Contextualising vocational programmes to match institutional and industry settings

An automotive industry case study

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Executive Summary

This report on the research project, *Contextualising vocational programmes to match institutional and industry settings*, will describe the process from development of a quality programme of study in the automotive engineering field through to management of a consortium of Institutes of Technology and Polytechnics (ITPs) offering the programme in different geographical regions. The purpose of this project has been to improve the learning experience and outcomes for these ITPs' graduates - the tradespeople of the future - and ITP sustainability as relevant vocational education providers. The understandings gained from this project have become the foundation of a strategy to remain viable, while operating with values based on open sharing and trust to become an adaptable, manoeuvrable, industry-supported, benchmark training group.

The account spans a five-year journey in investigating better ways to deliver automotive training and to manage apprentices, resulting in Bay of Plenty Polytechnic's (BOPP) sale of the programme and resources to other ITPs. A consequence of the project has been the formation of a moderation group, who have become a strong, inter-institutional collaborative community. The group's purpose in collaborating intends initially to improve delivery across New Zealand, and to solidify practice within a growing consortium of ITP providers.

The report outlines an inquiry which comprised site visits and surveys and interviews with 47 representatives from three stakeholder groups: learners, teachers and employers. With the interests of these automotive repair industry stakeholders in mind, the research investigated preferences and experience around training delivery options, including classroom and online, and workplace and off-job learning environments. The findings confirmed the need for the managed apprenticeship model and indicated that the most significant regional variation in programme delivery was around day release arrangements, but that perhaps more variation in resource modification and management by individual organisations was required. The findings around reporting consistency and clarity also contain support for strengthened industry liaison resourcing, and there is a recommendation for better provider training for on-line programmes.

Introduction

The project, titled "Contextualising vocational programmes to match Institutional and industry settings", had four interlinked objectives:

- *To identify barriers and solutions associated with delivering a particular programme package in different regions, institutional and industry settings*
- *To assist teaching staff understand ways in which they can tailor a programme to match their particular context*
- *To provide a resource for other vocational / trade education providers which will allow them to create the best possible learning environment for their learners*
- *To ensure quality and consistency of content delivery for long-term sustainability of the programme and relevant, career-focussed learning for the learners.*

Bay of Plenty Polytechnic (BOPP), the host organisation, has a very successful Level 3 Automotive programme developed by specialist learning resource writers alongside the teaching team. Prior to expiry of the previous suite of automotive programmes, 2009 was the last year of the old full time level 3 programme, which combined level 2 and 3 material in a one year delivery: student completion for that year was 58%. In 2010 our new programme, now a two-year level 3 programme allowing predominantly level 2 content in year 1 had a 61% completion rate, then in 2011 improved to 63%, 2012 to 65% and 2013 continuing upward to 68.75%.

It comprises print-based resources as well as CDX software (an international, experiential automotive curriculum) which allows animations, videos, interactive explanations of activities etc to support unit standards, textbook and assessments in a 21st Century learning approach. BOPP was an early adopter of the software, worked with the supplier to make it more user-friendly and consequently negotiated a reduced price for licencing all providers of the programme package – since sold to three other providers who deliver in their regions.

This report is the final phase of a research project which sought to explore how learners and tutors responded to the programme material – were there differences on different sites? Have adjustments been made, or do they need to be, to accommodate local workplace/industry factors? Enhance transition to worksite roles? Improve employability? The research investigated barriers and solutions distinctive to each location, seeking general principles for transferable learning across the wider vocational / trade education sector, guided by the overarching research question: *What is good practice*

in contextualising vocational programmes to particular institutional and industry settings and ensuring long term sustainability?

Background

Vocational education and training – the literature

There is a growing literature in the vocational education field, both from New Zealand and overseas, which assisted the project team to make useful links between theory and practice and to provide a framework for this research. For example, Chan, Major, Leijten, and Mendonca's (2012) recent study for Ako Aotearoa identified the factors that influence apprentices' decisions to enter into an indentured study programme (Chan, 2014). These researchers described the 'vocational imagination' and the need to foster engagement and momentum to improve student outcomes. They also emphasised the need to gather feedback from apprentices and include their voice as part of the record to evidence skills and knowledge. Two further publications sponsored by Ako which offered useful evidence of the need for ongoing scrutiny of what works and what is less successful in vocational education are a study on sustainability (Sharma, 2009) and an examination of the role of technology and eLearning (Clayton, 2011).

