with NZQA in a series of NCEA workshop redesign sessions focused on engaging whānau in 2024. Pūhoro are pleased to report that **eight (8) NCEA me te Whānau workshops** have been successfully delivered to **sixty-seven (67) whānau** across our participating regions. These workshops were delivered as part of our *Pūhoro Whānau Day*, with some of the sessions delivered during whānau engagements across the 2023-2024 school terms.

As an additional deliverable, Pūhoro leveraged from the NCEA redesign development workshops to create bespoke, *NCEA me te Ākonga* sessions. These student-focused sessions had similar messaging to *NCEA me te Whānau*, but were uniquely pitched to ākonga and were delivered in schools across the participating regions. Pūhoro Kaihautū led these sessions, and in collaboration with NZQA, used each opportunity to gather NSN numbers from ākonga.. Pūhoro are pleased to report that a total of **nineteen (19) *NCEA me te Ākonga* sessions** were successfully delivered.

## **Te Kāhui Ākonga support**

### ***Pūhoro agreed to:***

- *Work with NZQA to maintain 'Te Kāhui Ākonga' (TKA) representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms*
- *Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.*

TKA continues to be a great opportunity for ākonga to actively engage with Liaison \_\_\_\_\_ and the wider team at NZQA, provide valuable feedback on NZQA service design and contribute to the creation and review of educational content. Although TKA have reverted to online hui with NZQA, ākonga in TKA continue to value the experience. Of note was the Te Tiriti session run at the last meeting by \_\_\_\_\_ whom rangatahi found highly beneficial.

Furthermore, Pūhoro facilitated the placement of two new ākonga in TKA, succeeding the two outgoing ākonga who completed their tenure. Their input, alongside their fellow ākonga has ensured that the rangatahi voice and perspectives remain integral to NZQA's initiatives. By fostering a collaborative environment for educational innovation and development, TKA not only gain relative work experience, but rangatahi across the country get to benefit from innovative, ākonga voices.

## **Communications**

### ***Pūhoro agreed to:***

- *Include NZQA brand in Pūhoro communications and social media promotions (as applicable)*
- *Provide access to and permissions for Pūhoro student photo library*
- *Coordinate interviews with Kaihautū, ākongā and their whānau for NZQA's reporting and publicity requirements*

As per the previous year Pūhoro has promoted and acknowledged our NZQA partnership at Wānanga in each of our operating regions. NZQA has been acknowledged and tagged into relevant social media comms where applicable. Pūhoro ākongā have also been active on the NCEA me te Whānau Facebook and Instagram pages. Of note is the interviews completed alongside ākongā promoting the Pūhoro kaupapa.

Do date there have been no requests from NZQA to use student images for reporting and promoting purposes, however Pūhoro will continue to communicate with NZQA should the need present itself. Pūhoro is happy to share student images with NZQA for reporting and promotional purposes but did not receive any such requests over the 2022-2023 period.

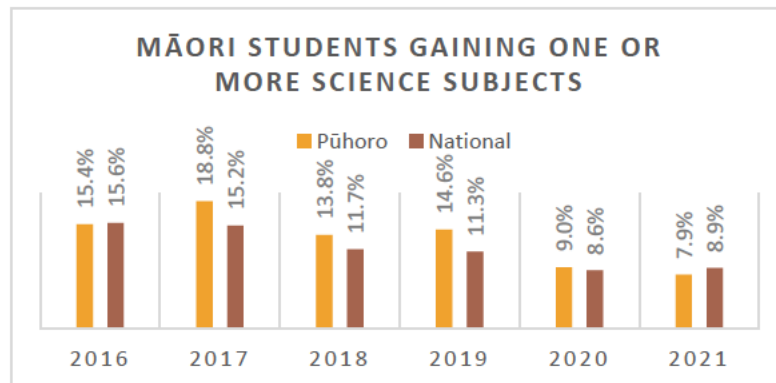
## **HE MIHI: OUR THANKS**

Our partnership has successfully advanced our shared goal of enhancing ākongā engagement in STEMM and NCEA. On the provision of the update report in July, we will have met all our deliverables but more importantly, we will have collectively impacted rangatahi and whānau through wānanga, NCEA workshops and support through Te Kāhui Ākongā. These efforts to date have provided valuable learning experiences and ensured ākongā perspectives are central to the advancement of the NZQA kaupapa. We look forward to continuing this productive partnership and creating more opportunities for ākongā moving forward.

Ngā mihi nui ki a koutou, Manawatia a Matariki!

7. NZQA continues to provide data and data analysis to support Pūhoro to understand the impact of its programme, and how they can further develop the Pūhoro programme to ensure better student outcomes.

The graph below shows that between 2017 and 2020 ākonga Māori attending schools working with Pūhoro were more likely to gain one or more Science subjects, compared to Māori nationally.



8. In summary Pūhoro is making an impact. Despite Pūhoro needing to adjust its programme delivery due to restrictions, this did have an impact on its 2021 results.



