

QMLT: Looking backwards to going forward. A retrospective look at the QMLT qualification

Michael Legge and Mary-Ann Janssen

BACKGROUND

The QMLT (previously known as QTA) has a very long history originally organised by the Auckland School of Technology in 1961, primarily to 'fill-the-gap' created by the part-time release of Medical Technologist trainees to attend formal training at the Auckland Hospital Board School of Medical Laboratory Technology. In 1969 the NZIMLS assumed responsibility for the examinations and have maintained the examination system since then. However, after peaking at 159 candidates in 1973, there was a progressive decline in the numbers of candidates for examination and by 1995 there were only 62 candidates for all disciplines. The progressive decline in numbers for examinations was also coupled with the difficulty of finding suitable examiners and at a Workshop hosted by the NZIMLS it was decided to have a single three-hour examination (previously there were two two-hour examinations and in earlier versions a practical examination also) and each discipline-based examination would have a 'common component' which would relate to all disciplines. This has formed the basis of all subsequent examinations. Changes in requirement eligibility for the QMLT examination moved progressively from an open access examination prior to 1984 to a requirement for any candidate to be a financial member of the NZIMLS to qualify for the examination and the resulting certificate once meeting the QMLT requirements had been achieved. Successful completion of the QMLT entitles the candidates to become Associate Members of the NZIMLS.

CHANGES IN THE QMLT EXAMINATION SYSTEM

The move to a more structured examination system changed a number of historic 'arrangements' for the examinations. For example, there were no longer 'specialised' QTA examinations for candidates working outside the routine disciplines and topics such as Solution Preparation and Animal Husbandry were discontinued. This was followed by the structured 'logbook' to record the specific discipline practical skills base with a requirement to 'pass' the tasks proved in the document. Small changes were made to the disciplines being offered for examination and Virology, Cytopathology and Molecular Diagnostics were eventually discontinued primarily due to the continual lack of candidates applying to take the qualifications. For example, no candidates ever applied for Molecular Diagnostics and only one candidate applied for Virology over a 10-year period. Although the NZIMLS had a structured approach to enrolments and the examinations themselves, there was concern that the examiners were drawn from the profession who may not have a wide experience of setting examinations. This led to a two-stage process of discipline-based Examiners and Moderators. Subsequently the NZIMLS introduced the Examiners and Moderators Workshop to be held each year prior to the setting of the examinations and chaired by an independent Education Advisor from Waikato University, which continues to this day. In 2017, following a Workshop with Special Interest Group (SIGS) convenors the logbooks were redesigned as they were no-longer considered 'fit-for-purpose' and in consultation with the Special Interest Groups (SIGs) at

the NZIMLS Conference in 2017, it was agreed to review and update all the discipline syllabi (now Curricula) and log books (now Practical Assessments) for consistency and relevance. Although this was a significant undertaking it resulted in a much-needed overhaul of the QMLT process. Another Curricula review is currently being conducted for the 2022 examinations although the anticipated changes are not likely to be significant, rather a general updating of possible changes in techniques and laboratory processes. From 2018, a new discipline category was introduced as a QMLT examination "General" to cater for smaller, more multipurpose, laboratories.

FULFILLING STATUTORY REQUIREMENTS

In 1989 the Medical Laboratory Technologists Board [the forerunner of the Medical Sciences Council (MSC)] established a definition of a "Laboratory Assistant" but not a qualification although it was apparent that after limited training (three months) they were allowed to be rostered and work on their own, including Blood Bank. Lack of qualifications, recognition and a potential career path led to considerable discontent and at one stage Auckland Hospital had a turnover of 50% of Laboratory Assistants. The NZIMLS Council redefined the role of Laboratory Assistants to provide a clearer position in relation to Medical Laboratory Technologists and to establish a form of regulatory framework within the profession. By 1996 a more stable Laboratory Assistant workforce was established. However, it was not until the Health Practitioners Competence Assurance Act (HPCA Act, 2003) that formal recognition and registration of what had now become the recognized qualification route for QMLT. By 2009 the MSC required Registration of Technicians and the requirement for CPD, which essentially was recording of work hours. To formalize the CPD process the NZIMLS introduced computerised discipline-based questions with a threshold relating to the number required to be correct to pass. This was an identical system to that used for Scientists but with a new set of questions set at an appropriate level for Technicians. In 2013 the MSC approved the Technician CPD computer-based question system. More recently (2021) the MSC now requires formal enrolment of all Registered Technicians to belong to a CPD programme and the NZIMLS reviewed and updated the computer-based questions.

