

# Transformation: Challenges and Opportunities – Vocational ODL in New Zealand

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It is an honour for me to address a group of such committed and capable people at this conference.

## Overview

The intent of this paper is to consider the new “network” paradigm for tertiary education provision that is emerging in New Zealand under current Government policy reforms and to say something about the potential role of open and distance learning within this process.

While the New Zealand situation is in certain respects idiosyncratic, I hope the underlying themes and issues will be broad enough to provide some food for thought in relation to your own organisations and jurisdictions.

The network paradigm involves looking at individual teaching and learning institutions, and the learners in their “catchment” areas, in a new way.

Rather than operating only as stand-alone entities, institutions will increasingly operate within the wider context of a national network (and within various “sub-networks” constituted for particular purposes) which can provide learning services to individual institutions.

In turn the individual institutions may supply services to others in the network (although doing so is not a requirement to belong to the network.)

Implicitly I am introducing two concepts: ( 1 ) A network is a group of interconnected institutions which provide learning services to learners in their catchment area and/or to other institutions in the network to assist in their delivery to learners. ( 2 ) An institution and any satellite campuses are considered as a node in the network.

For the sake of clarity, and, in other contexts, to make use of findings in related disciplines, the rest of this address simply refers to “the nodes” and “the network”.

The question this paper begins to address, without any claim to have fully answered it, is:-

*For the learners in the catchment area served by the network as a whole, how do we maximise the value of their learning from the assets, capabilities and capacities of the nodes in the network within an overall funding constraint while taking account of the constraints on each of the nodes?*

## The framework for discussion

At The Open Polytechnic of New Zealand we have been considering this question for several years now. As Government policy changes have been foreshadowed, then progressively enacted, we have sought to identify how a

specialist national open and distance learning provider such as The Open Polytechnic can help enable the network model. We are aware that related efforts are proceeding in other organisations.

In an attempt to be as clear as I can be in this address, I have adopted the following framework:-

1. A particular example is considered<sup>1</sup>:  
The learners engaging with the Institutes of Technology and Polytechnics (ITP) sector in New Zealand, in which The Open Polytechnic operates.
2. The Government's Education Policy context in New Zealand is described.  
Recognising that this determines the boundaries within which the optimisation question posed earlier is to be answered.
3. Some of the characteristics of the nodes in the network are described.  
One purpose is to indicate that the nodes are quite different from each other.  
Given that this conference is mainly for people associated with distance learning and that The Open Polytechnic of New Zealand is an open and distance learning institution, it may not surprise you that more emphasis is on our own organisation than on the others.
4. The envisaged process for providing educational services to the learners is described.  
The premise is that the services can be supplied from any node in the network provided the capability and the capacity to do so exist at the node.
5. Some of the conclusions drawn, and some of the principles applicable in the New Zealand context, are noted.
6. Some thoughts on the possible implications for other learners, in other networks, in other contexts are proffered for discussion.

### ***The learners served by the network***

The catchment area of tertiary learners is taken to be the whole of New Zealand<sup>2</sup>.

New Zealand is a small country by most standards. It is a long narrow country roughly the size of the United Kingdom. It has a total population about the size of Sydney in Australia, or Birmingham in the United Kingdom.

There are numerous types of tertiary institutions in New Zealand: 8 Universities, 20 Institutes of Technology and Polytechnics (ITPs), 3 Wananga (Maori Universities), some 40 Industry Training Organisations (ITOs), and hundreds of Private Training Establishments (PTEs).

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<sup>1</sup> A later technical paper will explore the complexities of this situation in more detail.

<sup>2</sup> New Zealand providers do meet the needs of some learners internationally, although the numbers are relatively small. The forthcoming technical paper referred to in footnote 1 will describe an analytical methodology able to accommodate both on and offshore learners.

The twenty ITPs can be compared with four equivalent institutions in Sydney, both serving similar populations.

Another comparison is between the number of tertiary learners in New Zealand and in some other institutions internationally. The 31 publicly funded institutions in New Zealand provide learning to less than half a million learners. I am aware that some of my colleagues on SCOP have over a million learners in a single institution.

If we were starting with a blank sheet of paper in New Zealand I very much doubt that we would create 30 or so publicly funded tertiary institutions.

The reality, however, is that we have them. The challenge is to extract as much value from the investment they represent, for the benefit of learners and the nation.

In general, the different types of providers appeal to different kinds of learners, even though there may be some similarities in the course/programme offerings in parts of their portfolios.

For the purposes of this address I have adopted the following descriptors<sup>3</sup>:

“The learners”: Those tertiary learners who consider themselves best served by the 20 ITPs.

“The network”: The 20 ITPs, interconnected and considered collectively.

“A node”: An ITP, including any satellite delivery points (campuses) it has.

