To investigate how to improve the transition/pathway of students moving from year 11 through to and beyond year 12 using Trades Academies and Polytechnics to help gain NCEA level 2 and above.

Sabbatical Report – Term 3, 2016

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Purpose

To look at how secondary schools and Polytechnics can work closer together to provide a clearer pathway for students stair casing from NCEA level 2 through to either Tertiary study or onto employment.

The government (The Government Better Public Service target[1]) has stated that the goal should be that 85% of 18 year olds should attain NCEA Level 2 or the equivalent by 2017.

Taking this into account the study needed to look at how engagement levels could be improved which in turn would lead to the improvement of retention rates of students, especially at year 12 and beyond.

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[1] http://www.ssc.govt.nz/better-public-services

Executive Summary

The use of Trades Academies to provide alternative pathways for students to gain qualifications while at school has been successful. The Government Better Public Service target of having 85% of 18 year olds having gained NCEA L2 by the end of 2017 may have fuelled the rise in popularity of Trades Academies. However if students have a genuine desire to pursue a career in the trades, how can we make the pathway from schools to the tertiary providers smoother and clearer?

The study looked more from the schools point of view of how they and the Secondary –Tertiary Programmes (Trades Academies) providers can work together to manage the students in terms of:

- Improving engagement levels
- Identifying needs and skills required to enter a Trades Academy programme
- The timetabling issues
- Courses available and the needs of the community
- How to achieve the Government target of 85% of 18 year olds gaining NCEA Level 2 by the end of 2017
- The barriers to success
- How to identify a clearer pathway from school through to the Polytechnics
- The complexity of funding.

The findings indicated that the inclusion of Secondary Tertiary Programmes (STPs) within the school curriculum not only improved the engagement of students (especially at NCEA L2) but also increased the retention of students at L3 which created its own issues. NCEA L3 for these students could be unattainable. Course structures for these students needed to be more flexible; incorporating a continuation of the STPs into level 3 and beyond, subject selection at school more applicable and contextualised.

Timetabling of classes needs to reflect time spent attending the STP, where the Trades Academy operates 1 day/week students should be expected to take fewer subjects (at least 1 subject less), however if the STP operated over afternoon sessions only, and student timetables could incorporate double periods, then the Trades Academy could simply be taken as one of their subjects, minimizing the time spent missing other classes.

Where the STP operates over 2 or more days / week, then the student needs an individualised educational programme (IEP) which operates from a pod or central hub ensuring subject relevancy (to the chosen trade) and the opportunity to achieve NCEA at the appropriate level.

While the skills required for entry into the Trades Academies was seldom an issue, provided that the student had acquired NCEA L1, students required considerable career counselling, exposure to taster courses, and work related experience prior to

embarking on the full Trades Academy courses. This led to a better success and retention rate.

The inclusion of Unit and Achievement standards at NCEA levels to gain credits has fallen into line with the schools and NZQA expectations, thus allowing students the ability use these standards to help gain NCEA Levels 1, 2 or 3.

An analysis of the barriers to success identified that there were some significant differences between schools and Institutes of Technology and Polytechnics (ITP): Teaching/ delivery styles of the ITPS led to a greater retention rate, classes were more practically orientated, more inclusive, focussed on the relevant skills and assessments, contextualised, smaller classes with students being responsible for their own learning outcomes. It was evident that there was a more relaxed yet "adult orientated environment" without the school disciplinary system dominating. The communication with whanau at every step of the students' pathway into the ITP was seen as critical.

Courses operating at the Institutes of Technology and Polytechnics (ITP) need to reflect the needs of the community in terms of employment (trades and apprenticeships) incorporating work experience and on job training. A complete transitional pathway from school to the ITP and onto employment must be evident and obvious to the student. Some ITPs employed a "job broker" to secure work placements as part of this.

The complexity of funding the partnerships needs to be simplified as currently schools and the ITPs are drawing funds from far too many different sources. A more equitable, simpler and transparent model needs to be developed.

To conclude, whilst the schools and ITPs have collaborated to develop the courses up to and including NCEA L2 more integrated and successful, there is still ample opportunity to create at NCEA L3, meaningful programmes to maintain the engagement of the students at school while still under a STP or similar partnership. The results of this should reflect the same sort of retention rate that has been created at NCEA L2 and then leading to a higher rate of entry into the ITPs for trades' courses.

