Chapter title: *Indigenous Knowledge Systems in Aotearoa-New Zealand, and the development of the Māori technology curriculum.*

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Abstract (200wds)

Policy directives in the early 1990s, during the inaugural development of the Māori-medium Technology curriculum (Marautanga Hangarau; Ministry of Education, 1999, 2008b, 2017) required it be a translation or 'mirror' of the English-medium schooling version. The ongoing tension resulting from this requirement has been problematic in several ways. While linguistic rights were recognised in the 1990s (Trinick & May, 2013), the Māori-medium sector had minimal authority to determine structure and content. This impacted on the nature of the Māori-medium version. The argument is not whether the English-medium version is useful or not. Another issue was that the Ministry of Education determined what was important for students in Maori-medium to learn, not the Maori-medium community. This lack of recognition of the Maori-medium communities' role in determining what was in the best interest of their community undermined and conflicted with three key goals of Maori-medium education which include striving for self-determination and the revitalisation of Māori knowledge alongside the language. This chapter examines the tensions in the development and nature of the Marautanga Hangarau, in particular the implications of the relationship between the role of a national curriculum and the revitalisation of indigenous knowledge in a localised curriculum (Trinick & Heaton, 2020).

Keywords (1-5)

Hangarau, Māori-medium Technology, indigenous curriculum design, New Zealand curricula, indigenous knowledge.

Introduction

At the time the first Pākehā (European) settlers arrived in Aotearoa-New Zealand (NZ), Māori the Indigenous people of Aotearoa-NZ had a robust system for educating their children to ensure their communities' survival (Hemara, 2000; Riini & Riini, 1993; Trinick, 2015). European forms of government and schooling were established after 1840 as the Pākehā settlers gained political power. Simon (1998) argued that the hegemonic function of early European forms of schooling known as 'native' schools provided a formalised context for the assimilation and 'civilisation' of Māori communities into European beliefs, values, and practices. The goal of assimilation was maintained over the next century, through a range of overt educational policies that privileged English as 'the' language of education, making schools a key site of enduring colonisation (May & Hill, 2018; Trinick, 2015).

There were unwanted consequences, for Māori, of the explicit English only policy for schooling and implicit English only workplace. Over time, there was such considerable language shift in Māori communities, that by the 1970s te reo Māori was considered an endangered language (Spolsky, 2005), threatened with possible extinction (Benton, 1979). It was against this background of rapid and significant language loss that Māori communities initiated the various forms of bilingual schooling, known more commonly in Aotearoa-NZ as Māori-medium (total immersion) schooling. Three of the complementary primary goals of the Māori-medium schooling movement were the revitalisation of language and knowledge, and self-determination (Trinick, 2015). This chapter examines ongoing tensions in the realisation of these goals through the development of the Māori-medium Technology curriculum, called Hangarau (MoE, 1999, 2008b, 2017). One of the key concerns is that direct translation is an inadequate way of developing indigenous curriculum as this process undermines the key goals of Māori-medium education. For example, Stewart, (2020) argues that the differences in worldview resulting in different ways of naming the world are not always interchangeable. Mutu (2014) and Salmond (2012) in their analyses of English language translations of Māori texts and vice versa, highlight that many of the important cultural nuances are missed. While still constrained by the original structure in the revision of the Hangarau curriculum between 2006-8, the writers were given more freedom to develop some of the content and underpinning philosophy. Therefore, there is now some philosophical separation between the English and Māori-medium versions. Thus, for the discussion in this chapter, Technology and Hangarau will not be used interchangeably.

Theoretical positioning

Drawing on a range of Māori-medium education research literature and reports (e.g., M. Durie, 2003; Smith, 2021; Tākao et al., 2010), the authors' autoethnographic experiences in curriculum development, and now explicit government policy (Ministry of Education [MoE], 2020a, 2020b), the primary indicators of a successful approach to Māori-medium education system can be grouped around the following educational goals. These include the implementation and honouring of the Treaty of Waitangi, realising the principle of self-determination, the centrality and legitimacy of te reo Māori, tikanga (Māori custom) and mātauranga Māori (cultural capital), and preparing learners to access te ao Māori (the Māori world) and the wider world.