### ***The Government’s Education Policy in New Zealand***

As noted earlier, New Zealand is currently undergoing a new and significant period of tertiary education policy reform.

The watchwords are “quality”, “relevance” and “access”.

Under the reforms the Government is seeking a stronger emphasis on measured outcomes in tertiary education, closely linked to New Zealand’s economic and social transformation goals.

It wants stronger steering and guidance from the centre to ensure this happens.

It wants institutions to view themselves less as stand-alone entities, and more as collaborators supporting what is described in policy terms as a “national network of provision.”

Exactly what a “network of provision” might constitute and how it might operate on the ground is still the subject of ongoing debate, discussion and thinking.

Certain elements are clear, however. Previously funding was determined solely by student enrolments, with a consequent incentive for institutions to pursue competitive behaviours. Under the new policy, funding is now delivered through a broader-based “investment” approach.

Enrolments are allocated to individual institutions after negotiation with the centre and capped over a three-year planning horizon.

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<sup>3</sup> This simplification is intended to promote clarity. The forthcoming technical paper referred to in footnote 1 will explore the complexities in more detail.

The change is from delivery by individual institutions responding to market forces to delivery by a network of collaborating entities steered – lightly we hope - from the centre.

For a range of reasons, the ITP sub-sector is at the sharp end of the reform process.

It is also the test-bed for another key aspect of the policy reforms – a focus on regionally-based provision.

During the more competitive “free market” system that operated prior to the current reforms, ITPs were able to offer courses and open campuses wherever they chose to do so.

In the chase for student enrolments, it made sense for institutions in regions with a lower population base to open sites in regions with a larger population base – particularly in New Zealand’s largest and fastest-growing urban area, Auckland.

Under the current reforms, however, the Government wants ITPs to return to their local roots. It wants them to focus on serving their local and regional communities and industries. It wants a pull-back from “out-of-region” provision.

The exceptions will be niche programmes in areas of specialist capability that will have the green-light for national delivery.

### **The *nodes* in the network**

The 20 nodes in the ITP network vary widely.

Some deliver wide portfolios in urban conurbations, with other providers in the same conurbation. Others deliver in somewhat smaller cities with one or two other providers. Still others are in smaller provincial cities and so deliver correspondingly narrow portfolios. There are even smaller ones, serving small populations with a narrow portfolio.

Size is not the only distinguishing characteristic. The nature of the offerings also varies widely.

For whatever reason, perhaps historical, perhaps because of local demand, some nodes offer niche provision nationally. This characteristic seems unrelated to the size of the institution.

These are just two examples of the differing attributes of the nodes of the network.

For the purposes of this address, it is relevant to recognise that the emergence of e-learning has meant that the capability traditionally associated with the nodes is changing. There is an increase in the ways learners in contact institutions can access their learning. There is an increasing capability to deliver at distance.

Does this imply that the pundits who espouse convergence will come into their own? I doubt it. I am not the first to doubt. Others have their reasons. As do we. Ours are quantitatively founded.

We have looked at the economic cost to New Zealand of establishing self sufficient e-capability at each of the nodes in the ITP network. We have also considered the cost of providing all e-capability from a single entity, thus extracting maximum value from the economies of scale associated with e-learning, and the need for a critical mass of appropriately qualified people.

The difference in cost is, in NPV terms, over \$2 billion NZD. The precise amount depends on the time horizon and the discount rate, among other variables. This can be compared with the total amount New Zealand allocates to all tertiary education annually, about \$2.5 billion.

The examples I have given are, of course, ends of a continuum.

I do not for a moment suggest that the actual situation will be one or other of the two ends of the spectrum. All sorts of criteria, not just the economic cost to New Zealand, will affect the extent to which convergence takes place.

The other variables affecting the choices about e-learning do not affect a key conclusion. Convergence as the pundits would have it – the demise of the difference between contact and distance – will not, in my view, occur. This is not for technological reasons but for economic ones – we simply cannot afford it.

The challenge for all of us in New Zealand is:-

*How do we address the optimising question posed earlier taking into account not only how the nodes are now but how they might be in the future?*

This segment of my address introduces the notion that nodes are different from one another - and the differences need to be taken into account. Furthermore, the differences will change over time – and these need to be taken into account over time.

### **One of the nodes**

Earlier I indicated that, for a couple of reasons, I would consider The Open Polytechnic of New Zealand in more detail than the other nodes.

The Open Polytechnic of New Zealand:-

- Is a national provider, at a time when government policy emphasises regional provision
- Is an open and distance learning (ODL) institution
- Enrols 30,000+ learners annually

This is the largest number of learners of any ITP in New Zealand. Yet, as you are well aware, it is a minnow by world standards.

- Delivers applied vocational learning, mainly at certificate to degree levels.
- Originated as a paper based provider some sixty years ago.
- Now delivers in multiple modes.
- Has been assessed independently as having the most developed capability in e-learning of all ITPs in New Zealand.
- Is recognised internationally: the Commonwealth of Learning Award for Excellence in Distance Education; the Mellon Award for its contributions in e-learning.

