The Conservation Technician Qualification: an employer-led development

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Research in Post-Compulsory Education, vol 14 no 1, pp 43-55 (2009)

Abstract

The Conservation Technician Qualification (CTQ) is a recent development to meet the needs of a group of workers in the cultural heritage field. While following some of the principles underpinning UK National Vocational Qualifications it is employer-initiated and owned, awarded by a professional institute, and wholly workplace-based. A short trial in 2007-8 with an initial group of five employers and eighteen candidates proved highly successful, and the qualification is now being taken forward with further organisations and candidates. Out of necessity the CTQ was developed as a national initiative independent of government education and training bodies, and it raises questions about the flexibility of public qualification systems to respond quickly and efficiently to the needs of small and distinct occupational groupings.

Introduction

Since the New Training Initiative at the beginning of the 1980s (Manpower Services Commission 1981) there has been a strand of government policy in the United Kingdom to involve employers in the design of vocational qualifications and develop awards that are 'employer-led' (e.g. Department for Education and Skills 2003). There has usually been an assumption, made explicit for instance in the development principles for National Vocational Qualifications (Jessup 1991), that these qualifications will not be employer-specific but will reflect the needs of occupations more generally. More recently there has been burgeoning development of qualifications that while fitting into a generic category such as foundation degrees or Edexcel professional awards are designed to meet the needs of specific employment contexts.

The Conservation Technician Qualification (CTQ) is the result of an initiative by a group of employers to establish a UK-wide employer-led qualification for people who work at the more routine end of conserving material cultural heritage. This field employs over 4,000 people in the UK, of whom an estimated 60% are professional-level conservators (National Council for Conservation-Restoration 2004) and several hundred are technicians or assistants. In addition there are an unknown but reputedly large number of people who spend part of their time on conservation-related tasks either as part of a wider job or as volunteers. The main focus of attention in this field in terms of development and qualifications has been the professional conservator, nowadays typically a fine arts or materials science graduate with a postgraduate conservation qualification and accreditation from the professional body, the Institute of Conservation (Icon) (Lester 2008). Not as well-served by current education and training provision are those working at the less academic end of the spectrum, people who are normally non-graduates and will have entered from school or further education or through applying a trade or craft into a conservation context. It is this group that the current development is designed to support.

Evolution and development

The CTQ grew out of the concerns of four major employers (the British Library, the National Archives, the National Trust and Oxford University) that there was no national certificate or training structure for staff falling under the description of conservation technician or assistant. In 2003 this group commissioned the author to investigate the technician or assistant role in the UK and assess the need for and feasibility of a relevant qualification or development route. The group was concerned that while significant effort had gone into training and accreditation for professional conservators, development for technicians and assistants was ad-hoc and (where it existed) employer-specific. With European lobbying for a conservation profession qualified at master's level there was also seen to be a widening gulf between technicians or assistants and accredited professionals which at one time would have been bridged by work-based development alongside an experienced conservator.

Stage 1

The first stage of the process involved taking a 'bottom-up' (rather than 'top-down,' see for instance Fennell 1990) approach to mapping the technician role and developing a potential qualification or training structure. To start the process twenty key employers were interviewed and asked to describe the conservation technician / assistant role in their organisations. Using their responses (and in some cases those of the technicians and assistants themselves), along with associated job descriptions and task specifications, an outline map was produced of the various functions that these workers were undertaking (Lester 2003). The map cross-referenced functions to individual posts or groups of similar posts so that the spread of functions in any particular role could be identified. These findings were then cross-checked with the consortium members and via a questionnaire with a further twenty employers. At the same time parallel developments in the USA and Australia were examined. All the employers were also asked whether they perceived a need for a qualification or a national training structure for conservation technicians.

The findings identified four broad roles at assistant or technician level. These comprised:

A. Technical support: carrying out technical and craft-based tasks to support conservators, sometimes as part of a wider museum, gallery or archive technician role.

B. Conservation assistant: working as an assistant to a conservator and carrying out what was often described as 'low-risk' work.

C. Single tasks or limited ranges of tasks: typically volunteers undertaking specific tasks, people employed on a particular type of work (e.g. cleaning and packing objects or collecting pest traps and recording readings), or those who undertook basic conservation tasks as part of a wider role.

D. Craft: applying engineering maintenance, building, woodworking, bookbinding and other craft skills in a conservation context.