(Bxx/xx/xxx)

HE MANATU/MEMORANDUM

RĀ/DATE: 26 Noema 2020  
KI/TO: NZQA Board (the Board)  
KAITUKU/FROM: Alex Bidois, Deputy Chief Executive Māori  
KAUPAPA/SUBJECT: Māori and Pasifika in STEM

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Te Taunaki/Recommendation

- It is recommended that the Board:
  - a) **note** the update provided.

[Redacted content]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

#### Pūhoro STEM Academy Partnership

- We continue to partner and work with the Pūhoro STEM Academy to offer STEM inspired initiatives. The Academy is delivering four Engineering Young Māori Minds workshops to almost 500 Māori students in Palmerston North, Auckland, Hastings, and Christchurch and Auckland in 2020. A message from a Mum following the Hastings event was “Cruz went to your event today and loved it! First time ever he’s enjoyed science. I’m so happy he went. He goes, we went to this science thing for Maoris today. It was cool as. Way better than our science. Honestly, my son hated science... He’s still talking about it he’s buzzing. So grateful for Pūhoro igniting my sons inner learning excitement”. With NZQA’s support over the last three years, Pūhoro has supported approximately 1,400 young Māori learners.

[REDACTED]

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[REDACTED]

[REDACTED]

## HE MANATU

<b>RĀ:</b>	29 Hepetema 2022
<b>KI:</b>	NZQA Board (the Board)
<b>KAITUKU:</b>	Alex Bidois, DCE Māori
<b>KAUPAPA:</b>	<b>Pūhoro STEM Academy</b>

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### Te Taunaki

1. It is recommended that the Board:
  - a) **note** the Board requested further information if available on the outcomes and impact of the Pūhoro STEM Academy at the August 2022 Board hui.

### Te Horopaki

#### ***Independent Research***

2. Independent research company, Ihi Research, conducted an evaluation of Pūhoro the 2016 year 11 Māori rangatahi cohort. The report identified the key enablers of engagement were tied to important cultural values such as whānau, whakapapa, whanaungatanga, tuakana-teina, ako and manaakitanga that are deeply embedded in the programme.
3. Ihi Research reported the culture of Pūhoro, and its leadership was unique in creating and sustaining a whānau approach within STEM; one that was committed to achieving its vision. Evaluation analyses demonstrated the many positive impacts the programme has had for participating Māori rangatahi, teachers and whānau.

#### ***Other Impacts***

4. Other impacts included increased learning and confidence through ako (reciprocal teaching and learning). Evidence highlighted how Pūhoro created a bridge between university/tertiary resources and experts and secondary curriculum contexts. This access to expertise and its practical relevance was motivating to rangatahi and teachers and made it easy for them to engage.

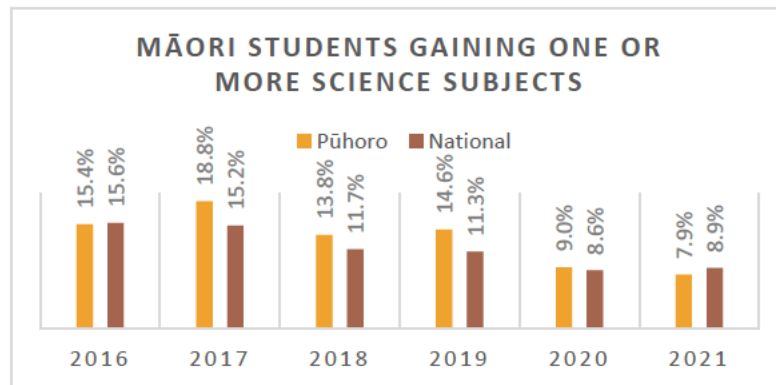
#### ***What the analysis tells us***

5. Pūhoro analyses revealed ninety-two percent of the Pūhoro cohort continued with sciences at NCEA Level 2 – despite the highest national drop-out rate for Māori rangatahi in science occurring between NCEA Level 1 and Level 2. In addition, a high-level of achievement, including merit and excellence endorsements for individual external achievement standards, was noted.
6. In 2017, 92 percent of Pūhoro Year 12 rangatahi achieved at least one science external achievement standard. There is clear evidence that Pūhoro had a positive impact by increasing Māori student participation and engagement in science supporting a change in academic trajectory for over two thirds of Pūhoro students.

#### ***NZQA Data and Data Analysis***

7. NZQA continues to provide data and data analysis to support Pūhoro to understand the impact of its programme, and how they can further develop the Pūhoro programme to ensure better student outcomes.

The graph below shows that between 2017 and 2020 ākonga Māori attending schools working with Pūhoro were more likely to gain one or more Science subjects, compared to Māori nationally.



8. In summary Pūhoro is making an impact. Despite Pūhoro needing to adjust its programme delivery due to restrictions, this did have an impact on its 2021 results.