Measured Policy: Competence to teach Māori students

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Abstract

This paper explores how trends towards measurement and accountability are reflected in Māori education policy by comparing a current policy document, 'Tātaiako: cultural competencies for teachers of Māori learners', against an equivalent text, 'Māori children and the teacher', from 40 years earlier. This approach rests on the belief that the philosophy of a policy text can be perceived through close attention to the language and ideas in the text. The comparison shows similarities between the overall aims and perspectives behind both documents, but whereas the older policy explained Māori under-achievement in terms of sociolinguistic differences, Tātaiako contains no discussion of Māori educational disparity, instead presenting five key words to encapsulate the concept of 'Māori potential' while suggesting the success of Māori 'as Māori' depends on 'relationships'. Tātaiako ignores the role of wider socio-historical processes, leaving teacher competence as the most 'visible' explanation of Māori under-achievement available to contemporary educational policy. In purporting to measure teacher competency, Tātaiako helps shift accountability for Māori student achievement away from national education systems and goals, and onto the shoulders of individual classroom teachers.

Keywords: Deficit thinking, Māori education policy, policy discourse analysis, restricted language code.

Introduction

Māori education is characterised by significant statistical disparity that has proved stubborn to shift, despite decades of targeted policy strategies and reform efforts. Given its importance, this 'gap' is so widely acknowledged that support for its existence from the literature seems superfluous. Most people who grow up in New Zealand are aware of this disparity, but for the last two decades and more it has been central in my life, as a parent of a Māori boy (and aunty to many other Māori children), a school teacher in English- and Māori-medium schools in Auckland and Whangarei, a contracted developer of materials for school qualifications, curriculum statements and classroom resources, and a researcher in Māori education, first at community level, and later through doctoral study and beyond.

This paper analyses a current Māori education policy text by comparing it with another policy on the same subject, from 40 years earlier. This approach rests on the belief that the philosophy of education underpinning a policy text can be perceived by paying close attention to the language and ideas present (and absent) in that text. Below I use close reading methods of critical discourse analysis to analyse and compare these two policies. The title of the current text is 'Tātaiako: Cultural competencies for teachers of Māori learners' (Tātaiako). The older text is titled 'Māori children and the teacher' , abbreviated below as 'MCT'. Though published four decades apart, these two policy texts have similar titles, and apparently much the same purpose: 'This handbook has been published primarily for the use of those directly concerned in teaching Māori children' (MCT, p. v). Both texts focus on teacher knowledge of the history and culture of Māori students in their classrooms, and on relationships between teachers and their Māori students, parents and communities.

Comparing these two documents highlights how Māori education policy has changed during those 40 years, reflecting the changes in Māori life in schools and in wider society. The older policy text throws into relief the characteristics and implications of Tātaiako, helping illuminate the thinking behind the contemporary approach to Māori education policy. Firstly the old text is reviewed below, noting intersections with Tātaiako. Next, the

Tātaiako policy text is described, highlighting its differences from MCT. The final section contains a discussion and conclusion.

1971: Māori children and the teacher (MCT)

MCT is based on deficit thinking about Māori in the sense of starting from the premise that Māori people are other than normal, in terms of classroom relationships between teachers and students, their parents, families and communities. 'Deficit thinking' is a key concept in Māori education policy, often used as code for racism. Current policy, such as Tātaiako, has an expressed aim of eliminating deficit thinking, but in the process, the full meaning of the concept, and its relevance for Māori, has been obscured. Replaying the argument of MCT provides a chance to examine and clarify this concept.

MCT must be understood in terms of the major social and policy changes of its age, when widespread Māori urbanization after the end of WWII resulted in rapid increases in the number of Māori children attending 'Board' or mainstream primary schools, and correspondingly fewer children in the rural 'Māori schools', as they were then known. Against the wishes of many Māori communities, who believed Māori schools catered better for Māori children, the Native School system was finally abolished in 1969, two years before MCT appeared. When this policy was written, an international 'ethnic revival' was underway, partly explained as a reaction to the horrors of extreme ethnocentrism and Nazi philosophies of Aryanism in World War II. Post-war prosperity also supported tolerance and heightened ethical sensitivity towards marginalised groups in society, renewing the reputation of Aotearoa New Zealand for having 'the best race relations in the world'.

By 1971, official policy had abandoned the earlier Victorian science explanations of 'natives' as 'less evolved/intelligent'. The following opening sentences from MCT remain respectable today, though the use of 'he' to stand for all teachers gives away the text's age (also the singularity of the phrase 'the modern Māori'):

> If a teacher is to work successfully and happily with Māori children and their parents, he must know something about [Māori] heritage and appreciate its reality for the modern Māori. He needs also to know something about the history of relationships between Māori and Pākehā.

This policy text is an essay of approximately 15,000 words, 'based on material written by Miss Myrtle Simpson, previously Senior Inspector of Primary Schools in Christchurch, and editor of the Department's series of infant readers, *Ready to Read*'. The research Simpson undertook for writing MCT is described as ethnographic observations, interviews with teachers, focus group meetings, and literature review (p. vi). Today, MCT is still readable and erudite, though it is necessary to take account of the dated stylistic characteristics, such as those pointed out in the above quote. The Introduction includes the following politically robust statements:

> The teacher who appreciates the characteristic expression of [Māori] vitality and puts it to positive use – who does not respond to differences as if they were deficiencies – begins by drawing on an inestimable resource... [The Māori new entrant] will have to adapt to the institution but the institution will have to bend towards him.
>
> Every teacher of Māori children should be in some degree a self-effacing student of Māori history and culture (p. xi).

These lines would not be out of place in a contemporary policy, such as Tātaiako, and emphasise MCT's stance that teachers have the power to act to bring about success in teaching Māori children. MCT argued that Māori as a population had undergone extreme, rapid cultural change over the previous century, and that teachers were responsible for providing Māori children with learning opportunities to allow them to succeed scholastically:

> The teacher has a delicate task, and success depends upon winning the [Māori] child's confidence and drawing out his particular store of experience to establish and strengthen communication.