Background and rationale

Currently the school has 75% of our students gaining a minimum of NCEA level 2 by the time that they complete their schooling, however we need to reach the government target of 85% by the end of 2017. (95% of those not gaining level 2 are Maori/Pacific Island students). Those students who complete their year 12 at school are incredibly successful. (98% gain level 2). However retention of students to the end of their year 12 is the concern. I am hoping to investigate how students can become more engaged and complete their year 12 by providing a better pathway into and through the Trades academy and onto a career.

While I have been instrumental in implementing the use of the Trades Academy through the Eastern Institute of Technology within Hastings Boys High School, I believe that there is a huge opportunity to improve this initiative and provide a clearer pathway for the students. One of the issues facing the students is the continuation of the pathway from the level 2 courses being offered onto a meaningful structured course at level 3 and beyond.

In order to do this I will investigate and gain a better understanding of:

- How Trades Academies can provide an opportunity for students to embark on a successful pathway. (Courses offered)
- Ascertain the knowledge and prerequisites/ skills required for Trades Academies
- How to integrate these prerequisite skills with the school curriculum to ensure that the students meet these requirements and can move forward while still gaining recognition for NCEA level 2
- How the Trades academies can include a pathway that extends into NCEA level 3
- How the school and Polytechnics can support the students to continue on their chosen pathway
- Look at the reasons why the Trades Academies have been so successful at year 12 and how this can relate back to the school environment.

The Rationale for visiting the major contributing schools and Polytechnics

To investigate and gain a better understanding of:

- How effective the programmes are being implemented.
- How schools and the Polytechnics are collaborating to improve student success.
- Are there any innovative plans for future development of courses?
- How can student retention be improved.

Methodology

Gather information through discussions with, and analysis of course information from the following Polytechnics and their major contributing schools:

- Eastern Institute of Technology
- Manukau Institute of Technology(MIT)
- Waiariki Bay of Plenty Polytechnic
- Waikato Institute of Technology(Wintech)
- ARA Institute of Canterbury
- Nelson Marlborough Institute of Technology

Schools

The major supporting schools of these Polytechnics or lead providers were asked to elaborate on the following:

- Which levels do the trades academies operate over?
- Which format do you use and how did this suit your school / pupils? (1 day /week 2 days /week, block courses)
- How and when are students selected for the Trades Academy?
- Do you require your students to have any prerequisites?
- How have you developed your curriculum to incorporate and complement the requirements of the Trades Academy and NCEA?
- How do you support the students while attending the STP?
- What barriers have you encountered to prevent a successful outcome for your students?

Polytechnics

The Polytechnics were asked to focus and elaborate on the following areas:

- Target courses-how did they choose the courses being offered?
- What format did you operate under? (i.e. -1 day/ week, 2 days /week, block courses)
- What were the prerequisites, if any, for those courses?
- What were the achievement and completion rates at level 2?
- What were the retention rates to L3 if applicable?
- What were the retention rates onto the Polytechnic for school leavers who had attended courses as part of the Trades Academies?

- What community links, if any, does your polytechnic incorporate into your programs?
- Have you identified any barriers to the successful implementation of your Trades Academy?
- Which areas do you feel have made the Trades Academy successful?

Findings: Schools

Which levels do the trades academies operate over?

Year 11 taster courses

Some taster courses were offered to year 11 students. Where these taster type courses were offered, it allowed students to trial several different courses over the space of a week, which in turn gave the students the chance to make a more informed, appropriate choice for their NCEA level 2, as well as increasing their confidence about attending a tertiary institute. This has led to an increase in the completion and retention of students at NCEA level 2.

Year 12 (NCEA L2)

Most schools were primarily targeting year 12 students, as this was the target area from the government for the achievement rate of 85% NCEA level 2. It was also seen as the level for where traditionally we see the biggest drop out rate and non-engagement of students. (Norton et al.2000) There is approximately a 10% drop in retention rate between NCEA level 1 and NCEA level 2. This is also the year group that is being targeted by the Secondary Tertiary Programmes through the ITPs. At this stage of schooling students should be looking at the specific skills required for their pathways and they should be looking at the courses which should be providing them these. The ITPs often provide such skills/courses.

Year 13 (NCEA L3)

Trades academies are starting to gain traction for some year 13 students. There has been an increase in the numbers of students returning to school in year 13 as a result of year 12 success rates through the use of Trades Academies.

