



DIGITAL TECHNOLOGIES | HANGARAU MATIHIKO

Ngā Pātai Auau V.1. – He aha ngā pārongo me mōhio au?

BACKGROUND AND PROCESS

Nō hea te whakaaro ki te tāpiri i te Digital Technologies | Hangarau Matihiko ki te Marautanga o Aotearoa?

- I te Hōngongoi 2014 i whakarewahia te Mahere Rautaki mō te Pūtaiao me te Pāpori, arā, “A Nation of Curious Minds: Te Whenua Hihiri i te Mahara” e te Minita o mua o te Mātauranga, a Hēkia Parata rāua ko Minita Steven Joyce.
- He kaupapa mahi tahi tēnei a Te Tāhuhu o te Mātauranga, a MBIE hoki, me te Kaiārahi Pūtaiao Matua o te Tari o te Pirimia. Tae atu te kaupapa nei ki te arotake i te Technologies | Hangarau Matihiko i te marautanga ā-motu.
- I te 5 o Hōngongoi, i whakapuakina e Minita Parata te kaupapa whakapakari i te Digital Technologies | Hangarau Matihiko (DT | HM).
- I roto i tēnei, ka whai wāhi te Digital Technologies | Hangarau Matihiko ki te Technology Learning Area of *The New Zealand Curriculum* me te Hangarau Wāhanga Ako o *Te Marautanga o Aotearoa* i te Tau 1 ki te Tau 13.

Tae noa mai ki nāianei, kua pēhea te whakawhanake i te kiko o te marautanga?

- I āta mahi tahi Te Tāhuhu o te Mātauranga me ngā mātanga o te rāngai mātauranga, me te ahumahi hangarau matihiko kia whanakehia ngā puka hukihuki o te marautanga.
- Ka whaktōpū tēnei i ngā wheako o te ao whānui me te rangahautanga i Aotearoa mō ngā akoranga matua o te hangarau matihiko.
- Mai i taua wā ka mahi mātou ko te hunga whaipānga, i roto i te rāngai mātauranga, ko ō mātou hāpori me te ōhanga hoki, ki te whakarākai i te kiko.
- He whai wāhitanga tēnei uiuinga ki te tāpae i ō whakaaro ki te hātepe/tukanga nei.

He aha te wāhanga ki te ahumahi?



- Ka matea te ōhanga ki ngā kaimahi kei a rātou ngā pūkenga hangarau motuhake e āhei ai te auaha me te taunaki i te hanganga ka whakawhirinakihia e ngā pakihī, e ngā kāwanatanga, e te taha tauhokohoko, e te kaiwhakamahi hoki.
- Nā te ahumahi me ētahi atu te karanga kia nui ake te ako mō te hangarau matihiko, kia whai pūkenga ai ngā ākonga e matea ana e ngā kaiwhakawhiwhi mahi o āpōpō.
- Kua mahi mātou ko ngā kaiārahi o te hangarau matihiko i te ōhanga whānui ko ētahi anō hoki, ki te hoahoa i te kiko hou.

E arotake ana rānei te Minitatanga i te Kaupapa Ako o Technology | Hangarau?

- Āe kei te panonihia te Kaupapa Ako o Technology and Hangarau kia whai wāhi ai te Digital Technologies | Hangarau Matihiko.
- Ko te hua ka puta i *The New Zealand Curriculum*, e rima ngā kaupapa hangarau i te Kaupapa Ako Hangarau ka whai wāhi, tae atu ki ngā kaupapa Hangarau Matihiko hou e rua.
- I *Te Marautanga o Aotearoa*, e waru nga wāhanga ako ki te Kaupapa Ako Hangarau ka whai wāhi, tae atu ki ngā wāhanga ako Hangarau Matihiko hou e whā.
- I tēnei wā, kāore te Minitatanga i te whakamahere ki te arotake whānui ake i ngā Kaupapa Ako Hangarau.

Ka whai pūtea anō ngā kura auraki me ngā kura Māori mō te hangarau?