Significantly when considering the network identified in this address, The Open Polytechnic recognises the economies of scale associated with ODL institutions. It also recognises the characteristics of the contact institutions that comprise the other nodes in the network. One is that they do not have the economies of scale associated with an ODL institution. Neither have they

traditionally had the internal structures, processes or pedagogies to support ODL<sup>4</sup>.

Some ITP institutions are beginning to develop these attributes. It seems to me that, in the process, they are beginning to recognise the capability requirements and the financial implications of operating dual mode institutions. They are beginning to recognise, as you know well, how daunting those capability and financial issues are.

Other ITPs have recognised that it is beyond their funding capabilities to replicate for their (relatively small) learner population a self sufficient ODL capability. For example, six institutions wish our institution to design, develop and deliver with them a blended business degree (delivered online and supported by them in face-to-face mode).

In this instance, the complementary attributes of the two different kinds of organisation, blurred as the differences may be from the effects of convergence, provide opportunities for adding value to the learner.

Apart from the pride I have in the capability of the people in my own institution, I have drawn attention to the characteristics of The Open Polytechnic for two reasons:-

- To engage with all of you in ODL institutions
- To pave the way for discussing how the network can be optimised.

### ***Collaborative provision***

As I have indicated earlier the ITP network consists of 20 interconnected institutions.

I have visited each of these institutions, some of them many times. They have their own character and attributes. A casual observer would see them as being very different. There is considerable advantage to the institution in being able to offer a unique “face” to their learners.

In our work on identifying how to optimise the network, we came to recognise that 19 of the 20 had essentially similar models for the delivery of learning. It is an institution-centric model: learners come into the institution’s world. One organisation, ours, is different: we go into the learner’s world.

That difference is pivotal.

It enables the network to access synergies not available to the 19 other institutions. It means that both learners in New Zealand and the nation as a whole can derive greater benefit from having “19 similar and a different one” than from 20 similar organisations.

As an ODL entity with economies of scale and capabilities, strategies, processes and systems to go with those economies, we are complementary to mainly campus based institutions.

A significant difference is that economies of scale are not present in mainly contact based institutions in the same way or to the same degree.

You might ask: “What is the significance of that?”

Let me respond with an example.

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<sup>4</sup> I have acknowledged earlier that some institutions are developing some e-distance capability. I observe that this is still rooted in a contact framework, in the main. Technology is being used to (attempt to) replicate the contact experience.

One node in the network has a region where there are about 250,000 potential learners. Only about 75,000 are able to access the institution in a practical way. Some are too far away. Others have work schedules that do not mesh with class times. Still others prefer working in their own time and place.

This is familiar territory for those in ODL provision.

That institution and ours aim to operate collaboratively, taking advantage of the different characteristics of both organisations. We will deliver to the partner's region at a distance.

The learners will access support from the local partner at agreed times, but much less frequently than required by contact delivery. The learner experience is enhanced to the benefit of the learner and, in the process, to both institutions.

A reflection on both institutions' part is that if New Zealand did not have ODL capability already developed, it would either have to develop it, or establish more contact institutions of a similar kind to those already existing.

As an indicator, we have calculated that it would cost New Zealand about \$1.4 billion (NPV at 5 and 10 % over ten or twenty years) to replicate our distance capabilities in the other nineteen institutions in the network.

Our analyses and our thinking confirm that optimising an institution in a region of New Zealand, in isolation, small as those regions are, precludes accessing economies of scale, in particular those associated with ODL, in whatever mode it operates. It costs the nation.

A conclusion emerges. For us it happened over time. Perhaps for you it is self evident.

For many reasons, some I have touched on in this address, it is imperative we focus on optimising the network in New Zealand. It is not enough to consider the nodes individually, if we are to maximise the value from the system for learners throughout New Zealand.

### ***The optimising process***

The approach to optimisation is deceptively straightforward.

It starts by recognising that after all the advocacy for greater allocations from the public purse for tertiary education, there is a limit, for tertiary education generally, and for the ITP network we are considering, in particular.

In politically practical terms, it is a given that the 20 nodes in the network will remain, and will continue to provide their traditional services. That implies that there will be a level of funding provided to maintain a node and its ability to deliver its traditional portfolio.

In conceptual terms, the network is optimised when the maximum value to learners served by the network is achieved within the funding constraint.

In linear programming terms, this objective function can be recast as its dual: for a given configuration of courses and programmes, what is the minimum cost of providing them?

The optimising process begins when changes to the portfolios at the nodes are contemplated.

The decision rule is straightforward: the value to learners is optimised for learners when courses and programmes are sourced from the lowest-cost source in the network.