The Trades Academies have played a major role in allowing students to gain the necessary credits in order to achieve this. While this in itself is seen as a huge benefit in terms of employment prospects (Norton et al. 2000), schools need to provide appropriate and meaningful courses for these students. Often achieving NCEA Level 3 in the traditional format is non achievable for these students. This is now where we need to concentrate on developing the seamless pathways through into the Tertiary sector and employment to avoid disengagement for these students.

How and when are students selected for the Trades Academy?

Careers advice

Earlier careers advice for pathways has become evident and should include parental input. Students were targeted from as early as year 9 onwards, but the majority were from year 11.

Where career education is seen as a priority from year 9 onwards, students are identifying their career pathway with more certainty. Liaison between the school,

student and parent is critical for course selection[2], especially if students are best suited for the alternative pathways involving outside organisations.

Course selection meetings, careers evenings, and course booklets are all used to help with course selections with this taking place in most schools during term 3. The Trades Academy closing dates taking place in term 4 with final placement being made in February the following year.

It is important to note that schools are also using both STAR funding to introduce pupils to specific courses in trades along with Gateway Programmes which operate within the schools for pupils to be introduced to trades. This study does not include or evaluate these.

Disengaged students

Initially students targeted have been primarily those who have shown tendencies to become or are disengaged from secondary school. There could be a number of reasons for this ranging from a lack of relevancy of course/curriculum content, lack of flexibility to accommodate individual needs, no connection with the community or poor course designs (Middleton,2014)

Often these students were pre-selected or directed to taking courses at ITPs as they were identified as not being able to gain NCEA at level 2 through only taking courses at secondary school. The courses at the ITPs are often more practically orientated and seen as far more engaging for the students. The reasons for this are discussed later.

Which format do you use and how did this suit your school / pupils? (1 day / week 2 days / week, block courses)

1 day/week

There were a variety of models operating throughout the country. The vast majority of schools were working along the 1 day / week allocation for Trades Academies to fit in with the local provider.

The 1 day / week model was the most popular as this was the least disruptive to both the schools and the ITPs. The set day allowed for easier planning, timetabling and transport for both parties. Main school activities were seen to take priority, but this did have an effect for schools with a large co-curricular programme. For most schools the normal school timetable continued on with little or no changes made, those students simply not attending on that day. Schools had to make adjustments in terms of their assessment programs, as in effect those students were missing 20% of their secondary school time. Schools either allowed their pupils to take one less subject, or assessed fewer standards for those students, given that would have the opportunity to gain 20 or more credits at NCEA L2 through the STP.

[2] The Crown-Maori Economic Growth Partnership-Action Plan 2012-2017. Goal 1 –retaining students in education

The difficulty arose when STP students were expected to still complete a fully assessed program at school along with the rest of their cohort despite only being at school for a maximum of 80% of the time.

2 day/week

There were examples of 2 days / week especially for level 3 courses (including the 3+2Model) - this led to timetabling and course selections issues while at school. While the 2 days / week at the ITPs was very successful for the Trades Academy students in terms of their attendance and focus, it proved to be difficult to timetable effectively for the remaining 3 days / week at school. The best examples saw schools run an alternative programme where these students were kept as a separate class. At L3 they were able to complete units of work in such areas as: careers, sports performance, financial literature, hospitality, tourism, computing, while also being able to study specific units of work pertaining to their chosen trade pathway. Some schools were particularly innovative in the way in which they had applied their curriculum to these students. (Discussed later)

Block courses

There were some examples of block courses (3 x 10 days) and for taster courses. Block courses were used for some ITPs and has proven to be successful where the development of leadership and social skills were planned outcomes. This was evident in the Manaaki Tapoi L3 course (TOTSTA[3]) where the programme was designed to strengthen students understanding of both the uniqueness of Maori culture and the interconnectedness of Te Aho Maori. They were also useful to in allowing students to experience a "typical day/week in a chosen trade."(Discussed later) Students returning from block courses were also noted as being more engaged, as they were able to make the connection and hence the relevancy of their class work towards their chosen trade area

The taster courses were run over a week where students might have experienced a different course each day or some were run in the school holidays so there was no interruption to the normal school day.

Afternoon/part day courses

Some schools were operating their STP on afternoons, using a 1pm-4pm time slot either on 1 or 2 days / week. This combined with double periods(in some schools) allowed for students to miss a minimum, if any school time as the STP counted as one whole subject of that pupils timetable.

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[3] "Trades Academy Whenua Iti Outdoors." 2016. 10 Nov. 2016
http://www.whenuaiti.org.nz/for-schools/secondary-schools/trades-academy/

How have you developed your curriculum to incorporate and complement the requirements of the trades academy and NCEA?

