

Results of Provider Survey 1: Review of ICT Qualifications

April/May 2013

This reports the results from a provider survey undertaken April/May 2013 on behalf of the review Steering Group, as high level information gathering to gain provider views on a range of matters related to the review of ICT qualifications.

Introduction

A provider survey was undertaken April/May 2013, as high level information gathering to gain provider views on a range of matters related to the current review of ICT qualifications at NZQF levels 1-6.

The intended participants were computing schools from ITPs, PTEs, Wananga and any other educational organisations with an interest in the review.

The following pages contain results of the provider consultation. There were a total of 29 submissions that provided responses to questions – 1 from Wananga, 10 from ITPs, 18 from PTEs; plus a number of others with no comments.

The survey questions are included as appendix 1, and following is a summary of responses. Questions providing personal information or contact details have been removed from this document.

Summary of responses to survey questions

3. What do you think Certificate qualifications should be preparing students for?

- Entry level employment (13)
- Preparation for higher level study (18)
- Internationally recognised certifications that the industry desires (2)
- Sound knowledge and skills with hardware and OS and Application software (2)
- Provide a good level of depth but only across a limited topic. i.e. Computer Hardware.

4. Please describe roles that your Certificate students have found upon graduation:

- Office admin, family business, non-ICT related work, extremely varied, clerical, retail sales, help desk, call centre, entry level support work, computer repair, internet cafes, customer service.
- Unfortunately the NZQA certificates do not have a big enough weight with potential employers.
- Employees favour the International IT certifications.
- We do not offer certificates on a stand-alone basis. All certificates are completed as part of the diploma courses.

5. What do you think Diploma qualifications should be preparing students for?

- Entry/mid-level ICT professional roles (17)
- Further study (13)
- Being able to sit and pass the international qualifications (4)
- A vocational outcome directly related to the course content (1)

6. Please describe roles that your Diploma students have found upon graduation.

- Roles have a variety of names but the core job skills stay constant - the rectification of computer and computer-related problems, customer service.
- Technicians, support, development and testing, analysts, technical help desk, network admin, freelance web designers and developers, retail, networking, programming, IT training and tutoring.
- The current National qualifications are not enough for the learner to get into the IT industry. Most go on to International IT certifications or degree level study (5)

7. Can you please describe your key learner groups and any specific needs.

Key learner groups:

- School leavers (9)
- Second chance learners (11)
- 18 – 25 year old males (4)
- International (7)
- Māori and/or Pasifika (6)
- Change of careers (3)
- Workers upgrading skills (1)

Needs:

- Experiential learning (1)
- Applied/practical (3)
- Lit&Num issues (6)
- Language support (3)
- Skills and knowledge for workplace (3)
- Pastoral care, time management (1)
- Soft skills, life skills (2)

8. Do you have any thoughts on specific needs of Maori and Pasifika learners?

- Need more indigenous tutors, more pedagogical learning spaces.
- Decolonise, shift in programme design and delivery.
- Strengths-based model, and flexibility.
- 'You show me and I will follow'.
- Plenty of practical application of theoretical ideas. Every day analogies.
- Need the ability to choose relevant projects.
- Combine into like-minded groups with less formal structure. Give opportunity for leadership, active contributions.
- Need a lot of pastoral care to encourage to continue.
- The biggest issue with them is attitude and their previous learning experiences.
- Many have experienced failure at school, seem to dumb themselves down, need self-belief.
- Some not very communicative with staff. Teachers need to connect and build relationships.
- Excellent once they have engaged with peer group.
- Some have language, literacy and numeracy needs, and greater financial and whānau pressures affecting ability to commit to studies.
- Literacy, time management, assistance with getting work experience.
- A variety of strategies, institution wide (3)

9. What can you tell us about your pathways at lower levels (2-4)? We are particularly interested in the relationships between computing, foundation learning, and digital literacy.

- Pathway from level 2 – 5 then on to employment or higher level of study (4)
- Level 2 – 3 certificates give students the digital literacy skills required for any tertiary study; applications training (4).
- Lower level classes are for business admin (youth) or general computer usage (18+ years)
- Level 4 students are more likely to be looking at an academic pathway
- The pathways at the lower levels need to take or show distinct paths if possible; show the difference between business admin computing and the technician/server engineer fields.
- Staircasing from all programmes (3)

- Digital literacy is a very cost effective way to deliver foundation computing skills and our students relate well to this.
- Foundation learning with language emphasis will be my first preferred step. Digital technology and digital literacy should be taught at higher level.
- Pathways are too static; need more creativity; problem-solving, project-based, fun and engaging; need interdisciplinary collaboration and participation.

10. The Review is firmly focussed on providing a landscape of qualifications that meet industry needs. The elicitation of these needs is paramount. We are concerned that simply asking what they want will provide only predictable responses.

