

# How to snatch the mathematical fate of our children from the grip of the Crown (Draft 2024-05-27)

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At its heart, the mana motuhake of the setting generation comes down to this: how well are we able to whakamana the rising generation?

If we succeed in that, then all our other failures, however bitter, are eased, or even trifling. If we fail in that, no other success can compensate the sting borne of the love we have for our children.

Most of whakamana is about helping to develop a fitting inheritance of habits and skills. How shall we take responsibility for that in, say, mathematics?

## **There is a Māori way of learning**

Traditionally, our whānau worked their collectively-held whenua together. Life was not separated into home, school, and work. One learned from one's own expert kin by observing them at work, and then by working alongside them in ever more sophisticated ways.

A tamaiti might ask why work was done one way and not another, but the reason for doing the work was usually obvious. There was no separate class of teachers. There were only working experts, who might glance your way now and perhaps show you something.

Those experts were not replaceable trainers employed by a distant bureaucracy to teach its curriculum in lockstep according to some grand institutional schedule, regardless of who gets left behind or who trips up.

These experts were relatives with who you could expect to have lifelong relationship, and who also knew your other relatives. They didn't have to teach you unless you were ready and sufficiently willing to learn. They already had work to do, and they were not there to babysit. If you got sick, or had other duties for a time, they could keep going whenever you were ready. And on the other hand, they could help you past almost any conceivable obstacle, as long as you were willing and would work.

Let us call this Māori way of learning by its Māori name: ako.

Nevertheless, this old Māori way of learning is very far from exclusive to Māori.

## **This Māori way of learning is common to indigenous peoples everywhere**

Ako is a very powerful way to learn, even for the very young:

[[Rogoff references]]

Imagine, then, such brilliantly skilled indigenous children as these being thrown, at five or eight or ten, into an institutional schoolroom with an alien teacher teaching alien things in an alien way.

We would not expect that to go well in the first generation.

But it hasn't really gone well since, either. Globally and for generations, the institutional schooling of the colonisers has failed indigenous people dismally.

## **Ako underlies Māori resistance to schooling**

Why do Māori do so badly in institutional schooling?

[[Penetito quote]]

Penetito suggests that schools fail us, irrespective of good intentions, because something about schools conflicts with Māori identity.

Let me build only a little on Penetito's argument.

Of all the taonga that a culture possesses, the most critical are those that allow the culture to propagate itself from one generation to the next. Lose that, and cultural identity is dead in a generation.

As Māori, whatever our differences may be, and however ignorant we may be of Te Ao Māori, as part of our identity we share an ancient sense about when a learning environment tika. Ako was and is tika. Institutional schooling has never been tika, and cannot be. There are those who mutter to each other in quiet consternation about Māori resistance to learning, by which they mean Māori resistance to institutional schooling. There are also those who, meaning to be our friends, see that resistance as the self-defeating but understandable rage of a victimised people. They hope that this will pass some day.

I say let us pick look at what it will help our children to learn, and let us find a tika way for them to learn it.

## **Māori still use ako to succeed**

As a people, we have already use ako in some places, and are on the way oin otghers

We and our Pasifika cousins are good at learning rugby. If we who support 7AA in this nation were to select a rugby team from among themselves, and if the opponents of 7AA were to do likewise, and the matter were to be decided by a rugby match, we would utterly cream our opponents, and 7AA would be safe.

There ako-like ways to learn the very colonial game of rugby, and at present, those are often available from relatives.

If the game were cricket, on the other hand, the result would probably be different, at least at first. Ako-like means are no doubt also standard for learning

cricket, but only rarely from relatives. If we had to start winning cricket matches to achieve constitutional vetoes, though, we could learn to do that, couldn't we? If we needed to do that, we could form our own inter-iwi cricket league, and by and by we would start beating our opponents.

We are very good at ako, but we would also have to have a reason.

## **Ako and IT**

In most STEM fields we are far behind. Most STEM disciplines depend heavily on mathematics. For most people in this country, early and formative exposure to mathematics includes several years of institutional schooling, under the tutelage of teachers who are not experts at any STEM field, and who are also not relatives.

This is not ako, and it is not tika.

In STEM fields, we are closest to doing okay in IT. Is it a coincidence that IT is mostly learned a somewhat ako-like way, that it doesn't require a lot of mathematics, and that there are Māori IT businesses where, no doubt, some get the chance to learn from relatives?

## **To build up our children's STEM capacity, self-determination is the only way**

Attrition is built in to our education and testing systems, and more attrition for our children than for theirs.

Few survive this, and very few Māori. Most leave primary school convinced that they do not like mathematics and are not good at it. That is, they are already maths-damaged. There is no need to blame primary teachers for this --- most were themselves maths-damaged as children. They neither selected nor paid to be any different.

In such way, our tamariki are set up not to be doctors, not to be engineers, and not to know how to analyse the machinations of the business, banking, and political classes. They are set up to deal with the mathematical parts of life with two hands tied behind their backs.

Attrition of the mathematical potential of Māori, Pasifika, and poor Pākehā is built very deeply into the system.

There are numerous parents who don't want these comparisons to change and who in consequence think that they are fair. These are our opponent's political base. These people routinely sabotage any school-based innovation that threatens that their own children will lose opportunities to Māori children. In their own twisted way, keeping our children's future well-sabotaged is how such parents show their love for their own little darlings.

## **But can ako also work for mathematics?**

Now it is time to admit that it is not only indigenous peoples that rely on some version of ako.

Every research degree in a STEM discipline is a kind of apprenticeship to a supervisor within a larger academic community. If one goes as an undergraduate to an elite school such as Oxford or Cambridge, ako-like training with a disciplinary expert begins as an undergraduate, in Oxford tutorials and Cambridge supervisions. And if one looks at training for high-performance competitions such as physics olympiads or mathematics olympiads, one is coached rather than taught.

So yes, if we build it, it will work.