An ongoing issue and debate in Māori-medium education is the nature of the relationship between Western (wider world) and Indigenous knowledge (Māori knowledge) in schooling. To a large extent, this has been determined by those in power, consequently, indigenous knowledge has been marginalised. This has consequences for the place of localised tribal knowledge in the school curriculum. This is because Māori identity is frequently determined by an individual's connection to a tribe (or tribes).

After briefly summarising key milestones in the development of the various iterations of the Hangarau curricula, a critique of the structure of the Hangarau curriculum is considered against the educational goals described above. An additional concern that falls out of the knowledge debate is that these knowledge bases and worldviews influence pedagogical approaches—what teachers do, knowledge and understanding (what teachers know) and beliefs (why teachers act as they do). There will be a brief discussion on the implications of the direct translation of the inaugural national curriculum framework from English into Māori (MoE, 1993a, 1993b) and the subsequent attempts to illuminate mātauranga Māori (Māori knowledge), with some examination of the tensions involved in the revitalisation of indigenous knowledge in a national curriculum (Trinick & Heaton, 2020). The chapter concludes with recommendations for future research in the development of indigenous curriculum with possible messages for other countries simultaneously revitalising indigenous language and knowledge via curriculum development.

Indigenous Knowledge or Mātauranga Māori in the Hangarau context

An anecdote about Scotty Morrison is chosen to illustrate some of the issues pertaining to local Indigenous Knowledge or Mātauranga Māori in the Hangarau context. He is a well-known Māori language advocate, primarily because of his media role, and he belongs to Ngāti Whakaue (a Māori tribal group that connect to Rotorua in the central North Island). In the documentary series, *Origins* (Douglas & Christie, 2020), Scotty searches for tangible connections to the ancestral Hawaiki homeland of Māori: Where did Māori begin? What waka (canoe) did they come on? While Māori migrations to Aotearoa-NZ took place hundreds of years ago, the waka stories remain critical aspects of Māori identity in contemporary Aotearoa (Orbell, 1975; Trinick & Meaney, 2020). Waka traditions describe the arrival in New Zealand of Māori ancestors from a distant place, most often called *Hawaiki*. The exact location of *Hawaiki* has been lost in the mists of time. In an attempt to demystify some of this migration history, Scotty met with Judith MacDonald and Wayne Abbott of the iwi Ngāti Rangitāne o Wairau (a Māori tribal group who connect to the Wairau Bar at the top of the South Island). They set out to explore the Canterbury Museum collection of artefacts left by the first people in Aotearoa-NZ. The first tangible link to the ancestral homeland Hawaiki, comes in the form of a pocket-knife, a chisel, with a bevel cut, made from a terebra shell. Instead of encountering and relating to this tool as an object, Scotty meets and acknowledges the mauri or spiritual essence of the object. This chisel brings with it, its stories, its life, and its connections to Ngāti Rangitāne ancestors.

At the core of mātauranga Māori (Māori knowledge) are the key concepts of mana (power, essence, or presence), tapu (certain restrictions, disciplines and commitments) and mauri (energy/spiritual essence). The constant challenge for Māori in contemporary society is how to acknowledge these concepts in curricula that aim to prioritise indigenous knowledge, also known as mātauranga Māori. One of the issues is that indigenous knowledges are not static, functioning solely as archives from the past, repositories of traditions that can only be framed in a pre-contact, pre-colonisation time-period (Ataria et al., 2018; Mead, 2016; Stewart, 2020). Indigenous knowledges are tools for thinking, organising, and informing us about our world and our place in it (McKinley & Smith, 2019; Pere, 1997; Stewart, 2020). Indigenous Knowledge as a concept has been defined as being the understandings and philosophies of groups of people developed over time and through interaction with the land, a foundation to decision-making and daily life (The United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2021). Local and indigenous knowledge includes language, systems, resource use practices, social interactions, and spirituality (Salmond, 1983; Stewart, 2020).