> Once [the Māori child] has experienced success, he will go to any lengths to maintain progress, but only if he feels that his progress is important to the teacher.

The ideas in these statements about the potential for success of Māori students, and the importance of the student-teacher relationship, are also remarkably similar to the central concepts of Tātaiako.

MCT argues that since Māori had undergone social and cultural transformation so rapidly, Māori children had characteristic difficulties in English-medium classrooms arising from linguistic differences between school and home - over and above problems caused by cultural difference:

> It is the spiritual quality of *Māoritanga*, of the characteristic 'Māori way of life', which binds up the present with the past and future, which gives strength to the individual and his community and reconciles them with their environment. To appreciate this quality requires a self-effacement in the observer – an escape from egocentric and ethnocentric preoccupations – which will distinguish him from the merely actively curious (p. xi, original emphasis).

As these quotes show, this text admits no innate disadvantage of Māori students that cannot be overcome by good teaching. Nor does it homogenise Māori: 'Māori homes are as diverse as the homes of the rest of the community' (p. 15). Nevertheless MCT identifies a disadvantage in classrooms suffered by many Māori children when it comes to 'language requirements':

> Learning at school requires thought processes which cannot be achieved by a child whose only language is a restricted code. Speakers of 'Māori English' will have increasing difficulty with their classwork unless the school is successful in teaching them a more elaborate language (p. 34).

The concepts used here of 'restricted' and 'elaborated' language codes are drawn from the work of Basil Bernstein (MCT, p. 22), who was a senior scholar in the recent field of sociology of education, described as 'one of the most inventive modern thinkers in the social sciences'. But Bernstein meant the term 'elaborate' as a verb, not an adjective, and by 'restricted' meant 'symbolic' or 'tacit' rather than 'limited' or 'inferior'. Reviewing the history of general misunderstanding of these terms, Rob Moore laments that Bernstein 'made a bad mistake in choosing those particular terms' since the widespread confusion resulted in Bernstein's 'relative marginalization' (p. 59).

> Bernstein should be properly understood as using 'elaborate' in the verb sense and 'restricted' as in circumscribed... Restricted code came to be interpreted as an inferior (limited) version of elaborated code (complicated) and as a 'deficit model' of working class (or Black) [or Māori] speech. In fact, in Bernstein's argument, these two things are not simply higher and lower versions of the same thing but things radically different *in kind*.

MCT clearly mis-applied Bernstein's terms:

> The language used in many Māori homes is a dialect form of English... a very restricted form of the English language.

MCT notes such a 'restricted code' is both normal and 'satisfactory for day-to-day affairs' then goes on:

> It is a drawback to a child at school, however, if he is restricted to this as his sole language, limiting his vocabulary and his speech patterns. Poverty of language is not the only drawback. A restricted code limits the ability of the child to form concepts, recognise relationships, choose from alternatives, and follow logical processes. As the development of these abilities is closely involved in the process of education, any factor that prevents a child from acquiring them limits his capacity to learn at school (p. 22).

The same approach as above of 'reading past' the outdated conventions of MCT may be applied to this discussion, which uses the terms 'restricted' and 'elaborate' language codes to refer to that which today would

usually be termed lower and higher levels of 'literate cultural capital'. The 1971 text replaced the older 'deficit theory' about Māori as genetically inferior with this new 'deficit theory' about Māori students being disadvantaged at school because of their 'inferior' home language experience, requiring specific teaching approaches. MCT asserts these difficulties can be overcome with good teaching, however, which is not 'deficit theory' as dressed-up racism, which is how the term is mostly understood today in relation to Māori education. (In passing, note the reference to 'relationships' in the above quote, though here the word seems to be used as Bernstein meant it, in his ideas about what kind of curriculum and pedagogy can break the inter-generational link between low socio-economic status and educational underachievement. Although MCT, like many other academic texts, incorrectly applied Bernstein's theories, this does not in itself invalidate the argument, and its wider implications:

> The way [Māori] children are reared determines their language patterns; these patterns make it difficult for them to learn at school; their failure at school prevents them from improving their social and economic position; the next generation receives the same language patterns and the difficulties persist. So far, the schools have found it difficult to intervene in this cycle (p. 23).

The first sentence specifies the role of schooling in the inter-generational cycle that maintains socioeconomic privilege and lack of privilege, and powers the increasing polarization between the 'haves' and 'have-nots' in our communities. The latter sentence admits the failure by schools to uphold the meritocratic ethos at the heart of the education system of this country for most of its history.

Ethnic sociolinguistic differences are inter-related with, but not reducible to, the types of distorted thinking that inform prejudices, including judgements sometimes made by middle-class Pākehā teachers about Māori families from low socio-economic backgrounds, such as the view that Māori parents 'don't value' education. Such prejudices may well be based on lack of teacher knowledge about the scale of economic difficulty faced by parents, or the inter-generational memories of childhood experience of schools as dangerous places of violence and despair. Linguistic differences, on the other hand, are due not to teacher racism or ignorance, but to a different language heritage: they go hand-in-hand with Māori identity that is different from Pākehā: 'when [a Māori child] comes to school he enters an institution (and very likely meets a teacher) developed from a perspective different from his'. This statement is characteristically true for Māori people born before about 1960 in rural areas, for whom going to school meant entry into the English-speaking world.

A language is a system with rules of meaning and structure that together forms a body of knowledge, mastery of which is known today as 'literacy'. MCT based its advice for teachers on the well-established fact that Māori children had different literacy knowledge compared with what was then considered 'normal' in primary classrooms. From a purely linguistic perspective, native speakers of Māori who learned English at school were not linguistically disadvantaged, since all languages are considered linguistically equal. But native Māori speakers were clearly educationally disadvantaged in a monocultural English-only school system, and hence left at a permanent socio-economic disadvantage. Wary of passing on the disadvantage they had suffered, such native speakers often chose to speak only in their second language (i.e. English) to their children, thereby feeding the 'cycle' of disadvantage described in the above quote, which continues to characterise Māori education at a statistical level.