Corroboration

The most successful outcomes occurred when the partnership between schools and the ITPs included a great deal of corroboration between both parties to ensure that the following factors were taken into consideration:

Schools work with the students to gain NCEA level 1 literacy and numeracy. This was seen as a minimum requirement but did not preclude students from entry providing that there was close monitoring and help provided by the school and ITP.

Testing is carried out either by the ITP or the school to give relevant data to the courses tutors on the levels of literacy and numeracy. The ITPs are eligible for funding assistance to help with this.

Accumulation of NCEA credits

Students were still be able to gain the necessary credits to gain NCEA level 2. Initially there was a concern that there was a flood of credits being offered by the ITPs, and this was disproportionate to the time allocated for the courses. This led to further disengagement of students who recognised that they no longer had to complete work at school, as by half way through the year they had acquired enough credits to gain NCEA L2. This has largely been addressed by both parties.

Course alignment

The unit standards at school are not repeated in the ITP setting. Schools needed to liaise closely with the ITPs to ensure that there were no standards being taught by both of them. Some schools are accredited to deliver standards that previously had been delivered only by ITPs. It was also noted that where both parties knew the content being delivered it was beneficial to complement the teaching at the same time, which gave further relevancy to the students.

Time allocation

At year 12, schools varied in their approach from allowing the students to have an option line "free" to allow for subject catch up time to allow for time spent at the Trades Academy, through to minimal to no know time allowed, whereby the students were expected to complete all missed work in their own time.

Where a teacher was allocated to the students involved in the STPs and was given a time allowance, they were able to work with the students to ensure that subject work that was missed was able to be caught up in a supervised study period. If however, this time allocation was not given to the students, it led to frustration and a further tendency towards disengagement or the student becoming over committed. Schools that were more attuned to this had a greater retention rate. "A lack of flexibility by schools"(Middleton 2014) is one of the reasons for disengagement.

Course content

School and ITP work in conjunction to develop the necessary skills required for the trades so that curriculum content can be modified. Fewer standards offered and more time allocated to necessary content in a more contextualised way.

It has been noted that while many trades require certain aspects of recognised subjects at school, whole sections may not be necessary in order for the student to succeed in their chosen trade. Schools are recognising this and are so are not offering as many subjects, perhaps a maximum of 4 at the senior level for these students. They are also focussing on fewer standards and modifying them to be more applicable to the student. The use of physics for the electrical trade is a good example of this. Only certain parts of the L2 and L3 were pertinent for students wanting to gain access to the trade so a school developed the Achievement standards around this, only focusing on two standards in their course.

Direct entry

Some schools encourage students to pathway straight from level 2 to ITPs where there are available places and appropriate courses as opposed to returning to school for year 13. Those schools recognised that the students would be better catered for in this environment, where the students could move straight into the pre apprenticeship courses if places were available. However case studies show that the student is more likely to gain meaningful employment at a later date if they are able to remain at school as long as possible (Education Counts 2015).

Other factors

Schools were also recognising that students may want to come back to school for a variety of other reasons: lack of social maturity, lack of confidence, sporting or cultural reasons, unattained qualifications, and unable to gain meaningful employment. Lashlie (2005) states "one of the factors important for successful school leaving for boys was merely staying at school until the end of the Year 13. This is because it takes boys longer to achieve a high level of maturity and self-management." Accordingly, suitable courses needed to be developed. This is an area where those close links with the ITPs and course structures has added value in outlining a successful transition and pathway for those students.

What barriers have you encountered to prevent a successful outcome for your students?

Appropriate pathways

Students need to be able to align themselves with an appropriate pathway. Students need to have had some experience of the courses being offered, prior to making a commitment to proceed for the year.

Hence the importance of the taster courses for undecided students. Appropriate pathways needed to reflect the demand within the community as well.

Student confidence

Students were initially not confident to embark on courses outside of the school environment. Given that the majority of the students were from lower decile schools, it was most likely that these students had come from low socio economic backgrounds where parents having entered or completed tertiary education is most unlikely, and so entering into this unfamiliar environment was quite daunting. When the students were paired with others that they knew, they were much happier to participate in the ITP programmes. This was seen as a major factor with the Maori and Pasifika students[4]. These students were far more likely to continue on in the tertiary setting after attending these programmes for a year.