Stephen Billett' s (2001) book "*Learning in the Workplace: Strategies for Effective Practice"* examines strategies for effective practice in workplace learning and looks at historical, cultural and situational factors which influence teaching and learning decisions and therefore impact learner outcomes. He sees individual delivery practice as a manifestation of the workplace or school, shaped by factors such as local needs, the individuals involved, the goals for the activities and the bases for judgements about performance: a list very similar to that which this project sought to examine by comparing regional variations in programme delivery.

Two further sources which assisted the team in the planning phase of this project focussed more on programme completion. Zepke, Isaacs and Leach's (2009) study of factors which influenced almost 100 trades learners' retention in programmes across six ITPs provided a strong account of the learners' perspective and preferences. Australia's National Centre for Vocational Education Research (www.ncver.edu.au/) offers a useful repository of recent and current research published through the site including *"Young Australian apprentices: structures of support and wellbeing", "Competency*

completion: impacts on assessment, assessors and workplace supervisors" and *"Vocations: the link between post-compulsory education and the labour market".*

The team noted that many of the accounts identified in the literature scan referred to single site initiatives; there did not appear to be many, if any studies similar to that described here, comparing teaching and learning delivery and experiences of a single programme across multiple sites.

Automotive training and providers

Recent automotive training history has seen a number of changes. The Motor Industry Training Organisation (MITO) has been the standard setting body since 1992, facilitating apprenticeships through a distance learning model for New Zealand's automotive repair industry with qualifications designed to be delivered predominantly in the workplace, using unit standards as assessment tools. This type of assessment tool has tended to drive learning material toward isolated units, making it difficult for ITPs to develop training programmes for full time, campus-based learners.

A common response has been for many ITPs to develop local certificates, leading learners to acquire fundamental skills before they went out into industry, became employed as apprentices and enrolled with MITO as distance learners. ITPs were then contracted to run block courses of practical training for those apprentices. In a more recent move, some ITPs, such as BOPP, have developed their own National Certificate training programmes, to manage their own apprentices in an attempt to best suit the requirements of industry and learners.

In 2009, the New Zealand Qualifications Authority (NZQA) announced the expiry of the current automotive qualifications at the end of 2012. This has not only meant the need to develop new programmes for new qualifications but also created an opportunity for BOPP's automotive team to engage with specialist learning resource writers from the organisation's teaching and learning development team to completely overhaul the delivery of programmes from Levels 2 to 4. Based on surveyed industry feedback from employers and motor trade associations, a need was identified to increase training duration and ensure a combination of polytechnic and workplace based assessment. The complete programme package comprises student resources, workbooks and assessments, cross-referenced to a textbook which learners have to buy or organisations can provide, and the CDX online videos, which require a licence per student.

The programme package has been designed for maximum flexibility and can be delivered as a full-time, on-campus programme, or as part of a managed apprenticeship including night classes, block courses or day release workshops. The actual configuration depends on the scope of the businesses employing the learners, as well as regional and industry parameters. Sign off of different programme components can be by the workplace supervisor or by the programme coordinator – either on site, in the classroom or the training workshop. Defining the variations in delivery and the ramifications these have for teachers, learners and employers were the starting point for this project.

However, the training landscape continues to shift with the Tertiary Review of Qualifications (TRoQ), which was ongoing at the time of writing and due to be completed by end of 2015, with the development of New Zealand Certificates through 2016. While there are some likely changes to trade qualifications (e.g. entry Level 2 programmes are likely to move to Level 3), for the 'light vehicle' TRoQ working group, it seems most of the existing material being taught now will remain. The 'automotive' TRoQ working group, under the guidance of NZQA, is writing its qualifications with mandatory outcome statements leading to a graduate profile, to encourage learners' understanding of systems through integrated learning. This heightens the contrast with MITO, which intends to retain its unit standards rather than move to outcome statements.