Mātauranga Māori is the generic term for the body of knowledge representing the dynamic range of Māori epistemological systems that interconnect the world and all its domains of knowledge (Harmsworth & Awatere, 2013). According to Māori tradition, the foundations of this body of knowledge were brought by the original Polynesian settlers to Aotearoa-NZ (Mead, 2016; Sadler, 2007) and adapted to meet the needs of living in the temperate lands of Aotearoa-NZ (Lemon, 2019; Lemon et al, 2020; Trinick, 2015). According to Mead (2016), it is the values, attitudes, beliefs, and perspectives associated with Māori ways of thinking that have been handed down the generations. It is the ontological interaction, locating and making connections in this world, through the past, to the present and future. Over successive generations, this knowledge was refined in relation to the different canoe origins and environmental and geographic conditions of rohe (areas) that iwi settled in. The intergenerational transmission and retention of this knowledge was severely disrupted from about the mid-1800s as a consequence of colonisation. Not only was there considerable language shift to English in the Māori community, but localised knowledge systems were also shattered particularly in tribal areas more exposed to European practices. Royal (2007) argues mātauranga Māori has now evolved to represent the more generalised body of Māori knowledge, as opposed to localised knowledge, specific to an iwi or hapū. This view contrasts with Mahuika (2015), a staunch tribalist, who asserts it is all about localised knowledge. Mediating the two positions, several researchers argue that in contemporary times, both forms of knowledge, mātauranga Māori and mātauranga ā-iwi are valid and necessary (Doherty, 2012, Procter & Black, 2014). The concept of mātauranga Māori has been re-constructed (Mead, 2012; Allen & Trinick, 2021), with each new generation adding, subtracting, or amending the knowledge, ensuring the past, present and future of mātauranga Māori (Ataria et al., 2018; Mead, 2012, 2016). Mātauranga Māori, at a more general level, supports the ongoing reclamation and recreation of mātauranga ā-iwi (tribal knowledge systems). The developments of the Hangarau curriculum tried to capture this duality in the statement defining 'te iho o te hangarau' ('the essence of hangarau'). However, subsequently, the content areas of curriculum focus on the more generalised body of Māori knowledge, while encouraging teachers to draw from hapū and iwi knowledge in their localised school curriculum, thus avoiding some of the tribal politics.

Māori Curriculum Development in Aotearoa-NZ

Kōhanga reo (early childhood Māori-medium language nests) and kura kaupapa (Māori-medium primary schools) were grass-root initiatives of the 1980s to support the revitalisation

of te reo Māori (Tocker, 2014, 2015; Waitangi Tribunal, 2013). The first kōhanga reo opened in 1982 and, by 1990, there were 600 kōhanga reo working with over 10,000 children. In 1990, kōhanga reo funding was transferred from the Ministry of Māori Affairs to the Ministry of Education. Up to this point, kōhanga reo had been fully self-funding. Once the government recognised kōhanga reo as an early-childhood educational context, compliance and administrative requirements increased significantly, resulting in the closure of kōhanga reo unable to meet all the new legislative requirements (Waitangi Tribunal, 2013). In frustration at their children very quickly losing their language in the only schooling then available, English-medium, the same communities that established kōhanga reo then established Māori-medium primary schooling, initially outside the state system. Tocker (2014) discusses kura kaupapa lobbying for the right as a community to be able to choose to establish a kura kaupapa as their first, preferred option. The initial governmental approach was to make kura kaupapa the last option of a long list, or a "last resort" (p. 83).

When the early Māori-medium schools were established in the 1980s by their respective communities trying to save te reo Māori from extinction they were required to follow the English-medium syllabi. There was no formal Māori-medium curriculum, and there were limited Māori language resource materials available (Trinick & May, 2013). In the late 1980s, as Māori language revitalisation schooling efforts were gaining momentum, a neoliberal transformation began in the education system in Aotearoa New Zealand, including controversially, how curriculum was to be developed (Trinick, 2015).