This 40-year-old policy thus explicates the vital link between literacy education and Māori education policy. The nature of Māori linguistic history still impacts at a statistical level on today's Māori school entrants, as pointed out in recent research:

> It is a fact, not a theory, that Māori children and children from low-income backgrounds typically begin school with considerably lower levels of literate cultural capital than middle-class children. (Tunmer & Prochnow, 2009, p. 182)

It is time to fast-forward four decades, to examine how these issues are reflected in contemporary policy for Māori educaiton.

2011: Tātaiako: Cultural competencies for teachers of Māori learners

Tātaiako comes under the umbrella of the Māori education strategy, *Ka Hikitia* (see www.minedu.govt.nz/kahikitia), named on the inside front cover of the booklet, with the key policy message, 'Māori achieving education success as Māori'. This stirring but opaque phrase is central to the 'Māori potential' policy approach that seeks to overcome deficit theory. But deficit theory is not the same as 'negativity', and to delete from policy all negative references to Māori education has consequences, which are not always in the interests of Māori students. Not only does this misguided attempt to eliminate 'deficit theory' cause problems, but a policy message as open to interpretation as 'Māori achieving educational success as Māori' introduces problems of its own.

Tātaiako is much briefer than MCT, totalling 19 pages, with the front cover counted as the first two of those. The Foreword on page 3 and the introduction on page 4 contain the only prose text, with the remainder consisting mostly of lists of bullet points. The Tātaiako Foreword is by Hon. Dr. Pita Sharples, who is a prominent Māori educationalist, one of the founders of Kura Kaupapa Māori, and more recently a Māori political leader (founding co-Leader of the Māori Party, which forms part of the current National-led coalition Government), currently serving as Minister of Māori Affairs. In this Foreword, Sharples acknowledges the history of Māori educational disadvantage:

> For too many generations, a significant proportion of Māori learners have not achieved well; have left school young, without worthwhile qualifications, and without any real options for work... we must make the education system work better for Māori.

The meaning and intent of this statement is clear. But the next sentence signals a change of policy direction:

> We are shifting the emphasis away from Māori students being responsible for under-achieving in our compulsory education programmes, to look at how education can be delivered in the context of the vibrant contemporary Māori values and norms, reflecting the cultural milieu in which Māori students live (p. 3).

A policy's worth is not erased by a poorly-chosen word or two, but the intriguing phrase 'vibrant contemporary Māori values and norms' lacks clarity, and warrants further explanation. Furthermore, suggesting Māori students are not responsible for their own achievement is dubious, and at odds with the central messages of Ka Hikitia. Tātaiako contains no further references to negative educational statistics or to the existence of disparity in Māori school achievement, but the resulting silence is so resounding, in the sense of its distance from the everyday reality of Māori educational experience, that it becomes the proverbial 'elephant in the room'. The effect of this amnesia is discussed below. Reading Tātaiako entails reading many variations of the same few statements, all echoing the theme of 'teachers are responsible for the educational outcomes of Māori learners', slightly rephrased and refocused each time. The brevity, sparseness, generality and repetitiousness of the Tātaiako text sits in strong contrast to the detailed exposition of ideas, coherent argument and robust advice to teachers, contained in MCT.

The Tātaiako policy is based on five 'competencies' to be used for the purpose of assessing the cultural competence of teachers who teach Māori learners. Each competency begins with a Māori word, and these five key Māori words are presented in a full-page circular graphic, surrounding the central message, 'Māori learners achieving education success as Māori'. The following list gives the meaning of each word/competency as shown on this graphic, followed in brackets by the alternate definitions given on the facing page:

- **Ako** – practice in the classroom and beyond (taking responsibility for their own learning and that of Māori learners).
- **Manaakitanga** – values-integrity, trust, sincerity, equity (showing integrity, sincerity and respect towards Māori beliefs, language and culture).

- **Tangata Whenuatanga** – place-based, socio-cultural awareness and knowledge (affirming Māori learners as Māori. Providing contexts for learning where the language, identity and culture of Māori learners and their whānau is affirmed).

- **Wānanga** – communication, problem-solving, innovation (participating with learners and communities in robust dialogue for the benefit of Māori learners'achievement).

- **Whanaungatanga** – relationships (students, school-wide, community) with high expectations (actively engaging in respectful working relationships with Māori learners, parents and whānau, hapū, iwi and the Māori community).

The same schematic appears again towards the end of the booklet, with each of the five 'competencies' matched to one or more of the New Zealand Teacher Council Graduating Teacher Standards for provisionally registered teachers, and Registered Teacher Criteria for fully registered teachers (see www.teacherscouncil.govt.nz). Though Tātaiako states it is 'designed for teachers... [and] will support your work' (p. 4), it contains no explanation of how to use the competencies, simply referring the reader to guidance for schools and early childhood centres available on the Teachers Council website. The policy comprises a series of lists of bullet points relating to the five key words, describing ways teachers might be expected to demonstrate competence to teach Māori students:

> The behavioural indicators are not exhaustive and can be developed further by schools/ECE [early childhood education] services together with iwi to include expectations relevant to the local context (Tātaiako, p. 4).

The lists of 'behavioural indicators' are arranged in four columns, corresponding to stages in a teaching career: 'Teachers will need to ensure they have the competencies of all stages up to their current level' (p. 4). The four 'stages' – entry to initial teacher education, graduating teacher, registered teacher, and leader – imply a progression by which increasing levels of competence might be assessed. But the competencies (see above list) are based on values and awareness more than identified knowledge or skills, so are unsuited to this 'checklist' approach; and the claim to define progressions of measurable indicators is tenuous at best. Tātaiako declares itself to be 'an important resource for teachers, boards of trustees, educational leaders, and providers' even though 'the competencies are not formal standards or criteria' (p. 4). But the claim to be a resource *for* teachers sits at odds with being an assessment *of* teachers, especially given the brevity and generic language of the text.

The five key words in Tātaiako originate from pre-European Māori language, each one immensely rich in cultural meaning and symbolic power. No doubt starting off with a set of culturally-significant terms from traditional Māori language is done in order better to align with the 'success as Māori' part of the key message. To base national education policy on Māori traditional terms is innovative, and could be interpreted as respecting and incorporating Māori language, knowledge and culture. But the result is that these five words have been cut from their cultural, linguistic and discursive roots, and have in the text of Tātaiako become cultural caricatures. Each of the five words has been patched onto phrases and values couched in the institutional language of schooling. Knowledge of Māori language and culture makes apparent the extent to which the Tātaiako definitions distort the traditional meanings of these five key terms.