Funding

The funding for the STPs is complex and needs to be far easier to apply. Schools are using a variety of funding models to allocate places for their students. Funding ranged from STAR, Youth Guarantee, Gateway, private institutions and STP funding. A far simpler, streamlined and transparent model is required.

Course content

Where written work is the focus, as opposed to a larger practical component, Middleton (2014) found that the students were far more engaged when courses were practically based. Failure to ensure this led to a significant drop out rate. It was found that written work was best completed in the morning session with the practical application to follow. This is generally quite different in the school environment, where the practical application of theory work may not even occur in that subject or timetabling constraints may not enable practical subjects only to be taught in the afternoons.

Attendance

Poor attendance, for example a full day's absence, could result in a considerable amount of work being missed. As a large number of students have been identified as non-engaged at school, ensuring their attendance patterns were addressed was critical to them completing the courses. Given if they missed an entire day, it was the equivalent of missing an entire week for that particular subject.

Students involved in a large school co-curricular program had a high number of legitimate absences, and schools and ITPs had to work closely together to ensure course requirements were met. IEPs took on an even more important role here, and considerable time had to be set aside for students to complete work.

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[4] http://www.educationcounts.govt.nz/topics/31351/nga-haeata-matauranga-annual-report-on-maori-education/focus-area-5

Where students were absent from school, attending their courses, workload allowances needed to be made. Schools needed to either offer study periods to allow students to catch up on work or have a modified assessment programme to allow for students already gaining credits from the STP. The issue arises if students don't continue on to the next level at a STP or an ITP, but instead return to school and the curriculum/course demands of the school may require those students to have obtained perquisites before they are able to enter L3 subjects. Having taken a Trades Academy course could prevent the student from acquiring pre requisites. Thus the importance of the school/ITP pathway being clearly defined for the students prior to them embarking on a Trades Academy type program at course selection times.

If students could not see a clear follow on to the next level which hindered progress significantly, hence the importance of a L3 and L4 pathway that was communicated to the students throughout the courses.

Findings: Polytechnics

Target courses – how did they choose the courses being offered?

All ITPs consulted with schools to find out the type of courses that they wanted. There were a range of reasons given for schools not being able to deliver the same types of courses themselves:

Lack of accreditation, lack of specialist resources (staff and equipment), insufficient numbers of students who had selected those choices, and lack of contacts within the communities.

Expertise available

The ITPs were able to make use of the expertise available within their institutes, simply because they were already delivering courses to students at L2 and L3 and for apprenticeship courses. When a tutor wasn't available, outside tutors were employed. Whilst it has been a big learning curve for tutors having to deal with the younger students, there has been a successful transition.

Resourcing available in terms of rooms / times available

The resourcing in terms of specialist rooms and times available was worked around those courses already in existence with the ITPs. It was often a timetabling issue which was solved by operating the STPs on a single day each week. Where courses were run in conjunction with ITOs, they once again had to fit in with existing programmes. In terms of consumables or materials required, completed projects and products were sold at the end of the courses, and all other materials had to be budgeted for.

Regional development and needs

The needs of the community have played a big part in the course developments. Areas such as Christchurch and Auckland with the building programmes, Hawkes bay with the agriculture and farming, Rotorua with tourism. The ITPs and schools both realising that there has to be realistic employment opportunities within the local communities and that they are preparing students with the necessary skills to be able to be employed. Some industries were prepared to take students for work experience as part of the ITPs courses.

Government targets (number of places)

Places were competitive as ITPs had to largely operate according to the number of allocated places in each region. While students had to apply for their courses and undergo interviews, most courses would be oversubscribed initially. The potential for pilot courses to be trialled though has led to some exciting new courses and

initiatives and allowed numbers to be increased. Place numbers have steadily been increased by the government however.[5]

Which levels do the trades academies operate over?

Level 1

As mentioned previously, taster courses at Level 1 have been used to introduce students to the various courses and the concept of being involved in the STPs. Level 2-majority of courses offered.

Level 2

Level 2 is where the majority of the courses have been targeted and led to the formation of Trades Academies. This has worked in with the Government's target of 85% of students gaining L2.

Level 3

L3 is now becoming more popular due to the success of the students gaining L2, but there are fewer students enrolled. With the introduction of the DualPathways as a method of allowing students to take the next relevant steps into employment or further education, ITPS, schools and ITOs have an ideal opportunity to further collaborate to develop meaningful pathways for students.