Do you have any ideas for good questions to ask industry that will evoke meaningful (non-obvious) responses?

- What is the vision? What are future trends in terms of your field?
- What skills, knowledge and experience would an entry level person need to have for you to employ them? Lack of which non-technical skills prevents industry from employing someone?
- What skills will IT graduates need in 5 years' time? What technologies will no longer be relevant in two years' time?
- After initial employment, where do they see the employee evolving to within the organisation?
- Rank your needs for specific skills – both soft and technical. (*a problem is that industry always says they want everything!*)
- Which roles do you want new employees for?
- A question about the balance between academic learning and on-the-job skills training: What key skills are best taught in the academic environment?
- Why not commit your company to a long term employment plan by investing in students' future training?
- Would you prefer the international exam route or the NZQA based route?
- Which IT passion would you like the students to show? What personal passion do you look for in an employee?
- What is the value of work placement or internship during tertiary study?
- How will industry engage more effectively with ITPs in creating students with job prospects?

11. What evidence do you have of specific needs from industry?

- They need to understand what our students can do and why they are better workers than uni grads
- Soft skills seem to be the highest priority - communication, problem-solving, work experience, adapt to the speed of change, ability to learn, professionalism, innovation.
- Skills with new industry body offerings e.g. Microsoft 2012, cloud computing, VM Ware and networking security (Cisco); and in software, development and testing capability for new products, trouble shooting of software.
- Updates and refresher courses for existing staff and re-sellers.
- Are iwi and Maori being represented before we actually get the right needs?
- Evidence from minutes of Employer Partnership Group meetings, regular contact, past experience, advisory committees, industry project, requests from industry for our students to apply for jobs, feedback from employed students

12. The new qualifications are not just a rewrite of existing programmes. They are an opportunity to provide a workforce that can meet the challenges of the IT industry for the next decades. It is, therefore, an opportunity to be future focussed, and attempt to address current and future challenges.

What major challenges do you see the computing profession facing in the next few years that should be taken into account in the development of the new qualifications? (*an example might be to address the gender imbalance*).

- Flexibility to adapt to the rapid changes and ability to incorporate new technologies quickly (most frequent comment)
- The qualifications will need to be based on a renewal cycle (annual) or when required - not locked into specific review dates (3)
- Cultural imbalance, gender imbalance
- Class system wananga < PTE < ITP < university
- Decolonise the stereo types of geek neo-colonial masculinist that plague computing as elitist
- Wide variety of IT careers
- Build character in learning; independent learning; self-discipline (work from anywhere at any time) extensive remote working potential (cloud); Communication skills; international team work
- The looming skill shortage in software developers and engineers
- Compliance, security, ethics.
- Confusion between 'using a computer' and the role of an IT professional

13. Do you have any suggestions as to pathway structures? (not required but, what evidence do you have for the structure you propose?)

- User pathway AND professional pathway to level 5
- Full pathway level 2 – 6
- Match industry requirements
- Hardware/networking leading to networking/security and then to virtualisation/cloud Only help/service desk/technical support diploma level.
- ½ year for level 3 and 4, diploma 1 year level 5 and 2 year level 6
- Collaborate with universities in facilitating pathways to their degrees
- Web development and programming = degrees only (2) which lead into universities
- Any structure is immediately constraining in ICT. I suggest the opposite should be considered - a generic qualification allowing as many pathways as there are subject areas, perhaps with common core which could include the soft skills and 'classic' subjects. Subject areas need to be easily added by an ICT knowledgeable controlling org (IITP?) in order to respond to needs in the ICT industry.

14. How much similarity/overlap (core learning) do you think there is that may be common to all qualifications at a particular level?

- Not too much – wasting time
- Soft skills should be common to all - report writing, presentations, team skills, problem-solving, conflict skills; also numeracy, literacy, digital literacy
- Basic knowledge in all areas are needed that will allow graduates to change specialisations
- Specialisation into ICT should start at L4 (others say L5). Less overlap at higher levels.
- There should be around 25 - 30%, to help those moving forward review the previous material and help those new students to get a basic understanding of the topic
- National Qual must contain specific core competencies
- There is always crossover. And there should be as the Nat Cert should be a little insight for the Diploma. What would make the difference is the depth of that crossover material
- Very different course for end-user computing L2 – 4 and IT professional L2 – 4.

15.If the Review goes down a line of qualifications for development, infrastructure, and (advanced) user, what might get overlooked/squished?