Another innovative feature of Tātaiako as a policy is its inclusion of the New Zealand Teachers Council registration criteria, which apply to individual teachers, within Māori education policy. As noted above, Māori education has been a longstanding challenge for schooling in this country, heretofore seen as a national responsibility. On one hand, the Tātaiako descriptors of practice for a competent teacher of Māori learners are vaguer and less stringent than the requirements laid out 40 years earlier in MCT. On the other hand, by including the official registration criteria, Tātaiako shifts responsibility away from the Ministry, and towards classroom teachers being individually accountable for the achievement of the Māori students they teach.

What are the effects of these features of Tātaiako, combined with the above-mentioned amnesia about sociolinguistic history and context? It appears that in a misguided quest to eliminate 'deficit theory', all

'negative facts' concerning Māori education have been suppressed in Tātaiako. William Tunmer and Jane Prochnow point out this same confusion in their chapter on the links between literacy policy and Māori education policy (cited on page 46 above). The resulting amnesia about its history and social context presents Māori education as if free-floating, with no obvious explanation left available but that of teacher competence. Tātaiako casts the 'potential' of Māori learners in the hold-all concept of 'relationships', using these generalised, unexplained words in ways that obscure meaning and allow for multiple interpretations.

The (over-)emphasis on individual teacher responsibility for ameliorating the longstanding Māori disparity rests largely on the meta-analysis by John Hattie , which found that teacher competence had the largest effect on student achievement, and has been used to resource the policy mantra of 'effective teaching' across education, not only in Tātaiako and Ka Hikitia. Since Hattie's study eliminated non-school factors, however, it is impossible for teacher competence alone to eliminate Māori educational disparity. (This is not to say that teacher competence needs no improvement, nor that improved teacher competence would not make a statistically significant difference to Māori learner outcomes.)

As described above, Tātaiako renders culturally significant items as 'cultural competencies' that 'effective teachers' ought to demonstrate in teaching Māori learners. It is claimed that in so doing, teachers will unlock 'success as Māori' for the Māori students they teach. Tātaiako reiterates some obvious concepts and attitudes outlined in MCT, which amount to affirming that Māori culture and people are of equal value to any others: ideas that 'go without saying' in contemporary social science. Tātaiako represents a starting point, but no more, for a teacher who wishes to teach Māori students more successfully. So far the competencies that make up the Tātaiako policy are 'not formal' (Tātaiako, p.4), but they could possibly be formalised at some future date. The intent of Tātaiako matches that of MCT: helping teachers improve their classroom practice with Māori students. Both texts have the same starting point, the old text advising that 'every teacher of Māori children should be in some degree a self-effacing student of Māori history and culture' (p. xi). Tātaiako asks: 'How much do the teachers know of their students' history, tikanga and worldview?. But whereas the old policy explicitly linked this 'self-effacing observer' approach to a teacher's classroom literacy practice, in Tātaiako the argument stalls at 'relationships', a word repeated 22 times in the brief text, while the word 'literacy' does not appear at all.

Conclusion

There is always a gap between the intented aims of a policy text, and how it becomes implemented over time. It is easy to see how the 'deficit' language of MCT may have impeded its acceptance, and hence its effectiveness to guide teacher literacy practice. At a national level, the MCT advice to focus on teacher-directed code-focused literacy instruction for Māori school entrants, in order to overcome their characteristic lack of literate cultural capital, was not followed. Whole-language approaches, which work well for new entrants with high literate cultural capital, but not for those with limited literate cultural capital, have dominated national policy for 'effective literacy practice' for well over 10 years now. Equity has been reduced to equality, meaning everyone gets what works for the children of the elite. The introduction of National Standards has renewed emphasis on these approaches.

There is a disconnection between literacy and Māori education policy, highlighted by this comparison. Whole-language literacy pedagogy, which does not address the literate cultural capital disadvantanges suffered by low socio-economic, Māori and Pacific children on entry to school, has been enforced in all primary classrooms, while in Māori education policy, teachers have increasingly come to be held personally responsible for statistical disparities in educational outcomes for Māori learners. Tātaiako claims to provide a tool to 'measure' the cultural competence of teachers, but in fact does little other than provide vague support for the fallacious policy notion that classroom teachers, not wider social and historical processes, are responsible for ongoing poor educational outcomes for Māori students. As long as this diconnection between policies remains in place, aided by the confusion between 'deficit theory' and 'negative facts', little improvement for Māori outcomes can be expected.

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Measurement, Metaphor, and Marks on the Page

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Abstract:

This paper takes 'measurement' as a will to determine or fix space and time, which allows for a comparison of ontological models of space and time from Western and Māori traditions. The spirit of 'measurement' is concomitantly one of fixing meaning, which is suggested as the essence of the growth of the scientific genre of language that has taken place alongside the growth of science itself, since the European Enlightenment. The Periodic Table is an exemplar of the ideals of the deterministic philosophy of measurement, which underpins both modern English and the philosophy of science. The paper explores how such a philosophy is embedded within modern English, including the language of education, by comparing characteristics of English and Māori language, especially in relation to ideas of measurement, precision, space and time.

Keywords: language of science, language relativity, left-brain/right-brain thinking

Introduction: Mendeleyev's dream and the language of science

> I saw in a dream a table where all the elements fell into place as required. Awakening, I immediately wrote it down on a piece of paper - Dmitri Mendeleyev, 17 February 1869.