What format did you operate under? (i.e. -1 day/ week, 2 days /week, block courses)

Block courses

Block courses were ideal for students involved in adventure tourism or off site camps in outdoor education, and courses where the students were exposed to typical working conditions expected in that trade. As already mentioned the course run by TOTSTA in adventure tourism runs as a 3 x 1 week block course.

1 day / week

The Level 2 courses were predominately run for 1 day/week. This was to suit the resourcing and timetabling of both schools and the ITPs.

Majority of courses at level 3 were 1 day although there has been an increase in the 2 days/ week courses.

Some of the notable differences being in the TOTSTA course (mentioned above), EIT (building and carpentry) and WINTECH (mechanical and civil engineering), these all operated over 2 days/week.

Afternoon / part day

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[5] https://www.beehive.govt.nz/release/public-service-working-hard-meet-challenging-targets

Some courses operating 2 x afternoons / week where the hours varied and timetabling suited.

This model was interesting in that it worked in well with the school's timetabling and was being run by a lead school as opposed to an ITP. The afternoon sessions ran for between 3 and 4 hours, and were being run in conjunction with industry

Semesters

This allowed for more students to have the opportunity to take the courses and or change direction at the midpoint of the year if they found that it wasn't the trade that were enjoying. It also allowed for a split in the various trades –i.e the building industry being divided into plumbing/electrical/carpentry/or associated allied trades.

What were the prerequisites if any for those courses?

NCEA Level 1 numeracy and literacy although special help was available for students struggling with this.
Some courses leading to level 3 and above required students to have completed the level 2 component but it was generally agreed that students opting for a change in direction, would be allowed if it fitted within the ITPs requirements.

What were the achievement and completion rates at level 2?

While NCEA results for L2 have been increasing,(74.4% in 2012-79.1% in 2015) there were notable improvements for students who were enrolled in the STPs.

- 2015 Students achieving NCEA level 2 (from STP programmes) as being 74.1%
- 2015 results of student destination following an exit from STP indicate that 77.5% have made a positive transition i.e apprenticeships / employment / return to school / tertiary study
- 80% of the students enrolled completed their STP courses and exited.

What were the retention rates into Level 3 if applicable?

- 2015 results show a retention rate into 2nd and subsequent years as being at 61.4% (Education counts 2015)

What were the retention rates onto the Polytechnic for school leavers who had attended courses as part of the Trades Academies?

- Nationally, in 2015, 20.6% moved into tertiary study[6]

What community links, if any, does your polytechnic incorporate into your programs?

Regional links

These ranged from having students attend work exploration through the ITP as part of the course, through to providing a service to the public. This was notable in Auckland where the polytechnic and trades academy combined with such organisations as the Auckland Airport, the Community Health Board providers, regional and local councils.

Some ITPs produced goods or services which were sold to the public. This included houses/ food/ pit bikes/community facilities-parks and recreational shelters, and planting. This not only allowed the students to gain valuable experience, but introduced them to potential employers. As organisations they had a person as a dedicated "job broker" who actively assisted the students to find suitable employment for their chosen trade. In some areas employers were offering positions before students had even completed their training, such was the nature of the training and the need within the community.

How have you developed your curriculum to incorporate and complement the requirements of the trades academy and NCEA?

Consultation

Through consultation with their contributing schools ITPs have been able to ascertain which Unit Standards schools have been accredited to deliver and then develop programmes/courses to complement these and to allow students to work towards a nationally transferable tertiary qualification in Level 1/2/3 (i.e. National Cert in a particular Trade[7]) This along with the student tracking through the Vocational Pathways has enabled students and staff to track progress more easily.
ITPs work closely with schools to ensure that the literacy and numeracy components of NCEA are embedded in the programmes.
The advantage of the ITPs is that students are on campus and can see immediately, experience or participate in the courses available for them to continue onto should they desire to attain higher levels: Level 4 or trade certificates.

Have you identified any barriers to the successful implementation of your trades' academy?

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[6] http://www.educationcounts.govt.nz/statistics/indicators/main/education-and-learning-outcomes/1907
[7] http://www.youthguarantee.net.nz/start-your-journey/

Travel / transportation

While as part of the STP funding model, transport is covered, it still created some difficulties in having courses finish in time for pupils to be transported back to their school in time to catch the school buses. Some ITPs had their courses delivered at their local schools, where some schools combined and the ITP tutor came to them.