- He nui kē te whakangao a te Kāwanatanga hei whakarato i ngā pūrere matihiko ki ngā kura, tae atu ki te pūtea \$700 miriona neke atu mō te hanganga matihiko, tae atu ki te aunui horo rawa atu.
- Kua whanake rauemi mātou hei utu pūmanawa mā ngā kura, hei rīhi rorohiko pōnahō me ngā rauemi pērā i te:
 - Whatunga Ako Mariko;
 - Kōwae ako-e;
 - Ratonga mātauranga Pond;
 - Pokapū matihiko ā-hapori;



- Te ratonga Connected Learning Advisory.

Ahakoia kei a rātou ngā mōhiotanga/pūkenga mātanga Hangarau Mōhiohio, ka ahatia kia hua ai e āhei ana te hunga LAT te whakaako?

- Ka aromatawai te Kaunihera Mātauranga i ā rātou tohu mātauranga, ā rātou wheako hoki, ā, ka whakatau kei a rātou rānei ngā pūkenga me ngā mōhiotanga mātanga hei mahi i te mahi. Kāore pea ia e uru ki te whakangungu kaiako ōkawa. Mā te kura taua momo whakangungu e whakarato.

Mā te aha koe e ū ai te kounga o te tuku LAT e hāngai ana ki te whakaako i roto akomanga?

- Kei te tumuaki te haepapa mō te whakatū tikanga e whakaarohia ana e tika ana hei tautoko i ngā tāngata he LAT ā rātou kia tika ai ā rātou mahi. Tērā pea he wāhanga tēnei o te ritenga mahi tahi ki taua ratonga, ki taua kura auraki rānei, kura Māori rānei, ki te whakarite tiroiro, me te ārahi ā-aropā.

HE MĀTĀPONO TŪĀPAPA O TE WHANAKETANGA MARAUTANGA

He aha tātou e whakapakari ai i te Digital Technologies | Hangarau Matihiko ki te Marautanga ā-Motu?

- He whenua matihiko a Niu Tīreni. Hei ngā tau kei mua i te aroaro ka whai wāhi whakapiri te hangarau matihiko ki te pāpori me te ōhanga. Me whakarite ka tika tō tātou pūnaha mātauranga kia whakariterite i ā tātou tamariki me ā tātou rangatahi kia whai wāhi ai, kia waihanga ai, kia puāwai ai rātou i te ao hurihuri, i te ao matihiko nei.
- Me whakaatu tō tātou marautanga i te huringa o te ao, ā, nā tērā kua āta mārama tātou me whakatairanga i te āhei o ā tātou tamariki me ā tātou rangatahi ki ngā hangarau matihiko.
- I te tau 2007 tērā o ngā arotakenga o te New Zealand Curriculum, ā, i whanakehia Te Marautanga o Aotearoa i te tau 2008.
- Mai i taua wā, kua nui rawa ngā panoni i te ao hangarau:
 - Tekau tau i mua i puta tuatahi mai te iPhone – ināianei kei te nuinga o ngā tāngata o Niu Tīreni te waea atamai.
 - Kua puta te motokā taraiwa aunoa, mōhiohio horihori me te ao whakarei ā-mariko, i te kōrero paki pūtaiao ki te ao pono.
 - Ka tonoa ngā tākirirangi ki te ātea i tō tātou whenua.



- He nui ngā wero ki te ahumahi Hangarau Whakawhiti Mōhio ki te kimi kaimahi kei a rātou ngā pūkenga e tika ana hei whakahaere auaha matihiko, hei whakatinana hoki i te pitomata ōhanga o Niu Tīreni. Me whakarahi ake tātou i ngā ākonga ka wehe i te kura kei a rātou ēnei pūkenga mātanga matihiko whai wāriu.

He aha e whai wāhi ai te Hangarau Matihiko ki te Technology Learning Area / Hangarau Wāhanga Ako?

- Ka aro atu te Hangarau ki te raweke ā-hoahoa mā te tangata, nā te tangata.
- He nui atu te Hangarau i te hoahoa me te whakamahi i ngā putanga hangarau. Me wetewete i ngā rā o mua, i ngā hangarau o nāianei, i ngā hangarau ka puta pea āmuri ake, ā, me āta whakaaro ki ngā pānga ki te taiao, ki te pāpori me te ahurea.
- Ka whakamahi te Hangarau Matihiko i te aronga rite tonu, ka whakamahi i nga pūkenga huhua ōrite hoki – pērā i te tautuhi i ngā matea kaiwhakamahi, kātahi ka hanga urupare.
- Kei ngā wāhanga katoa o te Technology me te Hangarau, tae atu ki te Digital Technologies | Hangarau Matihiko te tikanga o te whakamahi auahatanga hei urupare ki ngā matea.
- Ka aro atu te Wāhanga Ako Hangarau ki te whakaāhei i ngā ākonga ki te whakaemi māramatanga hangarau, mai i te ao Māori me tōna hāngai ki te ao hou.
- Ka āta aro atu ki ngā uara, ngā pūkenga, me ngā akoranga i te hangarau kua waia ngā ākonga.