One of my favourite stories from science is that of Mendeleyev, working through a wintry night in rural Russia. His dream-inspired Periodic Table would become the central concept marking the coming of age of chemistry as a discipline - joining Newton's mechanics for physics, and Darwin's evolution for biology. Mendeleyev's original insight left gaps in his table for elements that had not yet been discovered. Mendeleyev's 'dream' is an example of literacy of the highest order - an act of pattern-seeking with a complex and incomplete array of words and numerals - that allowed him to 'read' the very blueprint of matter, inaugurating the modern understanding of atomic structure. Mendeleyev's genius demonstrates the closely intertwined nature of literacy and science, a connection obscured by recent educational trends to separate 'literacy' from 'language' in the notion of 'literacies'. The resulting Periodic Table is an exemplar of the manifestation in language and science discourse of what might be termed the 'deterministic philosophy of measurement'. This term reflects the contemporary concept of 'measurement', which ultimately comes down to an exact determination of some aspect of material reality, or space and time, which can be numerically or categorically represented. Here the words 'space and time' (or space-time) represent the physical world in which we live.

Mendeleyev's dream is part of the larger story of the development of the language of science, which is a key aspect of the overall development of modern science to its position today as the most powerful form of knowledge ever known to humanity, and a global network of complex social and technological systems and structures. According to Foucault's notion of discourse, the real-world power of science lends symbolic power to the word 'science', which thus becomes a potent ideological item of significant political interest. This symbolic power is somewhat unrelated to science itself – it takes on a life of its own, referred to as 'discursive power' , which explains why the word 'science' is so widely used in an honorific sense.

Over time, the inter-related development of science and modernity in post-Enlightenment Europe embedded this deterministic philosophy of measurement within language, especially English, which, for historically-contingent reasons, has become globally dominant both as a world language and as a language of science. The

language of science has been influential in all spheres including the development of systematic approaches to education, and of sub-disciplines including curriculum, pedagogy and assessment. These recent fields are emerging at a time when educational discourses are dominated by a cluster of related concepts including evidence, standards, outcomes and accountability. These concepts share this underlying deterministic notion of 'measurement' as a fixing or specifying of some aspect of the phenomenon in question. The facile assumption that standardised testing is an objective 'scientific' way to 'measure' education reflects the influence of neo-liberalism on education policy. Thirty years of neo-liberal re-shaping of national public policy and institutions has entrenched a culture of managerialism and technocratic approaches towards quality assurance, among other basic functions, in education systems. Given the totalizing nature of this neoliberal discourse, non-Western traditions such as Māori offer alternative visions and philosophies of what education, literacy, quality and equity might entail.

Binary models of thought

Debate continues about what is uniquely 'Māori' about 'Māori knowledge' as understood within the contemporary education sector, especially in Māori-medium education. A bipolar debate concerning 'Māori science', and related questions, features in the literatures on which educational research draws for its base of philosophy and theory. For example, the classical Anthropological debate about 'rationality' posited science against indigenous knowledge, in efforts to clarify what science actually is, and how it works. Secondly, the on-going 'science wars' centre on the 'two cultures' in the academy, represented by the question of the status of social science, including education, as science. Thirdly, in work that was influential to educational thought of recent times, Jerome Bruner posited two basic modes of thought: 'narrative' and 'logico-scientific'. Whether the split is made by discipline, culture, gender, politics, or any one of a number of other defining criteria, there are clearly two basic modes of thinking.

The problem with most such models of thinking is the tendency to assign logic to one side of the binary, thereby leaving it out of the other. Anthropology showed that logical coherence is characteristic of all cultural knowledge bases, Western and indigenous alike. Yet, although Eurocentrism has been officially expelled from the academy, the association of science with modern Western culture as 'proof' that Euro-Americans are more 'advanced' and 'intelligent' than 'primitive races' remains a powerful subterranean message in social discourse, hence retaining influence even within academic circles. It makes little sense to assign logic to 'scientific' thought since narrative power also depends upon logical coherence. It is important, however, to uncouple logic from naturalism, to which science, but not narrative, is committed.

The two modes of thought are perhaps better known today as 'left-brain' and 'right-brain' thinking. Given its universal applicability as part of the biological heritage of humans, the left-brain/right-brain model of thinking is more useful than Bruner's in domains such as science education, where Bruner's influence, one step away from Eurocentric, is still evident in the dominant pedagogical metaphor that 'science is a special way of thinking'. Cognitive science and brain medicine have established that left-brain thinking is analytical in nature, while right-brain thinking is holistic (in most healthy human brains). These two modes of thought are reflected in the two basic modes of language that can be termed 'measurement' and 'metaphor'. This view understands logic as inherent both modes of thinking, and therefore in both modes of language. Not involving logic in the criteria by which to categorize thought eases the longstanding debates about rationality, including multicultural science education research, epistemological diversity and incommensurability.

The link between knowledge, culture and language has been known since the 1930s as the Sapir-Whorf hypothesis. Though best known for his work on Hopi and other indigenous American languages, Benjamin Whorf was a chemist by training. His interest in what he called 'configurative linguistics' was fuelled by his work as an industrial insurance assessor, finding that the meanings understood by words such as 'empty' sometimes explained why workplace accidents occurred. The Sapir-Whorf hypothesis was later sub-divided into 'weak' and 'strong' versions (also called W1 and W2, respectively) by Joshua Fishman. Strong Sapir-Whorf is the idea that language determines thought, i.e., language determinism, a concept that has been thoroughly investigated and rejected, along with the emergence of the notion of a 'universal grammar'. So-called 'weak Sapir-Whorf' (or W1) is the idea that language and knowledge are inter-related and influence each other, termed

'language relativity'. Whorf's idea of language relativity was a forerunner of the concept of 'world-view' , and his approach to languages and cultures has been recognised as an early form of poststructuralism.

Scientific English is a form of language that reflects the development of the modernist, deterministic philosophy of science. Research into the language of science has identified certain 'syndromes' of characteristics in scientific English, in particular the combination of a syntactical feature called 'grammatical metaphor' along with a much higher lexical density than everyday language, measured by the number of lexical words per sentence. These syndromes developed and became characteristic of scientific English in the era following the switch from Latin to English (and other European languages, but for simplicity this discussion refers only to English) as language medium of science, which took place in the post-Enlightenment period. The purpose of these characteristics of scientific English was to allow for the delineation of a step-by-step argument or chain of reasoning.

