Research proposal with respect to the alignment of the QCTO process with Professional Qualifications, using the Engineering Council of South Africa's registration process and designations as a basis

Introduction and overview

The Engineering Council of South Africa (ECSA) is a Statutory Council, falling under the national Department of Public Works. ECSA is governed by the Engineering Profession Act, 2000 (Act 46 of 2000), the purpose of which is to provide for the registration of professionals, candidates and specified categories in the engineering profession. Registration is a professional designation, and implies that an individual is certified competent to perform engineering activities, by a professional oversight body acting to safeguard the public interest. The designations of Pr Eng, Pr Tech Eng, Pr Techni and Pr Cert Eng are awarded to Professional Engineers, Engineering Technologists, Engineering Technicians and Certificated Engineers respectively. The registration process relies on comprehensive workplace learning and the development of competence, assessed through a peer judgement process to ensure that registered professionals are able to solve problems and exercise professional judgement.

The ECSA Professional Registration process has been in place since 1969, and since inception well over 50 000 professionals have been registered. ECSA's mandate includes investigating improper conduct and meting out penalties in the case of malpractice. In extreme cases Registration is withdrawn.

Whilst the engineering profession and ECSA's processes are well established, many new professions are emerging which have not yet developed rigorous training, assessment and oversight processes. It is against this backdrop that the Quality Council for Trades and Occupations (QCTO) has been launched, to offer a framework for training, registering professional qualifications on the National Qualifications Framework (NQF) and monitoring standards.

In certain instances, the model of developing qualifications as suggested by the QCTO differs from that adopted by ECSA and registering bodies of other mature professions. The QCTO model needs to be interrogated for fitness of purpose in terms of the professions. As it has been adopted as the national approach for recognising trade and professional qualifications, there is a need to achieve alignment, in order for qualifications to be recognised, and to be able to access funding for workplace learning. The proposal has been prepared in this context, and in response to the call for comments on the draft QCTO documents. It suggests that research, aimed at reviewing the QCTO process against the ECSA approach, be undertaken to:

1. Determine and understand meaningful differences between the above two approaches, and the relative merit of each of the approaches
2. Offer recommendations for the modification of either approach, subsequent to the above
3. Pilot the development of an engineering qualification, on the basis of recommendations made, in order to fine-tune the process and pave the way for other professions.

Two phases of research are suggested. The outcome of the first phase would be the determination of the level of alignment between the QCTO and ECSA processes and agreement on the nature and extent of adjustments required in each approach. The outcome of the second phase would be a pilot qualification developed to test the updated process.

This document explores the background to the need for reviewing the processes, the difference between professional qualifications and designations, and the possibility of delegating the responsibility of the development and conferment of professional qualifications to professional bodies and in particular Statutory Councils. The document also outlines the workplace learning challenge and the need for professional bodies to embrace the QCTO process in order to access funding for workplace learning support.

Outline of document

Background

The formation of the QCTO is the final piece in the South African education and skills development puzzle. Whilst uMalusi is concerned with general and further education, and the Council for Higher Education is entrusted with quality assuring higher education, until recently, no single body had the responsibility of ensuring the quality of skills development. The role of the QCTO is to ensure the availability, relevance and quality of occupational qualifications to meet industry needs. They are tasked with ensuring that:

- Occupational training addresses the skills needs of the labour market
- The learning experience offered is structured, appropriate and purposeful
- The achievement of occupational qualifications reflects occupational competence

These objectives overlap with the responsibilities of the Engineering Council of South Africa (ECSA) with respect to the development and maintenance of the engineering profession. However, the approach to achieving these ends may be substantially different and may require review by both parties.

The QCTO has set up a system which calls for industries to develop curricula, addressing knowledge, practical and workplace experience, and appropriate assessment criteria towards the development of competence. Initial guidelines were developed with labour and artisanal work streams in mind. The guidelines for curriculum development focused largely on mastering of processes such as those associated with routine procedures or carrying out specific functions. Whilst this approach will address the up-skilling of labour and the redevelopment of artisans and professional support staff (generally spanning from NQF 1 to 5 or 6 on the new scale), it may not be appropriate for professional qualifications based on NQF 7 to 10 education.

The Professions, amongst others, the Built Environment, Financial, Legal or Medical Professions, are expected to be problem-solvers, and to develop unique and innovative solutions in their respective fields. Training of professionals requires that they are exposed to a range of experiences, and are supported to analyse and solve sufficient problems or cases under guidance to develop a generalised understanding of the field to be able to independently apply professional judgement in solving future projects or problems. The range of projects or types of cases that the professions can be exposed to is almost limitless, and requires a more flexible approach to workplace training and the development of associated curricula. Curricula may be specified as a range of experiences, rather than step by step procedures.