One of the big changes was that prescriptive, outcomes-based curricula became the norm because of the new neoliberal paradigms influencing educational policy (O'Neill et al., 2004). Essentially, a view prevailed in the government, and thus down to its education agency that student performance measured against the curriculum was a more simple mechanism to judge teacher and school effectiveness (McMurchy-Pilkington et al., 2013). Initially, in the curriculum reform process, no consideration was given to the needs of schools teaching in the medium of Māori even though Māori-medium schooling had functioned as state-mandated schools for approximately ten years. After extensive lobbying, Dr Lockwood Smith, the Minister of Education at the time agreed to the development of the Māori-medium curriculum (McMurchy-Pilkington et al., 2013). While this recognition was agreeable on one level—this was the first time in the long history of schooling that Māori educationalists were given some

authority, however delimited, to develop state curricula (Trinick & May, 2013), the political constraints and governmentally imposed expectation that Māori-medium curricula ‘mirror’ their hegemonic English-medium counterpart dampened enthusiasm (Dale, 2016; Durie, 2003; McMurchy-Pilkington, 2004; Stewart et al., 2017).

Given this, the Māori-medium education community were divided on whether to continue to participate in this curriculum development (McMurchy-Pilkington & Trinick, 2002). On one hand, there were those who saw an opportunity to advance the linguistic goals of Māori language revitalisation via curricula development. In order to develop national Māori-medium curricula, considerable corpus elaboration was required, which in turn provided support to daily classroom discourse usage (Trinick & May, 2013). On the other hand, there were those, mainly from the Kura Kaupapa Māori sector, who argued it was a continuation of the colonising ideologies via curriculum, albeit this time through the Māori language (McMurchy-Pilkington & Trinick, 2002). Essentially, the Māori-medium sector was presented with an unenviable dilemma—either work within the parameters determined by the MoE or implement the new English-medium curriculum versions (Trinick, 2015).

Curriculum development is a politicised process at the best of times, but more so when the topic under consideration is an endangered language with shattered knowledge systems that are undergoing attempts of revitalisation. This ferment has flowed into educational research where researchers have attempted to address the issue of indigenous knowledge in state mandated national curriculum documents (Trinick & Heaton, 2020). In mainstream education, a close examination of both the national and international literature reveals the challenges educators and researchers have had in deciding for example, the basic nature of curriculum. Print (1993) suggests there are different categories: the nationally mandated curriculum; a subject-related curriculum statement; and the localised school curriculum. McGee (1997) adds a category of curriculum as representing what each student has learned. Within and along these categories, there exist a range of perceptions of the nature of curriculum which includes: *the ideal or recommended curriculum*, as reflected in the research literature (Schugurensky, 2002); *the intended or written curriculum,* sometimes called the syllabus– the policy documents that exist at the macro level (Bondy, 2007); *the hidden curriculum,* the unofficial expectations and/or unintended learning outcomes (McGee, 1997); and *the null curriculum,* what schools do not teach (Eisner, 1994). Curriculum development has been considered from macro, meso and micro level perspectives– the macro, dealing with policy at the national level, the meso at

the school level and the micro level, dealing with classroom implementation (Marsh, 2007). The micro level is argued to be a valid site for the reinterpretation of macro level analysis (Goodson, 1993). This chapter begins at the macro level of curriculum development with the ideal or recommended curriculum—in the form of Māori-medium Technology Curriculum.

The Inaugural development of the Marautanga Hangarau – Māori-medium Technology Curriculum

The first-ever Māori-medium curriculum for technology; the Marautanga Hangarau was developed in the 1990s as a component of the wider curriculum development (Lemon, 2019). As it stands now, Hangarau is a component of the national curriculum framework for teaching and learning in Māori-medium contexts, Te Marautanga o Aotearoa (MoE, 2017). The inaugural development was followed by two subsequent rewrites in 2008 and 2017 (MoE, 1999, 2008b, 2017) Although the state became more accommodating of the indigenous voice over the various iterations, several issues remain which have impacted the nature of Hangarau as an essential learning area in Te Marautanga o Aotearoa.