He aha e aro ai ki ngā Digital Technologies | Hangarau Matihiko, kua ki te reo matatini/ te tau / STEM / ngā toi, aha atu?

- Me mārama ō tātou ākonga ki ngā hangarau matihiko kia whai angitu ai i te rautau rua tekau mā tahi.
- Ahakoa kāore pea rātou e whai umanga hangarau matihiko, me whai pūkenga, mōhiotanga, āheinga hoki ki ngā hangarau matihiko kia āta whai wāhi ai rātou hei kirirarau ki te ao hurihuri nei, tō tātou pāpori, tō tātou ōhanga hangarau nei.
- E whakapae ana mātou ka whenumi te ako **Digital Technologies | Hangarau Matihiko** ki ētahi atu Wāhanga Ako o te marautanga – kia ako ai ngā ākonga i te papatonotanga ki te horopaki o te pāngarau, te pūtaiao, te toi rānei.



TE KIKO

He aha ngā panoni ki te Wāhanga Ako Hangarau ka puta i te whakapakari i te HM?

- Kua rerekē te whakatakoto i te Hangarau kia āta kitea ai te Hangarau Matihiko. I panonihia te kiko me ngā tautuhinga ki reira ako ai pea ngā ākonga ki te Hangarau.
- E rua ngā wāhanga hou kua whakatakotohia mō te reo Ingarihi me te reo Māori: *Computational thinking for digital technologies* me te *Designing and developing digital outcomes*.

He aha nga Hua Whakaahu?

- Kua whanake i ngā **Hua Whakaahu** mō te kiko Hangarau Matihiko hei whakarato i ngā kupu whakamārama māhea, motumotu hoki, o ngā mea ako matua. Ka āwhina te tautuhi i te ahunga o ngā ākonga puta noa i te ara ako.
- I tīkina ngā Hua Whakaahu i te Learning Progressions for Digital Technologies, e wātea ana i roto i ngā rauemi tautoko.

He Whāinga Paetae (WPs/AOs) mō HM?

- Kāore he WP/AO anō mō HM/DT.
- Kua whakarite te Minitatanga i ngā tauākī Hua Whakaahu hukihuki mō te kiko marautanga kua whakahoungia.

He aha ngā Tauākī Hua?

- Ka whakaatu ngā Tauākī Hua i ngā pūkenga, i ngā mōhiotanga, me ngā waiaro o te ākonga āhei ā-matihiko i te mutunga o te Tau 10, o te ākonga kei runga i te ara ki te whakawhāititanga i tētahi wāhanga, i etāhi wāhanga rānei o te hangarau matihiko i te mutunga o Tau 13 rānei.
- Ka puta ngā *Tauākī Hua* i te ako ka whakaaturia ki ngā ahunga ako. Ka whakaatu i te akoranga ka tūmanakohia i te mutunga o ēnei tino taumata tau.
- E pērā ana ki ngā kōrero i mua nei, kāore i āta waihangahia ngā ahunga ako ki te whakaatu i te ako i tētahi tau, i tētahi taumata marau rānei.



He aha ngā Ahunga Ako?

- Ka whakaatu i ngā tino hīkoitanga ako whakawhanake ai ngā ākonga i te mātanga (ngā pūkenga matua, mōhiotanga, waiaro hoki) i te Hangarau Matihiko, ā,
- Ka whakaatu i te āhua o tēnei ako mā ngā tauaromahi me ngā kōrero tāpiri o te hoahoa mahi haumako me ngā urupare ākonga.

He aha te pānga o tēnei ki ngā wāhanga kore matihiko o te Wāhanga Ako Hangarau?