As developments in technology continue to enable measurement to become more and more precise, so the lexicon of science expands correspondingly. More significantly, the syntactical change to allow the step-by-step reasoning of science discourse occurred quickly in the Enlightenment period, once English became a language of science. Both specialised vocabulary and step-by-step chains of argumentation reflect the basic 'measurement' mode of the scientific genre of English. In science language, word and sentence meanings are precise and stable, adhering to the universalist commitment that time and space are always and everywhere the same, with only one meaning being possible. The language of chemistry demonstrates this powerful precision, whereby internationally-agreed rules of nomenclature provide unique names for each of the many thousands of organic chemical substances, even down to unique names for the so-called left- and right-handed pair of substances that differ only in their effect on polarised light, a difference produced by changing the *order* of the four bonds from a key carbon atom in the molecular structure to four different chemical species.

Science discourse requires that words and sentences have unambiguous meanings. Thus, though rich, messy stories from the history of science are preserved within science words, such as the names of the elements, in operation science language is profoundly non-metaphorical: nouns, verbs and adjectives have stable, precisely-defined meanings; and statements are intended to be understood literally, not metaphorically. Scientific English sacrifices richness of meaning in favour of precision: words and statements have single-layered meanings (which is not to be confused with the idea of simple vs. complex meanings).

Te reo Māori: favouring right-brain thinking?

Speakers of Māori will immediately recognise that the above language descriptions are foreign if not antithetical to the workings of te reo Māori. In contrast to scientific English, te reo Māori can be characterised as a language in which even very small words carry many levels and nuances of meaning, within an overall worldview built from the large tropes and metaphors of traditional Māori culture. The term 'worldview' is understood as a personal-cultural ontological, epistemological and ethical paradigm. Using in-depth investigations of both traditions and language features, Anne Salmond characterised the traditional Māori worldview as structured by a series of large interlocking bipolar opposites at many levels, from psychological to cosmic.

Not only are Māori words and phrases multi-levelled in meaning, but a great deal of the meaning of Māori words and statements rests in exactly *how* they are said by the speaker. Thus oratory is far more important in Māori culture than in modern Western culture. Sacrificing precision for richness of meaning is associated with this performativity aspect of language in te reo Māori, which is absent from modern scientific English. The need to modernise te reo Māori for its survival has led to many arbitrary decisions in recent decades, 'fixing' the meaning of certain traditional Māori words by aligning them to English words, in ways that reflect dominant contemporary understandings, sometimes obscuring the original richness of imprecision. One way this 'richness of imprecision' works is when a Māori word takes two meanings seen in English as opposites, such as the example commonly cited in education: the word 'ako' can mean either 'to teach' and 'to learn'. However the 'mainstream' version of this idea is that ako means both at once, when in reality the context (including non-linguistic features such as performativity) determined which meaning was being invoked in a speech act. These differences and richness in meaning are not conveyed by the written words alone.

Perhaps traditional Māori language reflects a culture operating as much or more by metaphorical right-brain thinking as the precise analytical left-brain mode. Modern English is influenced by the scientific genre, reflecting the dominance and leadership of analytical left-brain thinking, using precise, stable, literal meanings, which can be represented in written form without loss of content. In traditional Māori language, however, lexical words play a far lesser role in carrying meaning, which has more to do with how lexical words are arranged along with many other small words. Over and above the words themselves, much of the meaning of a Māori utterance rests in the pacing and emphasis each word is given, along with facial expression, gesture, and the use of other language devices, such as repetition, or extra non-lexical words added in for emphasis.

It is widely accepted that Western and Indigenous worldviews tend to be characterised by opposing binaries, but this does not make these ways of thinking mutually exclusive, in the sense of unable to be understood by someone brought up within the other culture or way of thinking. Worldview is a more up-to-date expression of the idea expressed as weak Sapir-Whorf, W1 or language relativity. Drawing these links helps explain why bilingualism, including Kaupapa Māori education, draws fire from 'social realists' such as Elizabeth Rata. Bilingualism is necessarily committed to some degree of philosophical relativism, but Rata understands the postcolonial Māori *critique* of universalism as *denial* of universalism.

From the perspective of the modern scientific worldview, Māori knowledge has no explanatory power about the natural world, and therefore no value. The scientific view is that Māori knowledge does exist in some scientific domains such as astronomy and taxonomy, arising from 'detailed observations' of nature , but that this knowledge is a mere shadow of modern science knowledge in those areas. Science considers Māori knowledge to be underpinned not by working models of reality, but by 'stories'. The question of whether or not Māori knowledge is science (or a science, or anti-science) is really a question about how the word 'science' is being understood – Māori knowledge is merely the 'provocateur' in this version or iteration of the old debate over what counts as science. The dramatic answer is to say that Māori knowledge *is* a science, a claim that is usually justified by pointing out all the 'true' information that traditional Māori knowledge includes about the natural world. Rebuttals invariably focus on the obvious flaws in this claim. Following the above argument, however, the value of Māori knowledge (assuming there is such a thing) lies in it being different from science.

Might the concept of worldview, and the claims about epistemological diversity, be explainable in terms of (among other things) relative balance between these two modes of thinking, left-brain and right-brain thinking, which could, for this discussion, be re-labelled 'measurement vs. metaphor thinking'? This idea follows Sydney Lamb , who maps 'left-brain' and 'right-brain' thinking to 'philosophical differences' he terms 'splitter-thinking' (associated with absolutism, universalism and reductionism) and 'lumper-thinking' (associated with relativism and holism), respectively. One of the key concepts of Māori knowledge, namely 'whakapapa', may be used to explore this distinction. The dictionary translation of this important Māori word is 'genealogy' or 'family tree', but whakapapa is far more than this: it is a central trope in Māori cosmology, thought and knowledge, termed a 'cognitive gestalt' ; a 'way of thinking' , p.59), a value and a concept, 'both a noun and a verb'. Māori knowledge and worldview are considered as being intrinsic within te reo Māori, a position that accepts language relativity, while paying due regard to the limitations of relativism. Anne Salmond identified this approach, taking Māori language as the key to understanding Māori worldview and Māori knowledge, as key in semantic anthropology : it is also aligned with Kaupapa Māori research principles, and with the 'diffraction methodology' approach of reading two traditions 'through' each other , in the sense of seeking explanations that 'work' from both a Māori and a scientific perspective.