From a sustainability perspective, it makes sense for providers of similar programmes and delivery approaches to work together. This project draws on the experiences of four ITPs: BOPP, as the originator of the Level 3 Automotive programme package, and Eastern Institute of Technology (EIT), Nelson Marlborough institute of Technology (NMIT) and Christchurch Polytechnic and Institute of Technology /Aoraki Polytechnic (CPIT Aoraki), as purchasers of the training package.

The group originally existed as an internal moderation group, with annual meetings scheduled to get together and moderate resources in an attempt to improve quality and delivery. The meetings continued following the 2013 purchase of BOPP's programme and resources by the other group members, when discussions indicated that there were differences in delivery of the same programme in each region. This in turn, led to the application to Ako Aotearoa for funding for a project to develop best practice guidelines for contextualising programmes that could not only benefit our group but could also cross trades and add value to others looking to set up collaborative groups.

Industry and employers

BOPP has been managing apprentices since 2011 and now has graduates in the Tauranga region who are held in high regard by the automotive industry. BOPP trains learners and manages apprentices for two distinct types of automotive repair businesses: independent repair workshops, and dealerships or franchise repair workshops. Dealerships are often larger businesses with manufacturer-specific training, tooling and data. They also sometimes have the resources to pair apprentices to tradespeople for training purposes. Dealerships focus on repair of one brand of vehicle that is supported by the manufacturer. As this information is not easily obtained by independent repair shops the procedures to repair the same vehicle are often different. Vehicle owners are strongly linked to dealerships while the vehicle is under warranty and while some remain loyal once the vehicle is out of warranty, many then choose independent repairers as the cost of servicing is often cheaper. To ensure consistency of graduates regardless of their work scope it is important all apprentices are exposed to the fundamental principles at the heart of any advanced diagnosis and repairs. This often requires integrated theory and practical training so with this approach firmly at the core of our training and the diversity of industry, variations in apprentices' exposure to practical work and on job training we tailor off job day release to individuals.

Training options have to be managed for both industry groups, hence polytechnics offer full time, Level 2 and 3 programmes, as well as 'managed apprenticeships' where learners start at Level 2 and progress until qualified at Level 4. These in-work and off-job training arrangements emphasise workplace-based training leading to qualifications, and are defined by the Ministry of Education (Mahoney, 2015) as where

- the apprentice is enrolled at a polytechnic or institute of technology
- study leads to a national qualification at Level 4, consisting 120 or more credits
- study is funded through the student achievement component
- the participants are in work and training in a field that applies to their employment
- training is governed by a tripartite training agreement between the institution, the apprentice and the employer.

Polytechnics also support MITO distance learners, offering on-job, industry-based training where MITO contracts polytechnics to hold night classes and short, campus-based block courses.

The training model of the consortium members takes a significant shift when enrolling into Level 4. At this stage most learners have completed Levels 2 and 3, often in full time training with the polytechnic.

Level 2 is carried out in specialist training workshops for fundamental training, with high levels of tutorial assistance with a small amount of Moodle-based assessment used to introduce e-learning delivery. That is followed by Level 3 which, while still assisted to a lesser degree, is carried out in our commercial workshop and also includes increased work experience out in industry. To enrol into the Level 4 programme, learners must be graduates of Level 3 and must also be employed; they now become managed apprentices.

The Level 4 programme is 120 credits and is expected to take up to two years to complete. We have found that if presented as such, it usually will take this time to complete, so while apprentices are enrolled into three of the six courses for 12 months, they are encouraged to accelerate and the other three courses will be made available to them earlier if progress is rapid.

The significance of the shift to Level 4 is most evident when learners move to employment. This increased responsibility is further heightened with the online self-management aspect of the training. It is up to apprentices to engage their employers in aligning practical work to match assessments and to learn about their businesses warranty and cost structures.

Methodology

Project design

The methodology for this research project was a multi-site case study design, where four separate offerings of the same programme package are offered in different settings across New Zealand (BOPP, CPIT Aoraki, EIT, NMIT). The research was undertaken during the second semester of 2014 and the first semester of 2015, in three phases.