There was also a hybrid A/B role in several organisations, sometimes also involving responsibility for junior staff or volunteers.

Mapping these roles against activities (such as examining objects, mounting / framing / binding, setting up displays and so forth) suggested a core of activities shared between roles A, B and to a

lesser extent D along with some role-specific functions and some that varied from job to job. People in role C tended to be concerned with one or at the most two or three activities, compared with seven or more in the other roles. In roles A and D career progression where it occurred tended to be to supervisory jobs in the same kind of work, while in role B there was a greater tendency for progression to assistant and sometimes qualified conservator. Other than in role B few people in the employer samples held any kind of conservation-related qualification or had formal training for their work. For people in role B relevant qualifications ranged from none to postgraduate degrees and diplomas, reflecting both a lack of conservation qualifications below higher education level (Scottish Conservation Bureau 2000) and difficulties experienced by new conservation graduates in getting posts appropriate to their level of qualification (Jagger & Aston 1999).

Most consultees supported developing training and qualifications for conservation technicians, and over half saw potential benefits for their organisations. The commonest interests were:

- encouraging staff to see themselves as part of the wider conservation community rather than for instance simply as museum / gallery / library / historic house staff
- providing recognised standards for assistant-level work
- helping develop a career structure for technicians and assistants
- providing an apprenticeship or equivalent for school-leavers and other new entrants
- providing a structure for the initial practical development of new 'career-grade' entrants, typically new graduates or possibly A-level entrants
- providing a structure for inducting craftspeople into the principles and ethos of conservation
- providing recognition for existing staff.

In terms of level the predominant view was that the qualification should be at level 3 (level 6 in Scotland), i.e. broadly the same as a level 3 National Vocational Qualification (NVQ) or a National Diploma and the level typically attained at the end of a three-year apprenticeship. A small minority of consultees favoured training to Higher National or foundation degree (level 5), but overall the consensus was that level 3 should provide an adequate base for the conservation technician role, with secondary interest in the availability of in-service development to higher levels.

Stage 2

The second stage of the project involved three parallel strands of work. The first of these agreed a definition of the 'conservation technician' along with the standard of training required and typical progression routes. This was regarded as important given the variety of job titles in use across the sector as well as a historic tendency in some areas to regard professional conservators as technicians, not only in the figurative sense but also sometimes in terms of pay and grading.

The second and largest strand involved developing a draft qualification specification, using the Stage 1 research and a small-scale additional consultation to map out core and optional components that made sense in terms of work roles in the sector. Once the structure was agreed the detail of the units was derived by drawing on the expertise of the group and on existing material, in particular the national occupational standards for museums and galleries developed by the Cultural Heritage National Training Organisation (CHNTO 1999) and to a lesser extent parallel work in the United States (Collections Care Task Force 2003) and Australia (Innovation and Business Skills Australia

2004). Further work on the qualification was suspended at the end of 2004 to allow two new organisations relevant to its development to find their feet. The Creative and Cultural Sector Skills Council (CCSkills) had recently been set up to take over among other things the work of CHNTO, and its support would be essential if the qualification was to gain recognition by the Qualifications and Curriculum Authority (QCA) or form the basis of a publicly-funded apprenticeship. At the same time a number of small professional associations were about to merge into the new Institute of Conservation (Icon), the body favoured to manage and award the qualification.