Hangarau as a Māori-medium curriculum term emerged at the same time as Technology was introduced as a learning area in the English-medium schooling sector in the 1990s. Dr Kāterina Te Heikōkō Mataira, a prominent Māori language revivalist, was charged with translating the English-medium curriculum framework and thus coined the term 'Hangarau' for Technology as an area of learning in the Curriculum Framework to enable the translation into Māori (Dale, 2016; MoE, 1993a, 1993b). Hangarau as a Māori language term has various other meanings in everyday social discourse; ironically, the primary meaning is 'trickster' (Williams, 1971)! McMurchy-Pilkington (2004) posited that the translation of the National Curriculum framework, Te Anga Marautanga o Aotearoa (MoE, 1993a) needed reviewing before the re-development of Māori-medium curricula started in 2004. Other than the translator there was no Māori-medium sector involvement in the creation of the term Hangarau for an essential learning area. For many language situations, it is not unusual for newly coined words to be created by an individual, but in this case, it was not just the creation of a new term, but the creation of a new learning area (discipline) for Māori-medium schooling (See Barton et al., 1998 for the story behind the creation of the term for mathematics). This translation of the New Zealand Curriculum Framework (MoE, 1993b) was also critiqued by Durie (2003), who argued that a translation is not the same as a curriculum framing Māori knowledge and Māori values, regardless of how 'good' the translation. While Dale (2016) concurred with Durie, he was of

the view that it is more important to utilise the opportunity the translated curriculum framework presented which would lead to the development of a new discipline for schooling in te reo Māori.

In the inaugural development of the Science and Technology curriculum, Māori writers were co-opted to provide a Māori perspective (Lemon, 2019). These writers became the eventual primary contractors for the development of the marau Hangarau. This was the extent of 'cross-over' in the development of the 1999 Hangarau document.

As noted earlier, one of the tensions in the development of the Hangarau curriculum is who determines the content and how this content is represented. The development of the Hangarau curriculum in Aotearoa was a politically driven, tightly constrained process in the 1990s. To create some resemblance of an indigenous curriculum, the developers re-ordered and re-organised the content to differentiate it in some way from its English medium counterpart (Lemon, 2019; MoE, 1999-2008). This included a series of wheako whakaari (scenarios or learning experiences) written using Māori contexts.

Another tension in the process of determining the content was that many thought Hangarau was just a translation of the English-medium Technology curriculum document with no efforts to reflect indigeneity other than the language (Lemon, 2019; MoE, 1999-2008, 2003-2012; Stewart et al., 2017). From its first introduction as an independent learning area in 1999, Hangarau has been misunderstood by Ministry officials, by Māori-medium teachers, and by the English-medium sector. Hangarau and Technology were seen as synonymous, meaning the inherently Māori philosophy of Hangarau was not being recognised and practiced.

Te iho o te Hangarau (the essence of Hangarau) signified another attempt to differentiate the Hangarau curriculum by developing a Māori centric philosophy of the nature of Hangarau. Te iho o te Hangarau was written in longer form as part of the inaugural Pūtaiao, or Māori-medium Science curriculum document (MoE, 1996). To paraphrase these lines, Hangarau is about starting with mātauranga Māori (Māori knowledge) and then reclaiming and reframing indigenous knowledge bases in searching for solutions to problems in the contemporary world.

