TVET Technologies fit for New Zealand's 21st Century
(Changed from *Skills for New Zealand's Future*)

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Preamble:
Last month North and South magazine questioned the value of university degrees and recommended TVET qualifications. This is just of many signs that things are changing and new ways of working are needed.

Those affecting students would, if useful:

- increase the relevance and value of what is taught in schools to more of those to whom it is taught
- support transitions into technical vocational education and training
- increase students' success within TVET
- support transitions from education and training into the world of work.

Additional new ways of working are wanted by industry to increase productivity and by Government to see its intentions realised. We know this to be so from multiple sources: Productivity Partnership Reports, Labour Market analyses and the "intended impacts" of the Review of Industry Training, amongst many others.

Taken together these needs, affecting all the funders and users of the TVET system – students, businesses, taxpayers and Government - are widespread and fundamental enough to suggest that we have a problem of crisis-like proportions. So let's recall Rahm Immanuel's famous advice to President Obama, "*above all, never waste a good crisis*".

The question is what can be done constructively?

The best answer in relation to the need to find new ways of working in the TVET sector as with any other important socio-economic challenge, is that we need to understand the problem we are trying to solve, to be aware of its origins and effects, to find out what relevant best practice is and to plan remedies accordingly, including by changing how we interact and by transferring technologies which have worked elsewhere into New Zealand.

A previous paper summarised how trades training works in the highest performing economies and for the best supported populations on Earth. It showed that the New Zealand Government is transferring best practices in from abroad[i].

It noted that the highest performing economies and the best supported populations are in nations where large proportions of the working populations are skilled tradespeople. On that basis the paper suggested that the period now dawning will be ATTT - The Age of the Technologists, Technicians and Tradespeople. The social and economic dominance of New Zealand by the learned professions is passing away into History. Instead, supporting people who make the built environment and enable productivity to increase is now the most important game in [our] Town.

Hence the title of this paper, with its emphasis on "TVET **technologies fit for New Zealand's 21st Century".**

In order to discover what those might be this paper explores what's been happening to TVET in the USA since the beginning of the GFC, compares that with how New Zealand is tracking, notes one enduring difference and suggests that it be fixed.

Nine "new" TVET technologies have been brought to prominence in the USA.

They are:

a) Assessment of factors affecting national competitiveness and prosperity which is influenced by comprehensive methods of economic analysis pioneered by Joseph Stiglitz and informed by independent assessments from the global research bodies (OECD, IMF, World Bank and others)
b) Fiscal policy interventions which support production levels and product values
c) Changes to relationship between major projects and skills development
d) Identification of under and overprovision in both university disciplines and TVET training
e) Adjustment of provision to close demand-supply gaps
f) Costs of tuition and income earning prospects are being communicated directly to learners.
g) Innovation is being mainstreamed into TVET
h) Resources are being drawn together to support urgently needed and other high value vocational education and training – support for the new green industries is a case in point.
i) Use of pragmatic provision systems operating at scale as contracting entities

In terms of those eight technologies, New Zealand:

a) Makes very limited use of comprehensive economic analytical methods. This has two consequences: first, we seldom know what actions and inactions cost us over time in real terms; second, because of that information gap we tend to support unproductive ways of working for longer than they merit and we tend to invent new ways at a slower rate than real world circumstances necessitate.
b) Uses a limited range of intervention tools and instead allows market forces and our policy tools to converge in ways which draw costs together at high levels, hold them there and so make social and economic progress difficult.
c) Gets caught between awarding major contracts on a least cost basis and including funding of training within contract budgets.
d) Will get best-of-class information on under and overprovision in TVET occupational classes from early 2014 when the Auckland construction and infrastructure workforce roadmap becomes a public domain resource.

e) Could reduce gaps between demand and supply of TVET skills by aligning TVET funding with the outputs of workforce roadmaps.
f) Has made most of the policy changes necessary to mainstream innovation in the TVET sector – applied technology research funding in partnership with industry and the Callaghan Innovation being two great initiatives.
j) Resources are being drawn together to support urgently needed vocational education and training – He Toki ki Te Rika, the Maori and Pacific Trades Training Fund and capital investment in CPIT are amongst current examples.