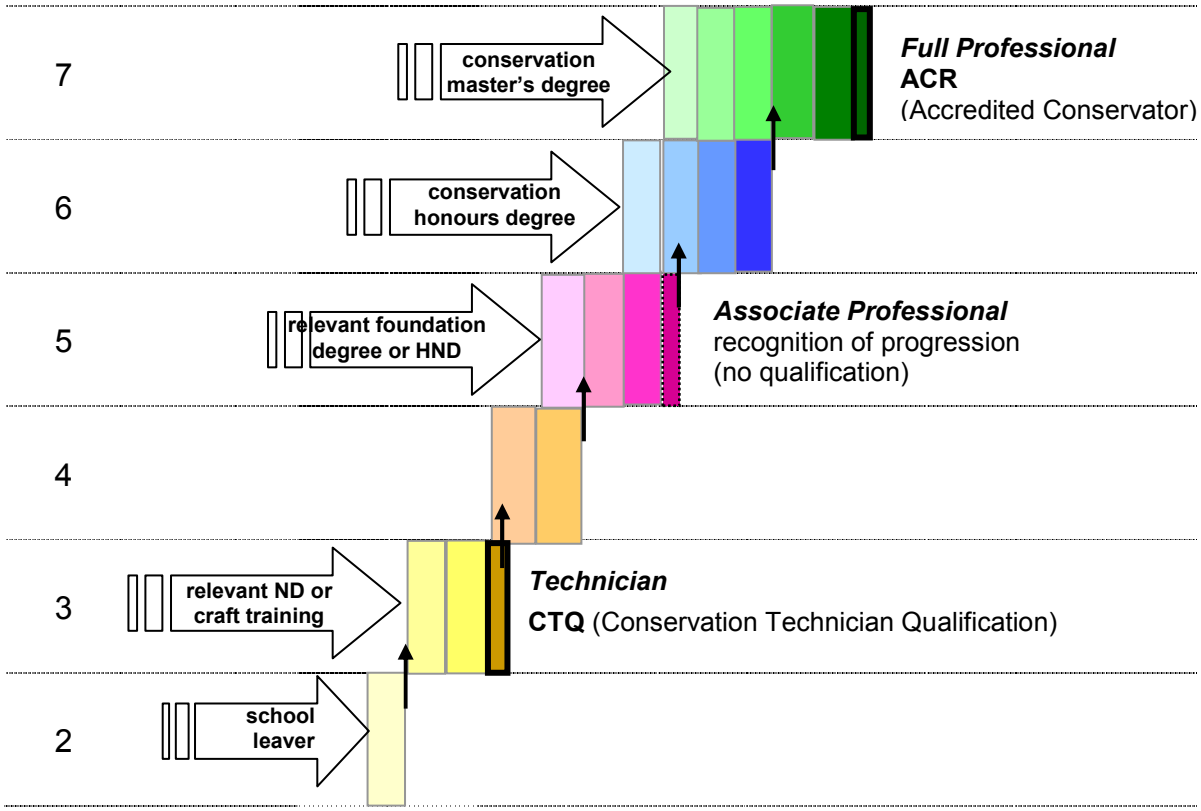
The final and most challenging strand was to consider how technician-level conservation staff might progress to full professional level. The employers on the commissioning group were confident of being able to provide the practical experience and mentoring that would develop the relevant practitioner skills, but a problem was perceived in developing the theoretical understanding needed to operate at professional level. While the proposed CTQ could provide some of the initial structure to set people off in the right direction, it was not being developed as an academic course and in any case there would still be a large gap between what could reasonably be provided at level 3 and the 'post-graduate standard' of knowledge and understanding required for the professional practice assessment that leads to fully qualified status. As an initial aid to understanding progression a diagram was produced expressing development both by educational level and typical length of experience (see box 1, next page). A study of candidates for professional accreditation indicated that graduates were significantly more successful than non-graduates, but there was little difference between holders of first and postgraduate degrees once they had adequate breadth and depth of experience. The critical issue for enabling progression therefore appears to be supporting technicians to develop their theoretical knowledge up to around the level of an honours degree, coupled with a work environment that provides opportunities for continued learning to professional conservator level.

As a result recommendations were made for distance learning media that would initially be focused on key conservation principles and methods, with application-specific (e.g. paintings, textiles, paper, archaeological materials) modules following according to demand. This was perceived as a longer-term project depending on collaboration between Icon, university conservation departments and employers. It would also involve setting up a university-accredited structure to enable the achievement of foundation and bachelor's degrees based on a combination of distance modules and workplace learning. No further developments had been made in this direction by 2008.

Stage 3

During 2006 the commissioning employers reconvened as a consortium linked to Icon and discussed ways to take the qualification forward with both Icon and CCSkills. Ideally the qualification would be endorsed by both organisations, accredited by QCA, and awarded by Icon with apprenticeship funding available through the Learning and Skills Council (LSC). In practice CCSkills was unable to move forward at the speed desired by the consortium and the likely volume of candidates was too small to make it practicable for Icon to become a QCA-approved awarding body. On balance the timescale issue, the consortium's wish to keep control of the qualification, the unanimous desire to have Icon as the awarding organisation, and the small proportion of candidates likely to be eligible for apprenticeship funding all pointed to the award being developed outside the QCA/LSC system with CCSkills' moral support rather than practical involvement. The possibility the qualification being included at a later date in the Qualifications and Credit Framework (QCF) was kept open.