Before exploring the fit or possible areas of misalignment and research challenges, the following distinctions need to be understood.

Professional Designations versus Professional Qualifications

Professional designations are associated with developing the required level of competence to practice independently. These are generally conferred by Statutory Councils which have developed assessment processes to ensure that public interests, health and safety are protected. The assessment and conferment of the designation is outcomes based, and independent of both the type of training received and the route followed to develop competence. It can furthermore be withdrawn in the case of malpractice. ECSA currently confers the designations of of Pr Eng, Pr Tech Eng, Pr Techni and Pr Cert Eng.

Professional qualifications are intended to prepare candidates to meet the requirements toward registration in a profession. A qualification represents a planned combination of learning outcomes which has the purpose of providing qualifying learners with applied competence and a basis for further learning. The attainment of a professional qualification does not in itself automatically lead to a professional designation. A professional qualification must achieve the exit level outcomes of the qualification if it is registered on the NQF and must be quality assured by the designated regulatory authority. Unlike a designation, a professional qualification may not be revoked.

The move to develop professional qualifications in addition to professional designations suggests the need for curricula to be developed to ensure that professional competence is achieved. ECSA currently offers guidelines on workplace learning experiences which contribute towards the development of competence. It would appear that these need to be reformatted to be considered as appropriate curricula leading towards professional qualifications.

Professional Bodies and Statutory Councils

A distinction needs to be drawn between Professional Bodies which are Voluntary Associations representing the interests of its members, and Statutory Councils mandated to register professionals in order to protect the public. This proposal addresses the structuring and assessment of workplace training towards professional registration governed by Statutory Councils.

Delegation and Statutory Council Registration Processes

The QCTO is empowered to delegate curricula development and assessment responsibilities to experts or custodians of specific fields. Such organisations may be appointed as Quality Partners which refers to Development Quality Partners (DQPs) and Assessment Quality Partners (AQPs). It would seem that ECSA's systems, processes and expertise are such that the process of developing and monitoring engineering professional qualifications can be wholly delegated to ECSA. The criteria are described below.

Development Quality Partners and ECSA

Development Quality Partners must develop curricula for each qualification considering the knowledge required, practical skills which must be developed, workplace experiences and workplace knowledge required to develop the specified competences. Furthermore, the DQP must define and manage a process of logging evidence of performance and approval of workplaces as suitable learning sites.

In ECSA's case, Discipline Specific Guidelines serve the purpose of outlining the range of experiences the Candidate should be exposed to. The Commitment and Undertaking signed with employers outlines what is required of them before embarking on engineering training programmes. Both these documents appear to align well with the requirements of the QCTO. Should adjustments however be required, they would serve as a solid base for development work. The authority for Professional Registration of the Engineering Profession, however, lies with ECSA. It would therefore be necessary to also explore and agree on who carries what responsibility and who has the final authority in terms of the qualifications versus the designations.

Development Assessment Partners and ECSA

Development Assessment Partners must implement credible assessment processes, ensuring that:

- Qualifications specify the learning outcomes required to achieve occupational competence for each level of registration
- Assessment is standardised nationally
- The focus is on externally conducted integrated assessment(s) of occupational competence
  - by agencies accredited and monitored by the QCTO
  - through processes which are economic, efficient, effective

ECSA is in the process of adopting an outcomes based registration system, based on 11 outcomes which have been thoroughly researched internationally over a number of years. Through its Professional Advisory Committees, Registration Committee and the overarching Central Registration Committee which serves as moderator for the work carried out by the Advisory and Registration Committee, ECSA is able to address all the above requirements.

However, the reference to 'agencies accredited and monitored by the QCTO' will require a detailed analysis, as ECSA is a statutory body with its own powers to assess competence, and may find itself being monitored and dictated to by a body with no peer competence to do so.

Further requirements include:

- Having standing in the occupation or occupations concerned
- Having access to communities of expert practitioners in the occupation/s concerned
- Having access to a reliable information management system in the format required by the QCTO
- Having an adequate fee structure/funding model to maintain the delivery of AQP services for a minimum of five years aligned to the QCTO

The above are part and parcel of the ECSA system, though interfacing of the ECSA registration database with the QCTO may require some development work.

From the above, it would seem that the existing ECSA system would align well with the requirements of the QCTO. Further research is recommended in order to explore the exactness of the fit, or adjustments required on the part of both ECSA and the QCTO.

Workplace Training

To understand the feasibility of alignment with the QCTO, it is necessary to understand the current model of workplace training in the engineering sector, and the need to invest substantially more in this phase of training.