New industries are having less effect on TVET curricula than their commercial potential may merit, though that changing on a case-by-case basis.

- Of particular interest, is the rapidly diversifying suite of pragmatic TVET provision systems operating in New Zealand. As old ways of working are being abandoned new forms are coming out of ITO consolidations, localised ITP collaborations, iwi initiatives, iwi-provider- industry collaborations, direct funding of industry training, ITO-ITP JV's and VETNZ.

Let's look briefly at the forces that created the nine new technologies in the USA and see what equivalents they have in New Zealand:

- The GFC raised serious questions about cost analysis and economic forecasting so comprehensive economic analyses came to the fore.

- Approximately 2,000,000 jobs were lost to the American construction sector from the beginning of the GFC. Unemployment in the construction industry peaked at 20.6% in January 2010 and has since declined to 9% (Bureau Labor Statistics)

- A 2013 return to 2009 building consent numbers is placing pressure on the skilled labour supply.

- New IT and "green industries" are adding to demand for new TVET courses and qualifications.

- Volatile weather conditions have affected hundreds of thousands of people. Hurricances Katrina and Sandy between them, damaged or destroyed 854,000 homes, with restoration costs estimated at $215B, or 1.65% of the USA 2012 GDP.

- The true value of university degrees is under question.

- TVET qualifications are increasing in true value.

- Partnership-based TVET provision systems are being expanded through strengthening of colleges, professional organisations, private sector training

organisations, and partnerships between these in various combinations and federal and state governments and major businesses.

These American causal factors have equivalents, albeit at a micro-scale, in New Zealand:

- Jobs in the NZ construction industry as defined by Statistics New Zealand, declined by >9%, 2008-2012.

- Current skilled labour shortages are well-documented.

- New industries appear to be influencing university curricula more than the TVET provision.

- Wetbuildings, Christchurch Rebuild and the Auckland construction boom have an approximate total projected cost of $140B. That's equivalent to 77% of New Zealand 2012 GDP[ii]. These have intensified TVET, caused changes to provision systems and increased access to offshore supply chains for labour, materials and equipment, while not yet having a great impact on innovation in, for instance, home construction.

- In New Zealand, as in the States, the true value of university degrees is being questioned and TVET degree qualifications are increasing in value. This may be one of the first years in our history during which TVET degree holders can earn more money in the early years of their careers than members of university degree graduated learned professions.

Broad similarities and key differences:

Causal factors underlying changes to the TVET practices in the USA and New Zealand are broadly similar. They are influencing TVET practices in similar ways.

Most notable similarities are:

1. shift from supply-driven to demand-driven TVET systems
2. radical changes in the corporate design of providers adapting increased scale, broadened curricula and other capabilities, ability to enter into legally binding contract, and to support a number of complex projects simultaneously
3. line-of-sight systems – from school through TVET & into employment

The single most notable difference is that "employment and skills planning" are more commonly funded within overall project budgets in the US and the UK[iii], than is the case in NZ. Doing so creates benefits for projects, for economies more generally, and for local communities. Comprehensive economic analyses reveal the positive returns which can be generated by this approach.

There are various ways in which that problem can be dealt with and a lot of work going in New Zealand and elsewhere on at present which could get us beyond it. The sooner it succeeds the sooner we will have a full tool kit of **TVET Technologies fit for New Zealand's 21st Century**.

NOTES

[i] "*The Importance of Trades to New Zealand's Future Prosperity and Well-being*", Paper presented to the New Zealand Trades Deans Conference, 2012.

[ii] Total cost estimates and the 2012 NZ GDP value are from current www sources, noting the very approximate and changing nature of the cost estimates.

[iii] See "*A client-based approach to developing and implementing an employment and skills strategy on construction projects*". The National Skills Academy: Construction. May 2012