Box 1. **Progression schema for conservation**



Notes

- Progression upwards indicates academic and professional level referenced to England, Wales & Northern Ireland framework levels.
- Progression to the right across the shaded boxes indicates exposure to practical experience. Each box could represent approximately a year.
- The nature of experience at any level will vary depending on entry-route, e.g. a new entrant from a full-time course is likely at first to be working one or more levels below the level indicated.

The third stage of the overall project involved refining the qualification specification ready for implementation, developing an assessment and awarding procedure, and carrying out a small-scale trial with candidates nominated by the employer consortium.

The technician qualification

The CTQ specification was agreed more-or-less as produced in stage 2, with a change in the format of the units to make them more concise and bring them closer to the style being used in the Qualifications and Credit Framework. The qualification comprises a core judgement and ethics section, six mandatory units, and a further seven units from which candidates choose one of the first three plus any one other (see box 2). Units can also be taken individually or in any combination. The judgement and ethics section is not a unit in its own right, but candidates must show that they understand all the points listed in the section in order to achieve any part of the qualification, as well as demonstrating application of relevant points within individual units.

Box 2. **The Icon Conservation Technician Qualification**

A. Judgement and ethics
(overarching, not certificated as an individual unit)

B. Core units
1. inspecting and monitoring
2. handling and caring for heritage
3. protecting heritage
4. maintaining records
5. health and safety
6. personal professional development

C. Options

One unit from C7-C9 ('double units') plus one further unit from any of C7-C13.
7. treatments
8. preventive measures
9. exhibitions and displays
10. setting up and maintaining equipment
11. making replicas or representations
12. demonstrating and giving explanations
13. instructing and supervising.

Employers wishing to offer the qualification enter a consortium agreement with Icon, becoming the equivalent of approved centres. They provide at least one internal assessor who is provisionally approved by Icon following a one-day briefing, and they also ensure that each candidate is supported by an appropriate mentor (who could be the same person as the assessor). Ideally the assessor would be the candidate's supervisor or another senior colleague who has good knowledge of the candidate's work and can therefore make judgements against the unit specifications without the need for specific assessment sessions.

The assessment process for the CTQ provides a balance between ongoing assessment in the workplace to make use of naturally-occurring assessment opportunities, and one-off review by an external assessor appointed by Icon to ensure a consistent national standard. It is designed explicitly to fit the context of employer-led delivery where organisations could vary between having a significant throughput of candidates supported by several assessors and mentors, and small organisations with an occasional candidate and single assessor-mentor. It aims to make good use of candidates' work *in situ*, responding to the sector's concerns about the validity of portfolio-based assessment (Lester 2001) as well as the contribution of excessive evidence-gathering to attrition rates on work-based qualifications (Lester *et al* 2000).

Candidates start off by drawing up a development plan with their mentor outlining the units to be achieved, timescales for achieving them, and any training, additional experience or other support needed. In principle the plan could cover a period of two or three years, but during the trial

candidates had a maximum of six months before the external assessment. Once the plan is agreed the candidate registers formally with Icon and internal assessment can start taking place when appropriate. Assessors look for a competent standard in each unit, using a four-point scale based on the Dreyfus skills acquisition model (Dreyfus & Dreyfus 1984), noting the evidence seen and the standard of work and level of understanding demonstrated.

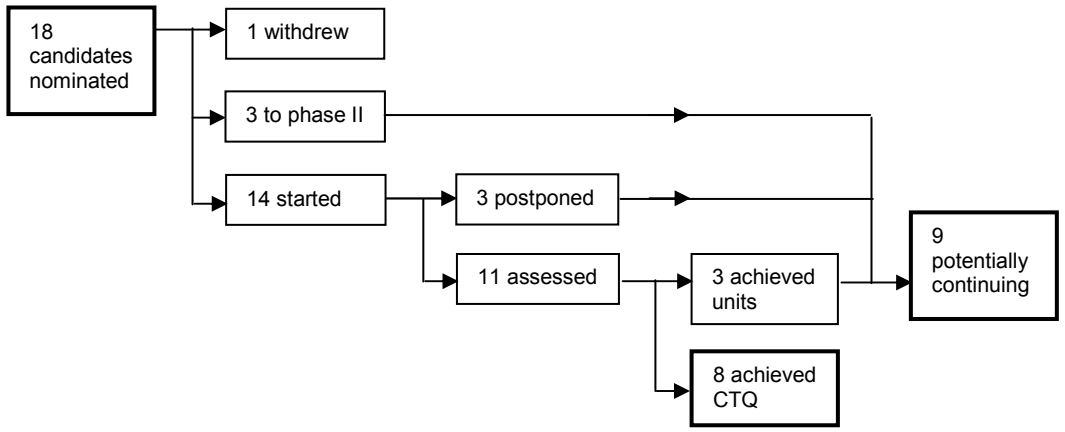
The external assessor is normally a professional conservator with assessment experience and whose expertise broadly matches the candidate's area of work. The external makes a visit lasting around three hours during which s/he examines and discusses the candidate's work and probes selected areas in depth. S/he can also question the internal assessor. The external assessor comments briefly on each unit and explains the reasoning for any disagreement with the internal's judgements.