Curriculum revisions

Since the inaugural development in the 1990s, the political landscape has changed in Aotearoa-NZ, with governments becoming more accommodating of cultural and linguistic differences and thus providing a modicum of support for the Māori-medium community to control subsequent iterations of curriculum development (Trinick & Heaton, 2020). This was due to the growth of capacity in the Māori-medium community to develop national curricula; and the increasing enshrinement of the principles of Te Tiriti o Waitangi (the Māori text of The Treaty of Waitangi) at various levels of government policy (Trinick, 2015). Only two major conditions were imposed contractually for the review and redevelopment of Hangarau in the mid-2000s, allowing curriculum teams to rethink the curriculum for Māori-medium schooling (Lemon, 2019; MoE, 1999-2008). The conditions were to condense the original 60-page document and make it into a document that was ten pages or less. These ten pages had to include a papakupu (glossary) and the whāinga paetae (achievement objectives). This gave curriculum designers space to debate and explore the place for mātauranga Māori and more localised iwi knowledge – What was Hangarau practice? What were the foundational concepts? What did Hangarau look like when exploring the dynamics between process, stakeholders and environment?

In contrast to the inaugural development in the 1990s where each learning area was developed in isolation, the different writing facilitators of the refresh of each learning area met regularly (Lemon, 2019; Trinick & Heaton, 2020). This revised process allowed some linguistic and epistemological cross fertilisation between the various disciplines and a process to standardise teaching and learning terms, generic to all learning areas. The linguistic consistency being developed across the curriculum represented a significant change from the ad hoc linguistic development approach in the 1990s (McMurchy-Pilkington, 2008). Additionally, representatives of various Māori-medium stakeholders groups met with writers from each learning area. These representatives, a group called Te Ohu Matua, provided cultural and linguistic input on the content to the writers over the whole project. This change in process provided an opportunity to develop a more Māori centric curriculum-which is discussed further on.

In 2008, all the learning areas were reviewed and merged into one document under the banner of Te Marautanga o Aotearoa (MoE, 2008b) which then became the state mandated

national curriculum document for Māori-medium schools (Stewart et al., 2017). In the merged document, the Hangarau learning area was represented by a metaphor, a species of trumpeter fish called a moki, wrapped in a whāriki (a woven flax mat - this was the metaphor that had been used to structure the inaugural Hangarau curriculum – symbolic of wrapping the new with the old). The moki was chosen because this fish is of tribal significance to the lead writer, Tuihana Pook, who belongs to Te Whānau a Kauaetangohia hapū of Te Whānau-a-Apanui tribe, located at Whangaparāoa in the Eastern Bay of Plenty (Lemon, 2019; see also Langley & Walker, 2004). The creation of this metaphor was an attempt to link to localised traditions, but in a national curriculum– thus maintaining the debate about how to ensure that the curriculum provided space to enable the promotion of local hapū and iwi knowledge—not just as an add on but as content recognised as important by the state.

During the curriculum stocktake of the mid-2000s teachers had communicated the desire to have one main *strand* or key conceptual area showing learning over time. The one *strand* would integrate ethics, technical skills, and knowledge. While curriculum developers agreed that the two proposed *strands* must be integrated in all Hangarau learning, different skill sets would result from the concepts being learned within each *strand* and so, curriculum designers utilised two *strands* for Hangarau (This information is updated from Lemon, 2019 and MoE, 1999-2008; where it was believed that the decision to have two strands was imposed by the Ministry of Education). A strand (whenu) or thread represents a sub domain of Hangarau containing either ethics, knowledge, skills or learning processes represented through a learning progression over 13 years of schooling in the Aotearoa-NZ system. These strands were aligned with the top and bottom of the whāriki (see Figure 1). The two strands Ngā Āhuatanga o te Hangarau (The Nature of Hangarau) and Te Whakaharatau Hangarau (Hangarau Practice, incorporating both skills and knowledge) were essentially the same as the strands in the 1999 document. The strands were interlaced with five transversal elements or contexts for learning, known as aho (shown vertically in Figure 1). The elements, or *aho,* included *Te Tuku Mōhiohio* which involved researching and reclaiming traditional techniques, then reframing them for the contemporary world through innovation or adaptation; and a range of elements that reflected some of the key debates facing curriculum designers. One of the issues was how to maintain aspects of the old manual and technical subjects in a Hangarau curriculum. Second, was the issue of how then to position emerging technologies and how to embody mātauranga Māori. The latter was addressed, in part, through the development of second tier curriculum support

materials that employed the use of whakataukī, or proverbial sayings, to represent the scope of each of the five contexts for learning (MoE, 2008a).