Phase 1 Data Collection
This phase involved on-site visits by the Project Leader and other members of BOPP as the host research team to gather data about how each institute is delivering the programme. This included:
- photographs and videos of the learning environment;
- review of programme documents (timetables, learning resources, assessments);
- the teaching and learning technology used;
- practical training aids (supplied or loaned by automotive parts manufacturers or retailers, as well as demonstration models developed by tutors);

- student achievement data.

This material was then collated in a single document for ease of comparison and itemisation of the similarities and differences between the participating organisations' delivery of the programme.

Phase 2 Survey

The Phase 1 database enabled the project team to develop survey and interview questions for our three stakeholder groups: learners, tutors and industry/employers. Interviews followed a schedule of open ended questions developed by the larger research team (see Appendix 1). Members of all groups were also given an Information Sheet (see Appendix 2) about the project as part of the invitation to take part.

Questions

The survey for students and interviews with tutors and employers were conducted by the member of the research team from that institution/region. Students were asked about their perceptions and experiences related to the course material and resources and their ease of use. The questionnaire was presented to the learners by their tutor who explained the research and its purpose, and that participation was voluntary. The tutor then left the room and learners who selected to take part posted their completed, unnamed forms in a box by the door as they left the classroom. Tutors were asked about delivery options and likes and dislikes with programme design and resources and were interviewed individually by the research partner for that institution. Employers were asked about the programme their apprentices were enrolled in, and their level of satisfaction with the training that was being delivered.

Sample

Responses were received from three full time learners and four apprentices from BOPP and 10 apprentices from NMIT. The three full time learners' responses were compared against programme evaluation statistics that all 22 full time learners submitted earlier in the year, to determine how representative they were. The findings were consistent with those surveys and relate highly satisfactory results.

Two tutors at BOPP, and one each from CPIT Aoraki, NMIT and EIT were interviewed, followed by three employers of apprentices in BOPP and 10 from NMIT.

At this stage CPIT Aoraki and EIT were in the early stages of adopting the programme and still running transition courses to align full time learners to the Level 3 programme where managing apprentices

would become far easier, so no feedback was sought from their apprentices or employers, who would not have been in the same position to respond as BOPP and NMIT. EIT submitted an industry survey of over a dozen local employers.

Table 1. Summary of participants (n=47)

	Learners	Tutors	Employers
BOPP	7	2	3
NMIT	10	1	10
CPIT Aoraki		1	12
EIT		1	
Total	**17**	**5**	**25**

Phase 3 Analysis

The team collated the responses from the three data collection tools (the database of delivery mechanisms, the survey for students and the individual interviews) and cross-referenced these against the style and format of the programme delivery from each site to identify strategies and approaches which are working well for all three stakeholder groups. The data is discussed in more detail in the following Findings section, under the seven themes which were identified during this phase. It was decided at this point not to include student achievement data, as the programme structure had undergone changes over 2012-2015, and different institutions have different models of enrolment and delivery, so that comparisons between cohorts would not have been comparing 'apples with apples'.

Project constraints / limitations

The questions for learners did ask about whether they were in full time study, or were apprentices studying part time, but our recording process combined these groups, so that the findings reported here are not split into these two groupings, but rather report overall perceptions and preferences across the total sample. This may be an area for future research as the programme continues to be rolled out to further providers and the available learner pool continues to grow. In the meantime, the researchers acknowledge that some of these key themes may not be applicable to every site, and that providers will need to contextualise strategies to their own settings.

Findings and Discussion

This project, as discussed previously, had four interlinked objectives:

- *To identify barriers and solutions associated with delivering a particular programme package in different regions, institutional and industry settings*
- *To assist teaching staff understand ways in which they can tailor a programme to match their particular context*
- *To provide a resource for other vocational / trade education providers which will allow them to create the best possible learning environment for their learners*
- *To ensure quality and consistency of content delivery for long-term sustainability of the programme and relevant, career-focussed learning for the learners.*

Quick snapshot

Pleasingly, the learners, or 'managed apprentices' as they are referred to in the industry, were generally satisfied with the way in which the programme was being delivered. For example, when asked "How valuable are your night classes and block courses?", 7 out of 11 who responded to this question said "very good", 2 said "good" and 1 each expressed a preference for block courses or night classes. Learners also valued the key contact they had with the programme, the apprentice coordinator, with 12 finding their performance "very good" and 6 "good"; there were no other responses received.