The final stage of the process is for Icon's moderator to check the assessment record, discuss any discrepancies with the assessors, and when appropriate approve the candidate for certification. The moderator is a single individual for all candidates; in the trial both the Icon project manager (a conservator by background) and the external consultant (an education and accreditation specialist from outside the sector) examined all the records. Recourse to Icon is provided for candidates facing problems that can't be resolved within their organisations or who wish to appeal.

Trialling

The initial trial for the qualification was carried out during the second half of 2007 with five participating organisations: Eura Conservation (a large private practice), the National Archives, the National Trust, Oxford University's library service, and the Tate Gallery. Eighteen candidates and an equal number of assessors and mentors were put forward by the participants, and six external assessors - sufficient to ensure coverage of the range of conservation specialisms represented by the candidates - were selected by Icon. The candidates were all people whose employers deemed capable of achieving the qualification or a major part of it without the need for significant training or further experience.

Box 3. **Candidate progress: phase 1**



The trial started with training for assessors and mentors and a candidate briefing. Following the briefings candidates worked towards the qualification with support from mentors and recourse to the Icon project manager and external consultant. Candidates were contacted proactively once during the trial; a hands-off approach was deliberately adopted unless difficulties were reported. Internal assessments were largely complete by the end of November 2007, and external assessments took place in December and January. Of the eighteen candidates, three decided to delay until the second round, one pulled out, and a further three started work on the qualification but for various reasons were unable to be assessed by the end of the first trial. The external assessments resulted in eight candidates achieving the full qualification and three gaining units, these latter continuing into the second phase (see box 3).

Findings

Evaluation data was gathered on an ad-hoc basis as the trial progressed, through individual contact with most of the participants towards the end of the trial period, and through a meeting in early February to which all participants were invited. The consultant also observed three external assessments, one on site in a historic house and the others in an institutional environment.

Overall there was a high level of enthusiasm and support for the qualification that was maintained from the initial briefings through to post-assessment. Candidates' reasons for taking part in the trial varied. Some were interested in the credential, while those candidates who were graduates saw benefits from the process and value in having an award that confirmed practical abilities. All except one of the candidates who didn't achieve the qualification intended to continue into the second phase of trialling.

The qualification structure as trialled appeared to match candidates' jobs acceptably. There was sometimes a need to consider carefully how units could be interpreted to fit work roles, but there were no reports of candidates being unable to complete or adopting special measures (such as secondments) to achieve the qualification. A few candidates had approached the qualification unit-by-unit, and it was agreed to provide guidance on cross-referencing work activities and projects to more than one unit. A few comments were received on the detailed standards but these have been put on hold until after the second phase of the trial when more evidence will be available. The trial also prompted a few amendments to forms and procedures geared particularly to improving the recording of evidence and assessment decisions and providing better and more timely information to external assessors.

The key roles associated with implementation (mentor, internal assessor and external assessor) worked effectively. Most organisations separated the mentor and internal assessor roles, while one combined them; there was no particular evidence that one model was better than the other. In one organisation both mentors and assessors were based remotely from the candidates as there were no suitable conservation staff on site. While workable this situation wasn't ideal and in the future it may be replaced by local and specialist mentors or a local mentor and a remote assessor / mentor. The external assessor role worked well from the viewpoint of both candidates and assessment quality, and in the context of the CTQ (i.e. small numbers of candidates distributed between several organisations) it appears to have advantages over the verifier model used for NVQs.