Funded places

While funded places has increased over the last 3 years, the demand has obviously exceeded placements in the STP courses. New pilot and dualPathway[8] partnerships will further increase the number of places available and the ITPs are endeavouring to allow for students either finding employment or moving into other areas / institutions, but clearly the initiative and concept has proven to be extremely effective as an alternative to a straight secondary school program.

Student perception

Student / school perception of the typical candidate for the course – often a low perception in terms of ability/interest as opposed to the student being capable but disengaged due to the secondary school environment.

Initially the STPs were attracting only those students whom the schools perceived as being disengaged and were actively seeking ways to ensure that the students remained in the schooling system. It is now evident that not only are the disengaged students wanting to enrol, but students who are genuinely wanting to pursue a trade as a career. However the ITPs have successfully addressed the barriers that have caused disengagement, allowing students to succeed where they might otherwise have dropped out. Some schools do not participate in the STP at all, claiming that they were only interested in their core subjects at school.

Course appropriateness

Providing courses at an appropriate level/nature to ensure that the pupils are engaged in a practical environment but still maintaining the integrity of NCEA levels and equivalent credit values for courses. As all of the ITPs spoken with had courses operating prior to the start of STPs, they all had had experience with dealing with students, but not necessarily as young as those presenting for these courses. They all recognised the need to make the courses of as practical as possible, as this has led to a great deal of success. Middleton (2014) noted that this was one of the most important aspects of Trades academies. This was one of the major differences seen by pupils as the school environment was composed mostly of them being seated in a classroom for large parts of the day. The practical nature of the STPs was far more realistic in terms of how they perceived working in the trade would be. This combined with the written work being only related and directly applicable to the course they were studying, kept them engaged.

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[8] https://www.beehive.govt.nz/release/more-pathways-young-people-work-and-higher-education

Available space / facilities / tutors to accommodate the trades academies - given that the ITPs have their own full time courses running, the STPs that are based there have to fit in within the existing resources. Part time tutors have been employed to meet the needs in some courses.

Collaboration with schools

This has been far more collaboration between ITPs and schools to provide a more seamless pathway through school and into the polytechnics. This has led to a far better integration of the curriculum. Students can visualize the pathway and the necessary skillsets required to move through to into the tertiary and employment sectors. This has in the past been one of the reasons for students becoming disengaged.

Implications

Using Trades academies to attract, retain and encourage students to remain at school to gain NCEA L2 and then move into the tertiary environment and into a trade is certainly a positive concept. However the implications from the findings above, does highlight some factors which need to be addressed by both schools and ITPs.

From the students' perspective, they need to be made aware of career options and the necessary skillsets and subject choices to focus on, while at the same time keeping their options open enough to be able to change direction before specializing too early. Disengagement due to a lack of direction and appropriate careers advice early should be addressed by schools. The inclusion of whanau at this early stage is critical in helping to map out the pupils aspirations and goals. If the student has hopes of entering a trade then more effort needs to be made to attend open days, taster courses, and then into a trades academy program.

Closer links need to be formed with local industry so that work exploration can be carried out as part of the school/ITP programs. The barriers to this need to be minimised by both the schools, ITPs and local industry. The health and safety regulations, on-site training and facilitation, timing of programs and appropriateness of them are all factors which need to be addressed to ensure success.

Course content: schools should be collaborating with the ITPs to ensure that they are meeting the criteria to ensure that students can gain credits towards either their NCEA L1, L2 or L3, as well as covering the skills required for the student to be able to move down the pathway smoothly towards gaining a qualification in their chosen trade. While schools may indeed be the ideal place for students to become immersed in individual learning programs, the reality is that this may not be able to be achieved by all schools. Often these students have become disengaged by the time they get to year 11 or 12. Courses need to be better organised so that there is more emphasis or focus on the practical skills, or making the course content more applicable to the students' needs. The necessary literacy and numeracy components must be embedded within these courses. When students were able to see and experience the pathway while attending the STPs it gave them a better understanding of the skills and knowledge that they would require in order to succeed. This also led to better engagement on their return to school. Once again, schools need to pick up on this and ensure the relevance of the curriculum areas being taught for those students.

Teachers may have to become more flexible with the content being taught and then be more selective applying the appropriate achievement/ unit standards to be assessed against and the time frames for assessments to be completed. They also need to look at their teaching styles in order to be more effective with their students. Clearly the study by Middleton (2014) discussed how students found the learning environment so different between school and the ITP, and we should critically analyse this to try and mirror or at least adapt our teaching pedagogy to meet the needs of the students. The focus on practical skills, self-reliance, and personal

responsibility for attendance, safety and compliance were all seen as major factors in the success of the STPs. As the students had chosen to be involved in these courses, there was considerably more "buy in" and perhaps more preparedness for them to want to try and complete the set asks. If this was applied to the school setting, students would need to see the relevance of what they were involved in as opposed to theoretical ideas for which there was no relevance. If there was more commonality between the 2 institutions, students would find the transition into the pathways far easier and hence be more inclined to complete courses.