Employers, as the second stakeholder group who could be termed 'recipients' of the automotive education being provided, were also generally happy with the delivery content and format. Almost three-quarters of the employers (18 of 25) were happy with the amount of off job training their apprentice(s) were doing, although a couple felt that "more would be better" while another said his apprentice "has not needed any yet" as most training was being provided on site.

Following a more comprehensive analysis of the survey and interview data, the project team identified seven key areas of focus, as discussed below.

Benefits of the managed apprenticeship model

> *"Block courses are very helpful and important. Would not be able to pass the course without them as we do not do some of the work required in the workshop"* (Student).

> *"Block courses are very helpful as some jobs that are hard to come by in the workshop are being set up and thorough hands on exercise is being done by us trainees. Qualified instructor gives us good training and ideas on technical areas"* (Student).

Historical programme delivery, assessment styles and training methods, as much as geographical diversity across the regions (such as distances required to travel to night class and off-job training courses), have driven different delivery methods by each ITP. There has been a growing need for redevelopment of both workbooks and assessments (due to both the Targeted Review of Qualifications, and the evolving needs of the Automotive industry) and consortium members have eased into offering full time training programmes with BOPP resources, leading to managing their own apprentices as they have moved into employment. They are also still - to varying degrees - assessing MITO apprentices as well.

This has been a significant shift among ITPs: the traditional contracted support for the ITO distance learner required learners' attendance at facilitated theory-based night classes and then annually planned practical assessment block courses at their nearest polytechnic. In contrast, the BOPP automotive training resources for Levels 2 and 3 were developed with full time learners in mind. Therefore, they are integrated and follow an educationally-based training system where classroom theory and practical workshop training are interwoven. Observations and feedback from Bay of Plenty Polytechnic staff training ITO distance learning apprentices shows that students also benefit greatly from off job training where integrated learning takes place so we know this is optimal and embeds learning. However, this method is not as easy to apply for industry based learners because employers are often not able to give the time for an apprentice at work to integrate theory of a practical task due to output requirements.

The model adopted for ITP managed apprentices combines revision of theory with practical training before assessment ensuring learning is embedded. This is possible because we are able to manage our apprentices: they are enrolled with us and because of the relationship built, ongoing communication, and outcome reporting, we know what day release training they need. By the time learners - either full time or managed apprentice graduate with the Level 3 national certificate – graduate, they are ready for our online Level 4 programme where management and support of apprentices remains vital for success. As mentioned previously this need is greatest when moving from Level 3 full time to Level 4 managed apprentice study, so those who do graduate from our full or part time training at Level 3 have the advantage of previously developed relationships with their tutors as well as familiarity of resources where assessment styles carry through all levels.

A tailored approach to day release improves industry support

"Make night classes compulsory while doing an apprenticeship" (Employer).

"An introductory course on how the training programme works for non–school leavers would help" (Employer).

The two employer quotes above reflect the range of views about what training is needed, and how it should be structured. A major variation in management of apprentices regionally is to do with day release. BOPP has modified the managed apprentice training model based on local industry needs: our focus and point of difference is to adequately staff the management of apprentices, whether a part time managed apprentice from the start point at level 2, from our full time level 2 or 3 programmes, or in fact at any stage before level 4 that employment is gained. This level of management is supported by the NMIT employer and EIT industry survey results. While the EIT employer survey was asking industry what they would like, the results were consistent to preferences and improvements suggested from NMIT and BOPP employers. All feedback from industry representatives related to delivery options indicated that one-on-one discussions with employers would allow ITPs to operate with minimal variation of resources.

This also allows each ITP to mostly schedule our apprentices into already timetabled assessment days with full time classes or even MITO courses. This tailored approach is based on a tri-party relationship between trainer, apprentice and employer/supervisor. The training agreement is front-loaded with direction for the apprentice to engage their employer/supervisor in identifying the practical work required for their year's enrolment and then identifying the practical work their particular workplace is unlikely or definitely will not be in a position to provide. This way, teaching teams and employers can start planning day release schedules as soon as possible.