The assessments were conducted diligently and reasonably consistently, with agreement between internal and external assessors' judgements throughout. In a few instances it appeared that better use could have been made by internal assessors of noting competent practice in the normal course of work, with at least one external assessment suggesting that the candidate could have completed more units than had been recorded. The amount of 'portable' evidence accumulated by candidates varied, with some putting together mini-portfolios while others kept all or most of their evidence *in situ*.

There was some discussion about the level of the qualification following the trial, with level 3 being seen as too low to reflect the skills of most of the trial candidates. Development of level 3 and 4 qualifications from a common template was considered as a possible solution, as was a separate qualification at level 5 (i.e. intermediate between technician and professional level), but the majority opinion was that multiple levels would prove confusing and the need at the intermediate level was more for development opportunities than for certification. On balance it was decided to keep the CTQ at its current level, thought to be most appropriate to its longer-term target population of new conservation technicians and assistants.

In summary the trial was highly successful, with only minor amendments being suggested to the qualification specification and procedures. All the participating employers recorded benefits from the process, and four planned to incorporate the CTQ into their training and career structures for technicians. All initially planned to continue into the second phase of the trial, and twelve additional employers indicated an interest in participating. The second phase is due to start in autumn 2008 and run over two years.

Box 4. **Using the CTQ in-house**

The National Archives conservation department employs seven technicians and fourteen conservators. The technician jobs have developed from being focused on a single task (laminating) to broader duties that require a wider range of skills and an understanding of essential conservation principles.

Two technicians volunteered for the CTQ, each achieving four units during the trial. Three conservators are designated as mentors so that candidates have access to a range of expertise, and the head of conservation acts as the internal assessor. There are plans to make the CTQ compulsory for new technicians joining the department and upgrading is being considered for staff who achieve the qualification.

Training for the CTQ

As described in the introduction to the trial, the pilot candidates were experienced technicians with little or no need for further formal training to reach the CTQ standards. It is expected though that in the future the CTQ will be used as a training structure for new entrants and people moving across from craft and similar occupations, with a variety of training and development needs being envisaged. Employers involved in the trial generally expected to set up training in-house or in collaboration with each other; there are currently no relevant 'long' courses in colleges, and the small number of trainees involved (along with their geographical spread and diversity in terms of specialisms) suggest that it would be difficult to develop them. On the other hand all the employers involved appear to have the capacity to carry out on-job training to the standard required if not beyond, and there is a

willingness to organise and use opportunities such as external short courses and secondments to contribute to trainees' development. The use of the CTQ as a training structure from zero base will need further exploration, but initial indications are that employers have the capacity and interest to develop and implement an adequate level of work-based and complementary training.

The CTQ, occupational standards and the Qualifications and Credit Framework

The CTQ is an example of a qualification developed by a group of employers to meet a nationwide need relating to a specific occupation. It is based on standards of practice agreed by the employers and operated and assessed in the workplace by the organisations themselves, subject to the oversight and quality assurance of a national professional body. The assessment makes use of ongoing work activities and is in principle unencumbered by any need to assemble evidence into forms that can be assessed off-site. In these respects it is very close to early conceptions of NVQs as employer-led qualifications that attest to working competence and are assessed through naturally-occurring activity in the workplace (e.g. ATB-Landbase 1995). It is therefore worthy of note that the qualification needed to be taken forward outside (though with due cognisance of) the public-sector systems for developing occupational standards and approving vocational qualifications.

Currently in the UK the occupational standards for NVQs are developed by Sector Skills Councils drawing on the expertise of relevant employers, practitioner bodies and educational and other relevant interests. In general the aim is to have available a set of standards that is reasonably up-to-date and fairly comprehensive in coverage, meeting the needs of the sector. As previously described Stage 2 of the CTQ development used occupational standards as a major source for the detail of the qualification. It was envisaged that the project would work with CCSkills when the sector's standards were revised to ensure that the results would meet the needs of all of the parties involved, but as described above it was clear that the timescale for the overall review would be too slow. Instead CCSkills encouraged Icon to take the qualification forward in advance of the revision. A similar principle had already been established at professional level, where Icon is acknowledged as the national authority for the professional standards.