Amongst its other uses, the whakapapa concept is also a record of the passage of time, based on the imprecise unit of a generation. In a society organised along communal kinship lines, knowledge of whakapapa was of both social and economic value. Whakapapa is usually portrayed diagrammatically using 'descending vertical lines', but Salmond's research showed that in traditional Māori thought, whakapapa was graphically represented in carvings 'as a double spiral marked by chevrons to show successive epochs'. If whakapapa measured time, the spiral representation of whakapapa reflects a Māori notion of time as cyclic, rather than the Western concept of linear time. A cyclic concept of time (such as the Mayan wheel of time) is a well-established

characteristic that distinguishes indigenous from Western (or ancient from modern) thought. In the case of Māori notions of space-time, the cosmological dualities are like the spokes of time's wheel.

Like whakapapa, the Periodic Table is also conventionally represented in linear form, comprising straight lines dividing the array of elements into rows and columns. Yet prior to Mendeleyev's dream, in 1862 the French geologist Alexandre-Émile Béguyer de Chancourtois proposed the Telluric Helix model in which the elements were arranged in a continuous spiral around a cylinder. Spiral representations of the Periodic Table abound, though not in science education. These two pairs of linear/spiral forms are possible examples of left-brain/right-brain representations. They form a suggestive link with 'Kaplan's Contrastive Rhetoric Doodles', a diagram first published in 1966 by Robert Kaplan that was 'intended to demonstrate a variety of paragraph movements that exist in writing in different languages' in a paper for teachers, titled 'Cultural thought patterns in intercultural education'. The Doodles diagram showed the patterns of English as a straight line, Oriental as a spiral. The word 'rhetoric' in the diagram's title seems to mean something very like what would today be termed 'discourse'.

Conclusion

Thinking about recording the Periodic Table, or whakapapa, in a spiral, rather than linear form, is like a heuristic thought experiment for better understanding the difference between left- and right-brain ways of structurally conceptualizing complex arrays of information. We can 'understand' how either representational form works; but on the other hand, not many of us would independently think of transforming the conventional form of the Periodic Table, or common written forms of whakapapa, into a spiral-form representation. This paper has attempted to advance the philosophical argument presented in , where the relevance of Sapir-Whorf and Kaplan's Doodles to the 'Māori science' debate was suggested in terms of epistemological diversity at the level of discourse.

Cognitively speaking, the straight line and the spiral form another cosmological duality, but one that is overcome by changing perspective – zoom in up close on one part of the spiral and you will see a straight line. Lamb (2004) is interested in mapping the working of each hemisphere of the brain to the various language functions taken care of by each side. This paper applies Lamb's idea to the question of how left- and right-brain modes of thinking may work together, or in opposition, in representations of science – both in the characteristics of scientific English, and in 'school science' (i.e. curriculum representations of the nature of science). The development of scientific English in the period of the European Enlightenment is likely to have reflected an increased relative importance of left-brain or 'measurement' thinking, taking advantage of burgeoning new technologies to observe nature to previously unimaginable levels of detail and precision, and a concomitant relative decrease in language performativity and other language functions aligned more closely with right-brain or 'metaphor' thinking.

In practice, of course, working science is highly diverse and multilingual; it relies on reciprocal relationships between metaphor and measurement, and on the engagement of all available cognitive resources. Scientific thinking cannot therefore be equated with left-brain thinking, but this paper suggests that science discourse, especially as presented in the school curriculum, may reflect a different relative balance, with more emphasis on left-brain and less on right-brain thinking, by comparison with the indigenous discourse of a non-Western culture such as Māori. It seems reasonable to suggest that this difference may contribute to the documented alienating effect of secondary science education on Māori and other indigenous students, to an even greater extent than students in general. In school science education and beyond, the characteristics of left-brain thinking (as described by Lamb, above) have invalidly come to be associated with the nature of science, in a way that supports forms of scientism (i.e. ideological distortions of science) including the claims made by neoliberal economics to include 'scientific' approaches to social policy. The imbalance between 'measurement' and 'metaphor' modes of thinking and language seems characteristic of neoliberal discourse – lots of information but no wisdom, a checklist approach that misses the 'bigger picture'.

The discourses, worldviews and epistemologies associated with indigenous cultural cosmologies, and the languages in which they are expressed, may differ most importantly from those of modern Western science in

terms of this balance between the two great psychological modes of operation. This model supports the assertion of a coherent form of epistemological difference between 'Māori knowledge' and (say) traditional curricular knowledge, while also clearly showing continuity between the two, and a way of explaining how the differences are not captured in language by single words, but at the level of the paragraph, central metaphor or discourse. The ideas brought together in this paper suggest new approaches to future investigations into the role of language in multicultural education, and interculturalism more widely.

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The University of Wisdom – Exploring the role of wisdom for secondary and tertiary education

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Abstract

We live in an age of measurement and accountability. Emphasis is given to supposedly easily assessable skills, such as reading, writing and maths. In such an environment some humanistic aspects of education seem to get lost in the wider scheme of politics, policies and assessments. Among these are concepts such as Bildung, spirituality and wisdom. This article will explore the notion of wisdom in relation to other terms of educational relevance, such as Bildung, knowledge, character, spirituality and practical wisdom. Further, Eastern and Western philosophical approaches to the concept of wisdom will be taken into account in an attempt to comprehensively explore its meaning and dimensions. In this context, philosophers like Lauxmann (2004), Schwartz & Sharpe (2010), de Mello (1992), Maxwell (2012), Lau (2009), Tucker (2003), Laozi (n.d./1993) and others will be drawn on. The role of wisdom in and for education will be discussed in light of a review of possible aims and ends in education. The practical focus of this discussion will be placed mainly on secondary and tertiary educational settings.