The variation to this model was found to be the greatest in the Nelson Marlborough region where many apprentices across all levels, with different needs and from Picton to Takaka, required a different approach. This not only required resources to be much more flexible and adaptable but also required the tutors to be equally flexible and adaptable. We refer to this approach as a 'block course' rather than 'day release'. Some apprentices might be there for one day, others for a week.

In reflection it is the relationships and contact levels between all three groups of stakeholders that have the biggest impact on apprentice engagement and employer perception of support. In the experience of the research team, the Level 4 programme changes the relationship somewhat from earlier levels of study provision as contact remains regular with apprentices but results and reporting are electronic or

via text, and day release remains low. The reporting process to employers is key to maintaining the connection, and phone calls and/or visits are still required to some degree, in addition to electronic messaging, for relationship maintenance.

Since this project began, and in response to the employer feedback, BOPP have increased Level 2 and 3 apprentice numbers to the stage where one coordinator will be a full time position in 2016. This will start at around a 20 to 1 ratio with a monthly workplace visit regime and will remain closely monitored.

Summary statement: It is anticipated that the designation of a single individual with a fulltime commitment to the workplace component of the programme will further strengthen the provider-industry relationship.

Off job programmes can complement on job training models and allow apprentices to complete qualifications

"Night classes and block courses are very helpful" (Student)

There was a mix across the board of both employers and learners wanting increased off job training and night classes, citing increased training as beneficial to skills, knowledge and reducing time to qualify. This was reinforced as employers/ supervisors, apprentices and trainers discussed work scope in their particular business in relation to off job training.

Apprentices predominantly wanted more off job training, night classes and tutor-supported training. Apprentices very strongly agreed that off job training was needed to be able to actually complete the qualifications. This seems to be due to the scope of the on job work not covering all that is required to be learned. The research team agreed that this finding confirmed their own observations from running such courses that the learning without workplace pressure allows it to be better understood.

The research supported anecdotal perceptions from longer term industry relationships indicating that there remain some areas of training in the qualifications, such as engine strip down and reassemble, that are either not carried out in very many workplaces or are not given to apprentices by their employer at that stage of their training. Employers agree on its value as the understanding and hands on

aspect of this training is fundamental to repair and diagnostic development. However, industry is not always able to apply the necessary time to an apprentice on such tasks that could have expensive consequences if it is not done correctly.

Summary statement: Strong tri-party relationships, mutually-agreed training agreements and clear expectations allow development of tailored training plans.

Boosting trainee support through clear communication

> *"[The apprentice coordinator] will drop into work and check how I'm getting on and always keen to help"* (Student).

> *"[X] is very helpful, very much appreciated. Very approachable and easy to talk to. Guides me to proper understanding of the assessments and tasks"* (Student).

Apprentice management, communication strategy with apprentices and frequency of visits were identified as important by all three participant groups. BOPP have Tuesday nights all year available for night classes, with additional tailored day release and monthly visits for apprentices and employers scheduled. The levels of contact developed by the programme's lead organisation should not be taken as anything other than a guideline, but staff should regularly seek industry and trainee feedback on tutor visits and progress reporting satisfaction.

Summary statement: Agreed communication strategy adhered to by all ITP automotive consortium members.

Transparency of reporting, consistency and clarity is essential to good learner outcomes

> *"Looking forward to be able to view all details on line"* (Employer).
> *"More frequent student progress updates for me to help manage my apprentice"* (Employer).

Reporting on progress of apprentices to employers was raised as an area that could be improved. Currently with assessment either on paper or an on line programme that does not feed into the resulting programme, reporting is manual and very time consuming. The process has in the past been personal with text message to learners and email to employers. Gathering data and developing reports is also not in a very clear format. Graphics would be an advantage rather than numbers. There is a

system under development which is aimed at improving that process and it will be necessary for efficiencies as apprentice numbers grow.

Progress and result reporting to apprentices, especially in the on line Level 4 environment requires a strategic approach which considers how important feedback is and consistency in marking. This model is quite different from marking classes of learners and the same assessment. There are more likely circumstances where apprentices meet and discuss results for the same assignment submitted at different times. As numbers increase the possibility of plagiarism also increases. It would be good practice to advertise the anti-plagiarism software available with on line submissions.