Flexibility with timetabling is required to enable students to effectively take part in the available courses without the unnecessary over commitment of still working within the traditional timetabled lines. Ideally those students would have a study period each day in order to complete missed work, but a staff member would have to be available to help them. Where the STP involves major time commitments, an alternative timetabled program would have to be instituted.

The course structure and staffing requirements need to be such that the students can work on their IEPs effectively. A "pod or learning hub" type structure could be used, where the pupils can have a home base to work from where there are relevant units of work, also incorporating block courses which are aimed at their transition from school to STPs or work experience placements. (Health and safety in the workplace, 1st aid certificate, coaching Level 2, etc.)This type of arrangement would be applicable to students working on the "3+2" models where it is virtually impossible to incorporate them into the standard timetable. Schools collaborating closely with their STPs could be focusing on the theoretical side of the courses while allowing the STP to work more on the practical side, providing that it had the relevancy. This could also maximize the use of specialist facilities/resources/property.

If distances and transport allow, it is possible for students to attend a STP for 1 - 2 afternoons / week. This allows for less disruption if timetables can allow for double periods so that the student may miss minimal school time. This serves both parties well as the student is able to take the Trades Academy as an option line, while still being able to complete their other subjects.

While it has been mooted that Secondary schools could combine in a similar fashion and each provide some speciality in terms of resources and courses, it doesn't provide the tertiary environment which has been one of the attributes which has made the STPs successful. If this were possible then perhaps it would be a viable alternative.

Conclusion

The partnership between Trades Academies and secondary schools has provided an ideal pathway for students to enter not only the trades' environment but also into the tertiary sector. It has provided the opportunity for students to explore and sample the trades that are available within the local communities and also attend the Tertiary Institutes and thus provide an experience which may otherwise have seemed unattainable for those students.

The confidence gained from being in this environment must not be underestimated. Students have not only been exposed to the programmes available, but also to the institutes' atmosphere. Still being part of the school at the same time also allows them the security of a system that they are familiar with.

In the lower decile schools this has been a very positive influence in preparing and opening a pathway for the students.

Students who otherwise were disengaged have found the Trades Academies exciting and it has given them a new direction, which has resulted in them finding a new relevancy for subjects at school. This combined with their ability to gain credits at the appropriate NCEA level has led to further success, usually at L2. Students having gained level 2 are more likely to enrol in higher level Education.[9]

However greater development of courses for these students at L3 transitioning into the ITPs is still required. The Secondary Schools that have actively collaborated with the ITPs to develop meaningful pathways extending through L3 has led to those students entering into the Tertiary organisations at a later date.

By taking into account and acting upon the above mentioned implications, there should be an increase in the retention rate and subsequent higher leaving qualifications which will cause an increase in the skills for employment, which is required if we hope to increase economic growth. Thus the attraction of students into the tertiary sector or trades needs to be promoted by both ITPs and ITOs. Employers need to feel confident that the ITPs are producing a workforce that is capable, skilled and motivated. This transition or pathway from school - trades academy (through an ITP) - Tertiary training (either at L4 or above) - trade apprenticeship could be the logical pathway to ensure this.

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Appendix

Eastern Institute of Technology (EIT)

Manukau Institute of Technology (MIT)

Waiariki Bay of Plenty Polytechnic

Waikato Institute of Technology (Wintech)

ARA Institute of Canterbury

Nelson Marlborough Institute of Technology (NMIT)

Contributing schools:

- Aorere College
- Aranui High School
- Burnside High School
- Cambridge High School
- Christchurch Boys' High School
- Fairfield College
- Fraser High School
- Hastings Boys' High School
- Hillcrest High School
- John Paul College
- Linwood College
- Manurewa High School
- Opotiki College
- Palmerston North Boys' High School
- Papanui High School
- Shirley Boys' High School
- Sir Edmund Hilary College
- Southern Cross Campus
- Tamaki College
- Tamatea High School
- Taradale High School
- Tarawera High School
- Te Aute College
- Tokorua High School
- Trident High School
- Tauhara College