Figure 1 The structure of the 2017 Hangarau curriculum

In 2017, the transversal strand, or *aho* named Te Tuku Mōhiohio (focusing on methods of communication or transfer of information) was removed to allow for the introduction of new content that created space for children learning about coding to enable the development of digital technology as part of the Hangarau process of meeting someone's need. This new content was called Hangarau Matihiko (Digital Technologies), shown in Figure 1. The removal of the transversal strand, or aho known as Te Tuku Mōhiohio was justified on the grounds it would be embedded in the learning outcomes throughout the curriculum.

Conclusions and recommendations

Over time the conceptual metaphor designed for the Hangarau curriculum (see Figure 1.) has evolved to become more indigenous centric as the political constraints for Māori-medium curriculum design have become more enabling. This change in attitude is in part due to the state's growing acceptance to implementing and honouring the Treaty of Waitangi in schooling and public policy. This in turn shifts the Māori-medium education goal of self-determination closer. This loosening is why, in the second and third iterations of the Marautanga Hangarau, the curriculum designers had more autonomy to focus on the centrality and legitimacy of Māori language, customs and knowledge or cultural capital. We have begun to see tribal knowledge and wider mātauranga Māori illuminated in the structure and content of the curriculum and second tier curriculum support materials. This also supports the realisation of the goal of preparing learners to access te ao Māori (the Māori world) and the wider world. Further research is needed into the specific ways in which mātauranga Māori relevant to today's learners can be illuminated in curriculum and linked to the pedagogical choices teachers make to prepare their students to engage in te ao Māori and the wider world.

Māori curriculum development with its associated tensions and challenges has now become an accepted practice in the Aotearoa-NZ schooling system- not an afterthought. The capacity to develop indigenous curriculum has grown—albeit too slow for some to ensure a legacy of curriculum experts, researchers and so on. Aotearoa-NZ is about to start its latest curriculum refresh. It is not clear at this point if Hangarau will be a mandated or compulsory area in the newly revised model. There is considerable momentum to shift more authority to local communities, which could be at a school level, to a collective of schools, to regional collectives and so on. This is partly in response to the national curriculum's delimited response to the Māori-medium sector's goals of language and knowledge revitalisation. One of the authors of this paper is part of the advisory group which is currently seeking the views of key stakeholder groups. It is likely there will be a national curriculum but with more authority given to schools or local entities to create their own curriculum. One of the big issues bubbling away is where the line of authority resides on the continuum from national to localised curriculum. In the three iterations developed so far, the authority to decide the content, structure and underpinning philosophy has laid mainly in the direction of the state. While this has advantages (e.g., state funding of state curriculum) there has been a propensity in Aotearoa-NZ to create and develop educational initiatives that are to meet the needs of English-medium schooling, not Māori-medium. The hope is that curriculum development is determined by the needs of Māori-medium schooling and their students acknowledging they reside in a globalised world.

There are three key messages that the Māori-medium community can impart to other contexts that are simultaneously revitalising their indigenous language and indigenous knowledges via curriculum development. The first is that curriculum development opportunities are not always planned and at first may seem so restrictive it is not a process worth considering. In the Māori-medium example, the initial restriction was on the continued suppression of indigenous knowledge but was more enabling of language revitalisation. Second, Māori seized the opportunity to advance critical linguistic and curriculum development capacity goals. This helps considerably to shift the curriculum from a Euro-centric base to a base of Māori knowledge or mātauranga Māori. This also provided an opportunity to begin critiquing the tensions between indigenous culture, language, and knowledge bases. Because the curriculum was state mandated, it was expected that resources would be provided to support its implementation. This does not mean that there was an equal allocation of resources. While the state has provided financial and resource support it has tended to be in its priority areas, namely literacy and numeracy. Finally, while arguably very late in the curriculum development cycle

Māori are now better positioned to debate, critique, and reflect on how curricula can be constructed to better meet the needs of diverse groups of indigenous students.

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