For the network being considered in New Zealand, 19 nodes are similar in their business models (they are essentially contact institutions). With these nodes, there is little that they can offer to other nodes by way of less expensive courses and programmes.

Because of the physical distance between the nodes and the limited economies of scale of the nodes, it is a better option to develop the capability to deliver at the node.

So a node has options when other nodes offer economies of scale. It can offer a wider degree of courses and programmes to its catchment area for the same level of funding if it has access to nodes which have economies of scale, and deliver the courses and programmes of interest to the node.

One can envisage a planning process at each node. It comes as a series of questions:-

- What do learners in my region seek?
- What does it cost to provide their needs if we design, develop and deliver the learning?
- What can we acquire from other nodes in the network that meets all our requirements, including quality, at a lower cost?

In order to follow this process all sorts of information needs to be freely available at all the nodes in the network. Furthermore, there need to be incentives for each node to act so as to optimise the whole network, not simply the situation for the node.

There is much work to be done to take the concept into an operating reality. To this point we are comfortable that in terms of The Open Polytechnic's potential contribution we have ways of dealing with the challenges.

### **The optimising principles**

Our organisation does not claim to have identified all the optimising principles. We have simply discovered some along the way.

- Optimising the situation for each of the nodes in isolation does not optimise the situation for the network as a whole.
- Aggregating distance capability, not necessarily to a single node but in that direction, is consistent with optimisation.
- There is value to the network in promoting delivery of similar national qualifications, as opposed to nodally distinct qualifications.
- Decision processes within the nodes need to be incentivised to choose options contributing to optimising the network while achieving a satisfactory outcome for the node.
- Large enrolment courses and programmes will gravitate to organisations with economies of scale when optimisation of the network is being sought<sup>5</sup>.

As I stand back and think about these principles, I am affected by a conclusion that we have been working with for a long while. All our nodes have capabilities. They are different capabilities. The network is optimised

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<sup>5</sup> I am appreciative of the continuing engagement with the Tertiary Education Commission of New Zealand as The Open Polytechnic seeks to contribute to ongoing discussion and thinking regarding optimisation of the network of provision.

when we all tap into those capabilities, not when we try to replicate those capabilities in each of the nodes.

### **Transforming The Open Polytechnic**

The strategic drive of The Open Polytechnic of New Zealand is to prepare ourselves for contributing within the emerging network environment.

Whatever its final form, that environment will involve a much greater degree of flexible partnering and collaboration.

We see a natural role for The Open Polytechnic in supporting and enabling a network model of the type I have been describing.

This ranges from supporting e-distance capability building, providing shared resources and services, and various forms of flexible blended delivery arrangements, to continuing to support distinctive segments of distance learners.

It is a given that we will retain and build on our established capability in open and distance learning. But we do not see this as being our sole distinguishing characteristic in the future.

We see ourselves increasingly operating as an 'intermediary' – brokering flexible learning services and resources for partners, sourced both from within our organisation and externally.

Relationship management will therefore be a new key competency for our organisation; as will innovation in learning design, and in forging and supporting flexible learning partnerships.

Our governing principle will be to act in ways that deliver value for learners and the nation.

### **Some possible implications in other contexts**

I approach this section with temerity!

Who am I to preach to my colleagues operating in other contexts?

I have no right and make no claims.

I simply share with you some of the thoughts we have had along the way.

Make of them what you will.

We would enjoy your sharing with us what your situation is and how you are approaching it.

We can learn from it.

You will inform development of education in New Zealand as well as your own country.

One of our thoughts is that optimising the network is very dependent on the context.

We thought of the US. We saw a much higher population density. Nodes are in close proximity. There seems to be so much more opportunity to create ways in which organisations can be collaborative.

For example, in New Zealand our nodes are generally widely dispersed. It is not unusual for them to be 150 km from their neighbours in the network, though some are much closer. In the US we envisage that potential nodes can be less than 30 km. It seems to us that there may be other ways of optimising delivery in the region.

We thought of remote parts of Africa. We acknowledged the remoteness. We thought of the network as being bounded by the technology it could

access. We saw the principles as still applying, but in ways producing very different outcomes from the New Zealand setting.

We thought of China. We are aware that television is ubiquitous. We understand while rapidly growing in use cell phones are not yet ubiquitous, nor is the internet. Again it seemed to us that the principles may be applicable, but likely with different outcomes.

In this section I am not trying to be prescriptive. I am simply saying that we are conscious of you all, in your environments – and would like to engage with you in them.

***Next steps***

We are proceeding with our analytical initiatives.

We are confident that there are ways in which we can quantify the value of optimising the network in the way I have described.

We aim to gather our colleagues in implementing optimisation of the network.

We will keep you in touch with our progress, if you would like. Please let us know – and we will follow up.

(The Author: Paul Grimwood, Chief Executive, The Open Polytechnic of New Zealand)