Summary statement: Up to date reporting, feedback and consistency for learners and simple clear progress reports for employers.

Important to improve tutor training for on-line programmes

"One suggestion - Improve self – help training section" (Tutor).

The printed and online resources were reported as positively received and helpful in training from those surveyed at BOPP, however that was not the case across the board with the online resources being used in other regions. It would appear there are three areas which could be improved. Firstly training and use of the online resources needs to be consistent at trainer level. There is currently nothing that indicates this is the case. Secondly learners need to be trained on the use of the same to simplify submissions of assessments. Thirdly the gap between Level 3 and Level 4 online use and understanding needs to be closed. Currently Level 3 is paper-based, and while it has some online potential, apprentices especially are still working on paper-based course books and assessments so the gap to a fully online programme is significant, and the transition for many learners and staff could probably be managed better. Then too, for full time learners, while the gap is not as large because of tutor support and guidance, moving into full time employment becomes more of a challenge.

Summary statement: Consistency in trainer's knowledge of resources for delivery, pre delivery.

Resource modification and management

"I can go onto the website and see what I have sent in" (Student)

"Progress is fairly easy to track as it's all posted on BOP Poly page when it's been uploaded" (Student)

"I am given updates, on line or text messages and even sent me a hard copy of progress report" (Student)

Students were happy with the programme, and with the management of delivery which enabled ready access and reference, wherever they were studying. The material used during the period of this study was that provided by BOPP and the Memorandums signed by all acknowledged that the other regions would be using BOPP material, within an agreed framework that recognised the original developer's intellectual property. However, to maintain integrity, the tutors and employers in the regions felt that each ITP really needed to be able to roll out the programme as if it were its own. This is important if learners are to buy into the programme they are enrolled into, believing that their trainers have control over their material and know what they were doing; having another institution's name on training resources may not inspire confidence.

This thinking added a new level to the shared, cloud-based resource management, and changes were made to address this as soon as the issue was recognised. Firstly, the master word versions needed to be opened up to the consortium members for adaptation to their delivery models. Second the resulting modified resources developed by each institution needed to be resubmitted to a different area of the shared repository while the original versions would remain as 'clean' templates. Finally, administration of all internal and external moderation to update all masters available for all consortium members is required. This management process is quite likely to grow rapidly once this month's meeting in Nelson has improved Google doc use for the other members, as currently there are some gaps in staff understanding, inhibiting use. Also as growth occurs in the number of regional providers offering the programme, permissions may need to be directed to administrative staff at each institution so as to maintain accuracy. This administrative oversight and management role is also expected to grow exponentially as our consortium continues to grow and redevelopment takes place.

Summary statement: Identify a robust and secure storage system and resource the workload of managing moderation, modification, updates and communication.

Conclusion

For successful outcomes in full time and managed apprenticeship training programmes within ITPS, there has to be commitment from all three key stakeholders: employers, trainers and learners. A full time training programme with a work experience element is key to building strong relationships with work experience providers and employers, who are often, but not always, one and the same. These relationships, in turn, foster collaboration across a diverse sector assisting to keep programmes relevant and current.

If we wish to build a collaborative environment of trust across the automotive training sector, relationships and communication between providers must follow a similar pattern to that afforded to learners and employers. The potential outcomes achievable from a larger group of industry and educational experts collaborating on development and delivery of programmes resulting in consistently high quality graduates will provide the best possible training option for any industry.

Interestingly, post-project, as the collaborative group expands and the consortium comes near its end once development is complete, a new focus is emerging for an improved repair industry, with better outcomes, consistency and portability for learners from their training experience. This will, in turn, contribute to improved sustainability and relevance for ITPs as Automotive education providers.

Looking beyond this particular project, the consortium has now been extended from the original four ITPs to include CPIT Aoraki, Tai Poutini and Otago with Waiariki (Rotorua) and Unitech Institute of Technology (Unitech) (in negotiation as co developers and consortium members post TRoQ). On the cusp of welcoming these additional partner organisations, it has been timely to explore the teaching and learning features which have proven learner benefit and which might assist automotive programmes to be sustainable in a changing tertiary environment. The project team is grateful for the support of Ako Aotearoa which has made this possible, and look forward to sharing the outcomes with colleagues across the wider vocational sector.