At a more operational level the CTQ approach suggests that there can be benefits from adopting a more facilitative, stakeholder-driven and bottom-up methodology to produce occupational standards than has been the case to date. The functional analysis approach described by Mansfield (1991), Fennell (1990) and others has been until recently the principal method for developing standards. It is top-down in approach, with the overall functions of whole occupational areas being broken down deductively into sub-functions that eventually become the detailed specifications used in NVQs; apart from the widely-reported and now largely eliminated problems of excessive detail and convoluted language, this can produce descriptions that don't represent the realities of practice very well or respond to the varied make-up of actual jobs. Conversely the development of the CTQ has drawn on inductive research based on the work done by real individuals, with the involvement of not only employers but in some cases the job incumbents themselves; although informed by existing sources, the units (and combinations of units) were built up out of the way that job roles and functions were being described in the field. The results do appear to suggest that this kind of approach results in pragmatically sensible and occupationally realistic standards that gain a strong sense of acceptance and ownership from those who use them.

The CTQ has also been developed with an eye on the UK's emerging Qualifications and Credit Framework (QCF), and its units were written in a style that should translate fairly easily into QCF format. Credit ratings were however felt to be difficult to apply to a qualification that is essentially a point-in-time assessment specification rather than a specific course with an implication of moving from a starting-point to a point of achievement. If credit is derived empirically from the average learning time taken by candidates to achieve each unit, substantially different results will be obtained depending for instance whether the candidate is a school leaver with no previous relevant experience, someone moving across from a related occupation, a person who has achieved a notional (and non-existent) level 2 unit in the same field, or someone who already has significant relevant experience. In practice it may be more appropriate to use a rule-of-thumb approach along the lines of considering the amount of credit carried by a broadly comparable qualification, dividing by the number of units and rounding to an appropriate figure: so for instance if the comparator carries 120 credits, achieving the CTQ requires eight units of which at least one (taken from C7-C9) can be considered a double unit, suggesting between 12 and 15 credits per unit.

A less easily resolved issue that stands in the way of admission to the QCF concerns the awarding arrangements for the qualification. The approval procedures operated by QCA and its partner authorities currently assume relatively large awarding organisations with significant throughputs of candidates, making it difficult for bodies such as Icon to meet their requirements. At present Icon would need to go into partnership with a third-party awarding body to allow the CTQ to be eligible. There are concerns within the consortium about both cost implications and potential loss of control of implementation, but comparable arrangements are being examined and potential solutions - including linkage with a parallel development in another part of the cultural heritage sector - are being explored.

Finally the CTQ offers a practical learning-point that is relevant to other work-based qualifications at a similar level, particularly within apprenticeships. At present it is common practice for NVQ assessment to be carried out by a college or training organisation rather than by the apprentice's employer, missing much of the opportunity to use ongoing work activity and typically requiring candidates to compile portfolios of paper-based evidence for off-site or visit-based assessment. The CTQ specifically requires employers to provide mentors and primary assessors as a condition of engagement. It is unlikely that willingness of employers to take part in assessment is unique to the cultural heritage sector, and there are other areas where a similar approach to that used for the CTQ might be feasible.

Conclusions

The Conservation Technician Qualification demonstrates how a group of employers can fund and develop a credible work-based qualification that has potential UK-wide recognition, demonstrates rigorous assessment and monitoring processes, and offers benefits to the employers themselves and to their candidates. The level of interest among employers and potential candidates in this relatively small sector indicates that it has tapped into an occupational area that has previously lacked adequate opportunities for certification.

Less positively at present it also illustrates some of the barriers that may be encountered in attempting to take this kind of development forward within the public-sector qualification frameworks. Currently

the existence of the CTQ outside of the national qualification system isn't seen by its stakeholders as a particular problem, but it would become more of an issue if employers in the sector wanted to gain access to funding for a conservation technician apprenticeship, and there is also a potential disadvantage to staff in hybrid conservation / general technical / heritage care roles who may benefit from a qualification with a wider choice of units and pathways and better recognition outside of the conservation community. These issues are unlikely to be confined to conservation technicians, and the CTQ experience raises some questions for how the public qualifications system can better facilitate the development of solutions for small but distinct occupational groups.

Author / acknowledgements

Stan Lester is a consultant in professional and vocational development and a visiting academic at Middlesex University. He was commissioned initially by an employer consortium led by Oxford University and later by Icon in respect of the developments described in this paper, and also helped develop Icon's professional qualification. The views expressed in the paper are those of the author rather than those of Icon or the consortium members.

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