- Ka ū tonu ki ngā Whāinga Paetae mō te Hangarau engari kua panoni te whakatakoto ki ngā horopaki i mahi ai te ako.

He aha te take e whā ngā ahunga hou mō te arareo Māori, e rua noa iho mō te arareo Ingarihi?

- Ko ngā ahunga paparua hou e rua (arā te Ct me te DDDO) mā te kiko motuhake, arā, ka pēhea te whakaatu i te raraunga, te hanga rānei i ngā apps matihiko, ngā tauira me ngā nama, aha atu. Ahakoa te reo ako ka pērā, nā reira e tika ana ka hāngai aua ahunga. E rua ngā ahunga arareo Māori motuhake mō te tangata, mō ngā uara Māori, Te Reo me te aro atu ki te tiro ā-Māori ki tōna ake ao.

He kiko marautanga hou i te taumata tuakana o te kura tuarua, ā, he aha te pānga ki te NCEA?

- Āe, mā te tau 1 ki te tau 13 tonu tēnei kiko.
- Kei te hanga mātou i ngā Whāinga Paetae NCEA Taumata 1 hou ki te whakaatu i te kiko marautanga hou.
- I whakawhanakehia ēnei paetae hou mā te whakamahi i ngā Tauākī Hua hukihuki Tau 10 me te Tau 13.
- Ka wātea ngā paetae Taumata 1 ki ngā kura ā te 2018.
- Ā te mutunga o tēnei tau, ka whanakehia ngā whāinga paetae NCEA Taumata 2, Taumata 3 hoki, ā, ā tērā tau ka whakamātauria ki ngā kura / kura Māori. Ka wātea ki ngā kura katoa hei me mea ā te tau 2019.



TE TUKUNGA UIUINGA

He aha e kimi ai te Minitatanga i taku urupare?

- Ka hiahia mātou kia pai te kiko hou a te marautanga mā ngā kaiako, ngā kura me ngā kura Māori, mā ō rātou whānau, mā te ōhanga hangarau matihiko, me ō tātou hapori.
- Ka whai uara tō urupare kia ū ai te kounga o te marautanga hou.
- Ka whakatika tō urupare i te tautoko ka whanakehia e mātou mō ngā kaiako, mō ngā kaiārahi ā-kura, ā-kura Māori hoki, me ngā ākonga.

He aha ngā hātepe haere ake nei a te Minitatanga mō te kiko hou o te marautanga? Ka whai wā anō au ki te whakarato urupare?

- Ka whakarato pārongo anō mātou mō te kiko marautanga ā te mutunga o te tau.

TE RITENGA AKOMANGA

Pito kōrero matua: Ko tā te Digital Technologies | Hangarau Matihiko he ako mō te hangarau matihiko, kua ko te ako i te *whakamahinga* hangarau matihiko.

Āhea e wātea ai te kiko Digital Technologies | Hangarau Matihiko ki ngā kura?

- Ka whakaputaina ngā puka mutunga o te kiko hou ā te mutunga o te tau 2017, kia rite ai mō te wāhanga 1 o te tau 2018.

Me aha tō mātou kura i te putanga o te kiko hou o te marautanga Digital Technologies | Hangarau Matihiko?

- Ā te 2020, me whakaako tō kura i te kiko hou. Ka whakahau mātou i ngā kaiārahi kura ki te arotake i te whakaako hangarau matihiko ki tō kura, ā, me whakarite koutou ki te whanake i tētahi kaupapa Digital Technologies | Hangarau Matihiko.
- Me whai whakaaro ngā kura i roto i ngā Kāhui Ako ki te whakapakari i te ako hangarau matihiko puta noa i tō rātou hapori.



Āhea ka mātua tutuki te Digital Technologies | Hangarau Matihiko ki ngā kura?

- Ā te 2020 ka mātua tutuki te kiko hou. Nā reira ka whai wā ngā kura kia waia haere ki te kiko hou.
- Mai i tēnei wā ki tērā wā, ka whakarato te Minitatanga i ētahi taunaki hei tautoko i ngā kaiako me ngā kaiārahi kura kia rite ai rātou ki te whakaako i tēnei kiko hou.

Ā te 2018 me tuku pūrongo mātou e hāngai ana ki Digital Technologies | Hangarau Matihiko?