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APPENDIX 1: Survey and interview questions for three participant groups

STUDENTS - Automotive training at Polytechnics and in the workplace across New Zealand

Thanks for taking time to help with this project. Please include as much information as possible, write on the back of this page if needed

Name of programme you are enrolled into: _____

1) How helpful are your workbooks and the online training material?
2) If you are a full time trainee, how helpful are your classroom and workshop training sessions?
3) If you are a full time trainee, how easy is it to track your progress?
4) If you are a full time trainee, how easy is it to use your online material and how helpful is it?
5) If you are an apprentice, how helpful are your night classes and block courses?
6) If you are an apprentice, how easy is it to track your progress?
7) If you are an apprentice how helpful is your apprentice coordinator?
8) How long do you expect your training to become Level 4 qualified will take?
9) Do you think this is value for money?

TUTORS - Automotive training at Polytechnics and in the workplace across New Zealand

Thanks for taking time to help with this project. Please include as much information as possible, write on the back of this page if needed

Level of programme you are tutoring: _____

1) How suitable is the programme structure for your students in its current form?
2) If you could change it, how would you?
3) How easy is it to use the combination of workbooks, text books and online resources?
4) How relevant is the teaching material to the assessments?
5) What is your preferred delivery technique and why? (i.e. classroom/ print/online/ workshop mix)
6) How do you present the programme to your apprentices?
7) How do you track and monitor apprentice progress?
8) How do you present apprentice progress updates to employers?

INDUSTRY/ EMPLOYERS - Automotive training at Polytechnics and in the workplace across New Zealand

Thanks for taking time to help with this project. Please include as much information as possible, write on the back of this page if needed

1) Do you know what qualification your apprentice is enrolled into?
2) Do you know how far through their training your apprentice is?
3) Do you see your apprentice's trainer often enough?
4) Are you happy with the amount of off- job training your apprentice does?
5) Are you happy with the progress your apprentice is making?
6) What could be done better?

APPENDIX 2: Information Sheet for Participants

Research Participants Information Sheet: ***Contextualising vocational programmes to match institutional and industry settings***

You are being asked to participate in a research project to be led by Sean Squires, Group Leader Automotive, from the Bay of Plenty Polytechnic with assistance from EIT in Gisborne and Napier, CPIT Aoraki in Christchurch and NMIT in Nelson. This research will run through 2014 and into the first semester of 2015. The primary purpose of the research is:

- *To identify barriers and solutions associated with delivering a particular programme package in different regions, institutional and industry settings*
- *To assist teaching staff understand ways in which they can tailor a programme to match their particular context*
- *To provide a resource for other vocational / trade education providers which will allow them to create the best possible learning environment for their students*
- *To ensure quality and consistency of content delivery for long-term sustainability of the programme and relevant, career-focussed learning for the students.*

We hope that the information we gather will help to improve programme delivery and employability for automotive – and other trades students - in the future.

We are seeking your cooperation in the project, as someone who has firsthand knowledge of the study experience or its graduates. We plan to collect data from three groups of participants: students, tutors and industry representatives/employers. Students will be invited to complete a questionnaire, which we expect to take around 15 minutes to complete. We will request individual interviews with tutors and employers of between 20 and 30 minutes. These interviews will be recorded by the interviewer, and later transcribed by one of the team members, or administrative support – although no names will be captured during the recording or transcribing process.

 Please note:
- You are able to withdraw from this research project at any time.
- Your identity will remain anonymous.
- The information you share will be securely stored and used only for the purposes of this project. Outcomes from the project will be shared with teaching staff, management, industry forums and may be presented at conferences to colleagues outside participating organisations and/or published in an academic journal.
- All raw information will be destroyed at the completion of the research project**.**

If you have any questions, please don't hesitate to contact
Sean Squires, sean.squires@boppoly.ac.nz

This research project has been approved by BoPP's Research Committee, and will be supervised by the Manager of the Northern Regional Hub, Ako Aotearoa, Ruth Peterson: ruth.peterson@aut.ac.nz

Thank you for your valuable assistance. I appreciate your time.