- Media (video and still), electronics, portable device admin, Level 7
- Basic troubleshooting skills and basic research skills
- Need a pathway for developing/emerging technologies, those that we do not yet know about
- Danger in narrowing down to specific areas of computing
- Need to look at the IT certification landscape and add vendor-based qualifications to framework (with unit standard number)
- The qualifications need to be structured in such a way that they are not barriers to the modular approach to learning needed to support the gaining of international certificates.
- The pathway for computer aided design (CAD) technician / draftsman / architects and engineers is not catered for.
- Specialties unique to the local area e.g. medical (Auckland), forensics (Auck and Wellington), local or national government.
- Connectivity to business and management
- This is a very 90's model of IT – where are digital media, web, architecture, mobile, cloud,....
- Interpersonal communication, ethics
- Either the large scale (Government/Wellington) or small scale ('shops'/Auckland) could miss out
- I think most ITPs will ignore the quals for development and infrastructure

16.The new graduate profiles will need to focus on what the graduate will 'do and know and understand'. But note that this shouldn't mention specific technologies and should include an ability to continue to learn.

Do you have any thoughts on how this might be structured?

- Focus on the role responsibilities and personal attributes, as the actual technical skills will change.
- Structure will depend on what the employers are seeking and the type of industries we serve
- Get the philosophy right – start with a problem to solve for a project and use whatever technologies that solve it.
- Generic qualification which gives the providers the flexibility to change specific technologies as required to keep abreast of current and projected skills and knowledge required by employers. Thus the aim would be to produce graduates who have a sound technical understanding of information technology and the application of to business information systems. Such graduates should be able to continue on to further study either at graduate or post-graduate level or undertake specialised applied learning in the form of other certificates or diplomas
- Essential that our students are encouraged to continue to learn, perhaps by L7 diplomas or other additional programmes of study.
- Vocational opportunities so graduates come out with qual and experience.
Three profiles:
 1. The graduate can maintain existing infrastructure / codes
 2. The graduate can design and set up infrastructure / codes
 3. The graduate can innovate and develop new technology and infrastructure; and in software, new applications

17.The Computing Mandatory Review includes digital literacy. Can you please let us know who would be the best person/s in your institution to communicate with about this?

18. We'll be asking soon for volunteers for working groups. We'll be asking you again for but please add any other names/emails to whom we should be addressing this call:

19. Is there any one issue of importance to you that you believe we may overlook in the development of a new framework?

- Need continual updating of the qualification
- Coherence and flexibility. We are also involved in other TROQs and have noted that in an effort to be more coherent and provide pathways it's actually ending up with less coherence and pathways that are rather too specific.
- International certifications such as Cisco, Microsoft and CompTIA qualifications. This is very important to us as our whole way of teaching is organised to support students gaining not only NZ qualifications but also international certifications. These international certifications are required by employers e.g. our graduates. We see students being able to gain both NZ and international qualifications as one of the key differentiating features of AMES IT Academy.
- We need to keep IT qualifications on the National Qualifications Framework by ensuring we make the Framework relevant to IT qualifications rather than allowing what is an educational cornerstone structure to be ignored because the IT training providers (PTEs and ITPs) and NZQA find it too difficult.
- We have an established 2 year program with existing pathways to university which has produced successful university graduates. This is an academic IT diploma with a university grading system, moderated by a New Zealand University. We wish to maintain this program as aligned to their degree program.

20. Any other thoughts at this early stage of the Mandatory Review?

- In my previous roles as an IT Manager employing technicians, I perused the job candidates CV, I scanned for defined job skills in the description, I then looked for Industry certifications and decided based on the candidate's self-defined skill-set and the Vendor/ Industry certifications whether I would proceed to an interview. I think we need to provide a pathway to recognise the student's learning and knowledge. This knowledge does need to be framed in the context of unit standards and vendor certification.
- I believe we can produce a process that:
 - a. evaluates a vendor / third party certification
 - b. decides on NZQA Level descriptors
 - c. writes a covering description
 - d. provides a unit standard number
 - e. puts the unit standard on the framework.If we can't do this we may as well throw away the framework when it comes to IT, as we are doing now!
- Your collaborative and inclusive approach is appreciated.
- We believe that it is essential that the future framework is able to work from a PTE point of view as well as that of universities or polytechs. Otherwise, the outcome of the review could disenfranchise PTEs from provision of IT training linked to NZ qualifications. This would be detrimental to the industry as PTEs play a vital role in the IT sector by producing relatively fast, modular practical training designed for students who are not suited to university and who respond to the close mentoring and coaching that happens in PTEs. The industry needs graduates with a range of skills and training - they do not only need those with degrees.
- Particularly concerned that the mandatory review may result in less rather than more flexibility for providers to differentiate their programs and keep up to date with changing industry requirements.
- I think consistent core components within courses allowing for cross crediting and more effective courses is great. Keep up the good work.

Appendix 1: Provider Survey Questions – ICT Qualifications Review April-May 2013

- 1 & 2 Institution and contact email for clarification or follow-up.
3. What do you think Certificate qualifications should be preparing students for?
4. Please describe roles that your Certificate students have found upon graduation.
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