- Kao. Kāore he ritenga pūrongo i te 2018, engari ā tērā tau ka hiahia mātou kia tīmata ngā kura ki te whakawhanake kaupapa ako, whakaako hoki mō ngā Digital Technologies | Hangarau Matihiko.

ĒTAHI TAKE MATIHIKO ANŌ

Pito kōrero matua: Ko tā te Digital Technologies | Hangarau Matihiko he ako *mō* ngā hangarau matihiko, kua ko te ako i te *whakamahinga* hangarau matihiko. Ko te āhuetanga tuatahi ka hāngai ki ngā pūkenga, ki ngā mōhiotanga me ngā āheinga e whai māramatanga ai e mahi auaha ai ki ngā hangarau matihiko – ko te āhuetanga tuarua ka hāngai ki te whakamahi pūrere takitahi, ki te whakamahi i ngā wāhanga raraunga. Ehara i te mea ka hāngai te Digital Technologies | Hangarau Matihiko i ngā wā katoa ki te whakamahi pūrere matihiko.

Ka whai wāhi te ako mō te tumataiti / rawa whakairo hinengaro / te kawenga whakamahi o te pūrere matihiko ki te marautanga hou?

- He maha ngā kaupapa nei ka whai wāhi ki te ako Digital Technologies | Hangarau Matihiko – hei tauira, ka whakaaro ngā ākonga ki ngā pānga ki te tangata o ngā hua ka hoahoatia e rātou.
- He āheinga hoki ēnei me mārama ka tika ngā ākonga puta noa i tō rātou ako. Ka pupurihia ēnei ki ngā āheinga matua o ngā marau nā te mea he wāhanga hiranga ēnei o te whakahaere whaiaro i te ao matihiko nei.

He BYOD / Kāore he BYOD ā mātou - / ka whai pūtea mātou ki te hoko pūrere?

- Kei ngā kura te mana whakahaere me te kawenga mō ā rātou whakataunga e pā ana ki te whiwhi pūrere, ki te whakatau kaupapa here mō te BYOD rānei. E kore tēnei e panoni.



Mehemea kāore ngā kura e taurangi i tētahi pūrere mā tēnā ākonga, mā tēnā ākonga, ka whakararua rānei te ako o te hunga kāore ā rātou ake pūrere?

- Kao, e kore e herea kia whai ia ākonga i tōna ake pūrere i te whakatū i ngā Digital Technologies | Hangarau Matihiko.
- Ko tā te kiko o te marautanga hou he ako *mō* te hangarau matihiko – mā tērā kāore e matea kia whai pūrere. Ina matea tētahi pūrere, ko te tūmanako ia, kei te kura ngā pūrere e matea ana.
- Ka tuku pūtea te Tāhuhu o te Mātauranga mō ētahi momo hanganga Hangarau Mōhiohio, pērā i te:
 - aunui horo rawa atu;
 - te pae tukutuku ā-kura aho-kore; me
 - tētahi mahere rorhiko pōnaho mā ngā kaiako me ngā tumuaki.
- Engari kāore e whakaratoa he pūtea anō e tāpirihia ana ki tēnei panonitanga marautanga kia taea ai e ngā kura te hoko pūrere matihiko hou.

Nā reira me whai hangarau ki te kāinga ngā ākonga?

- Ko te tikanga kāore ngā ākonga e matea pūrere ki te kāinga hei ako i ngā Digital Technologies | Hangarau Matihiko.
- He nui te ako i te Digital Technologies | Hangarau Matihiko kāore he matea kia whai pūrere matihiko – ka aro atu ki te whakaaro ā-matihiko me ngā whakaaro, e taea ai te whakatutuki ki te taumata teina tonu i ngā taiao / horopaki kore matihiko.

TAUTOKO

Ka pēhea te tautoko i ngā kaiako ki te whakaako i te marautanga hou?

- Ka whakangao te Minitatanga ki te whakanui i te māia me te āhei o ngā kaiako i te Digital Technologies | Hangarau Matihiko.
- Tae atu tēnei ki te ako me te whakawhanake ngaio (arā, ko te PLD) me ngā rauemi whakaako, ako hoki.
- Ka āhei mātou te whakapuaki kōrero anō mō ngā tautoko motuhake ka whakaratoa ā te wā iti.