Introduction

This article has been inspired, among others, by a text from Frieder Lauxmann called *Die Universität des Nichtwissens* [The university of non-knowing][i], which has been published in Lauxmann's (2004) book *Die Philosophie der Weisheit* [The philosophy of wisdom]. Among others, Lauxmann argues for a reevaluation of the emphasis on scientific/disciplinary knowledge in today's (western) societies and education systems. The relevance of wisdom for educationists is its great potential, more so than plain knowledge, to lead to a good and beautiful life. The development of an art of living, which might lead to a good and beautiful life, however, has been argued for to be a fundamental aim of education (Teschers, 2013).

In the course of this article, I will explore the relations between wisdom and other notions of educational relevance, such as knowledge, Bildung, character formation, practical wisdom and spirituality. The intention is to give the notion of wisdom a more tangible appearance and to propose a possible place for it within schools and universities. The claim of wisdom being an important aim of education in itself is hardly new: *philosophia* – the love of wisdom – has been highly valued by the ancient Greeks, Romans and other civilisations already. However, the connection between philosophy and wisdom as well as its value for a good and well lived life seems to have been forgotten – at least where school curricula and outcomes are concerned (Lauxmann, 2004).

John Ozolins (2012) explores the rise and fall of general education since the 19th century and traces the causes for the neglect of wisdom in education today to economical, political and ideological changes beginning in the mid 1970s. This period could be identified as the turn from the Keynesian welfare state to neo-liberal ideas of individual freedom and minimal state interference, which led to a strong economical influence on educational policy and curricula. However, Ozolins argues, with reference to Codd (1999), that educational models based on economic agenda are bound to fail, as they neglect the social aspect and behaviour of human beings. Ozolins (2012) continues that human beings cannot be reduced to a mere commodity for economy – a human resource – and that a reduction of educational aims to prepare for economy and industry is 'simplistic and ignores the complexity of human needs and aspiration' (Ozolins, p. 2). Drawing on the examples of America and Australia, Ozolins concludes that traditional educational values, such as enlightenment or personal growth, are threatened by economic pressures and aims of productivity and cost-effectiveness.

Lauxmann (2004), as mentioned above, explored the idea of wisdom as well and came to similar conclusions about how economic and modern beliefs have devalued the idea of wisdom and corrupted modern education systems. His main position is that a thriving modern society needs both *a flourishing economy and people who are able to think beyond* (p. 17). He argues that this conflicting situation is needed for a society not only to develop, but also to survive at all. A single-minded focus on economy, as is increasingly the case today, will lead to the desolation of society.

Lauxmann interprets wisdom as 'knowledge without knowledge' (p. 24). According to Lauxmann, 'wisdom manifests in the not provable, not pre-formed and often not comprehensible truth' (ibid.), which cannot be found in a textbook or the Internet, but which is of a very different nature. Wisdom cannot be taught, but a teacher can be wise and teach in this manner. Lauxmann proclaims that one cannot possess wisdom, but wisdom 'happens, it shows itself, it takes place' (ibid). His main critique of modern schooling and education systems is the increased focus on scientific and facts knowledge and a lack of space and time for leisure, contemplation and *falling in love with the world*, which is, according to Lauxmann (2004, pp. 25-29), the only way to find wisdom. This is also the reason for wisdom being rarely popular in current school settings: it is not measurable or assessable, and it is not easy to come by. However, wisdom has a connection to truth, which is of a very different quality than anything knowledge can provide: wisdom brings forth the good for the one who is wise and for his or her surroundings. Therefore, striving for wisdom, in school as well as outside of formalised learning situations, is important and rewarding not only for individuals, but also for society as a whole.

If current proclaimed values of a democratic society, active citizenship and personal autonomy are more than empty phrases, more is needed than an economical driven curriculum. A pursuit of wisdom could be one answer to fill this gap.

For the purpose of this article, wisdom will be presented as part of a continuum, which spans from disciplinary knowledge, life-knowledge, *Bildung*, practical wisdom, to wisdom itself and to spirituality. As the German concept of *Bildung* encompasses the aspects of knowledge, self-formation and practical wisdom, the next section will discuss this concept in more detail to point out the distinctions to wisdom, as it will be discussed here, and also provide some examples how it can be supported in school settings.

Bildung

According to Liebau (1999), Bildung is one of the three central concepts of education: Erziehung [upbringing], *Bildung* [self-cultivation], *Entfaltung* [flourishing]. *Bildung* has its origin in the German Idealism: in contrast to the notion of achievement, it is 'the life-long labour on the perfection of one's own person [that] lies at the heart of the classical concept of Bildung' (Liebau, 1999, p. 28). It is the development and cultivation of one's own self that takes precedence, as it is believed that through the perfection of individuals the development and perfection of humankind in total will come to pass. This relation, according to Liebau, has two consequences: *the healthy self-interest of the individual* to further one's own *Bildung* is to be encouraged as it is in the best interest of society, and each individual has *a responsibility to pursue Bildung* for the same reason (pp. 28-33).

The concept of *Bildung*, as it is understood today, has been strongly influenced by Wilhelm von Humbold at the end of the 18th century, who connected scientific and humanistic approaches to conceiving the world with the notion of aesthetics. Therefore, *Bildung* is closely linked with art, music and theatre, but it also refers to the beauty from within: 'this one has Bildung, who orients oneself to the standard of aesthetic and moral perfection, and who strives to shape one's own self accordingly' (Liebau, 1999, p. 29). In the end, it is the development and perfection of humankind that is of concern to the German Idealists, and, therefore, they take the economy and governments to be of lesser importance and merely as supportive institutions that are necessary to allow citizens to pursue *Bildung* and their own perfection. *Bildung* is also one of the key aspects of Schmid's (2000) concept of the art of living, and, according to Schmid, necessary for living a good and beautiful life as he understands it[ii].

As *Bildung* is a life-long process, the role of schooling to support *Bildung* is to provide the foundation for each individual to be able to engage in a continuous process of self-*bildung*. Instead of focusing on facts or disciplinary knowledge, learning how to learn needs to be emphasised, not to acquire advanced technical skills and qualifications, but to enable life-long humanistic learning. It also needs to be pointed out that this level of learning needs to be accessible and achievable for all individuals as, despite 'all the inequality in society, it is