In engineering, workplace training towards professional registration has been left to industry and no funding has been available for such learning.   By comparison, the medical degree is composed of three years of theory, a further three years of combined theory and practical work, a one year internship in academic hospitals and a further two years of community service, in rural hospitals. During the last three years, interns are paid by the State and are supervised by experienced medical professionals, who are also paid by the State. During their practical training, medical students are exposed to a sufficient range of cases to be able to solve cases on their own once qualified.

Most professional registrations are similar to those of engineering, where it is up to industry to offer adequate workplace exposure to Candidates after graduation, in order for them to develop professional judgement. Many companies are unable to offer the range of experiences required, and many do not have the luxury of capacity to oversee and coach graduates. There is thus a need to develop a structured approach to training and to access funding in order to expand coaching capacity and workplace learning

opportunities. In developing professional curricula, generic activities, rather than specific activities need to be defined to ensure the range of experiences required.

The opportunity exists for professional bodies to register workplace training processes towards professional development in one of two ways:

1. The first option is based on the current dominant model for professional training where Stage 1, the tertiary phase, must be completed before working towards a professional registration
2. The second option is derived from the traditional apprenticeship model where the education qualification is integrated into the qualification.

Professional Bodies may elect to work independently and continue to issue their designations without any relationship to the QCTO. In this case they would proceed to oversee workplace training and registration. The consequence of following this option would be that no qualification for practical workplace learning would be registered on the NQF for that designation. This may have implications for accessing funding incentives.

Given that there is a need to improve the quality of workplace training and support, and to attract funding for this purpose, there is a need to determine whether ECSA is able to, and should adopt one of the above options recognised by the QCTO, or should continue with its current system, independent of the QCTO.

Research Considerations

In trying to determine the fit of the ECSA process with that of the QCTO and to develop or fine-tune required curricula and assessment criteria, the following is a starting list of activities which would need to be carried out:

- Consider the ECSA fit as a Development Quality Partner and in particular consider the acceptability of generic training guidelines
- Consider the ECSA fit as an Assessment Quality Partner and in particular consider the acceptability of the peer review process
- Determine whether the internship model as currently suggested by the QCTO fits professional qualifications and in particular ECSA's processes
- Recommend adjustments/refinements to the internship model, or an alternative model that would still fit within the overall philosophy and approach of the QCTO
- Investigate challenges associated with a life time qualification versus a professional designation which can be withdrawn in the case of malpractice or misconduct
- Investigate the alignment of the ECSA CPD process with continuing development suggested by the QCTO
- Review the various Acts governing the QCTO and ECSA to determine where the final authority rests with respect to the ECSA qualifications and designations

Once alignment has been agreed, further research and development will be required as follows:

- Determine relevant OFO codes for all professionals falling under ECSA
- Develop criteria for access to funding from the SETAs and through the PIVOTAL and other grants
- Determine system and development requirements to link with the QCTO and SETAs for purposes of sharing databases and approving the release of funding to industry

Benefits

The ECSA process is, in essence similar to that of many Statutory Councils; has been developed over many years; and is constantly being updated and aligned with international best practice. Some of the benefits emanating from the successful completion of this research project will be:

- To pave the way for other registering bodies to align with the QCTO processes
- To institutionalize comprehensive, structured workplace training for other professions
- To enabling access to funding towards workplace learning and thereby accelerating the development of competent professionals
- To increase in the number of competent professionals nationwide

Proposal

A two phase research approach is proposed:

Phase 1

Consider the guidelines as outlined by the QCTO in relation to professional qualifications and outline the possible weaknesses which should be addressed before being adopted by statutory councils nationwide. The areas to be explored are listed under the first set of bullets in the section headed 'Research Considerations'. Acceptable adjustments from both sides would need to be investigated and agreed. It is anticipated that the costs associated with this phase is likely to be of the order of R70 000, excluding VAT.

Phase 2

To test the practicality of the outcomes of Phase 1, it is suggested that an existing ECSA curriculum, assessment and moderating process be written up in the format agreed with the QCTO, as a pilot project, to determine any shortcomings or oversights from Phase 1. Linkages with the QCTO, SETAs and alignment with OFO need to also be considered as listed under the second set of bullets in the section headed 'Research Considerations'. This phase will allow for an enhanced approach to curriculating and assessing professional qualifications to be developed. In this case the cost is likely to be of the order of R 300 000 to R 400 000, excluding VAT.

Future developments

Additional projects may be spawned from this level of detailed research, such as the development of mentoring and coaching guidelines, the development of workplace training materials, and the development of employer training, regular review workshops and annual surveys with respect to effective workplace training and systems etc. The scope and costs for these projects will be determined once a better understanding of the challenges facing professional bodies has been determined.

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