In 2019/2020 the MSC undertook an Accreditation of the QMLT programme and while there were some points raised about the programme, overall, it was found to be sound and offered the profession a suitable qualification. As the QMLT qualifications are unique to New Zealand and there are no equivalent Technician qualification structures, the MSC recommended that the QMLT should be 'benchmarked' against the BMLSc and to investigate whether it could be given a New Zealand Qualification Authority (NZQA) ranking. In response the NZIMLS engaged the Director of the University of Otago BMLSc Programme to review all the QMLT disciplines by teaching staff and a final report was submitted to the MSC. Summarising the outcome, it was considered that the QMLT was not at the academic or practical standards of the BMLSc or met an equivalence of the First Year Health Science Programme or any related first year science programmes.

However, the NZIMLS as a professional body had developed a qualification suitable for the intention was intended. The assessment for NZQA equivalence made against the NZQA criteria set the level at between Certificate Level 3 and 4. A further recommendation questioned given the structure of a modern laboratory whether single discipline examination should be considered and that disciplines should be grouped e.g. Blood Sciences.

A SNAPSHOT OF QMLT SATISFACTION

In 2019 the NZIMLS undertook three surveys, one at the Examiners and Moderators meeting, the North Island Seminar and the other at the Pre-Analytical SIG. While the full outcome will not be covered in this article, both groups demonstrated a remarkable consistency and some of the points are indicated below.

- The QMLT examinations and qualifications were fit for purpose and fair.
- Practical Assessments (logbooks) provided good direction for training.
- The majority preferred the examination to be taken after 12 months training.
- There was an equal division between participants whether discipline-based pathology was disappearing.
- 2000 hours for qualification completion was considered more appropriate than the 4000 hours requirement (note, this has since been implemented).
- 96% of respondents would be reluctant to pay full Polytechnic fees if an equivalent QMLT qualification was offered by the Polytechnics.
- Concern there were often very 'grey' areas between roles of scientists and QMLTs.

As a follow-up to the three surveys the NZIMLS undertook a computer-based survey of Heads of Departments, Managers and Supervisors on their views relating to the QMLT. In summary:

- QMLT was considered a suitable path to registration.
- There was almost a 50/50 split on registered staff with alternative qualifications using the QMLT system for increased knowledge.
- Again, the preferred time for taking the examination was 12 months.
- Strong support for the use of Practical Assessment documents.
- The NZIMLS was the preferred qualification provider (82% in support, 0.08% undecided).
- Strong support to employ and train school leavers.
- 40% indicated a preference to employ QMLT, 26% would employ either a QMLT or a graduate and 0.14% would preferentially employ a science graduate.

Taken overall there was a strong preference for retention of the QMLT processes and responses indicate that the NZIMLS has got the QMLT about right for the profession.

QMLT AND THE FUTURE

It is clear that from the very early days of Laboratory Assistants that a suitable qualification was required for what eventually became the Technician employment group. The NZIMLS has taken an evolutionary approach in developing what has eventually become the QMLT examination and qualification system. This has been developed with the skills and expertise of both Medical Laboratory Scientists and Senior QMLT staff to provide a fit-for-purpose qualification. But what of the future? With the exception of Phlebotomy, Specimen Services and Mortuary the number for specific disciplines is small. Could the discipline-based examinations be replaced with a single generic examination with the Practical Assessments being the discipline base for the qualification? Is it more appropriate to retain the status quo irrespective of candidate numbers especially if there

are changing approaches to disciplines with changing technologies in the laboratory? While the smaller laboratories may be able to provide the all-round training, could or would it work in the larger complex laboratories? Alternatively, should there be new 'practical' disciplines created, e.g. a QMLT in automation given that many analytes are often on the same platform or a QMLT in informatics. Mortuary is progressively becoming more sophisticated and complex with the increasing need of forensic services and the use of non-invasive or limited autopsy techniques. More contentiously is the consideration that QMLT has had "its day" and the qualification should be left to fade away and the progressive employment of graduates with suitable post-graduate training schemes? An interesting historical aspect of "Technician" training in the 1970s and 1980s was a proposal of a relatively 'seamless' route for "Laboratory Assistants/QTA to qualify as the then called Technologists (now Scientists) and there were a small number of people who achieved this via part-time release to attend the Polytechnic courses for Technologists.

Possibly a big unknown question is whether the NZIMLS should continue to provide the QMLT qualification, or should it be a Polytechnic based qualification? In a way turning the clock back to the days of the New Zealand Certificate of Science (NZCS). In the current climate of financial modelling and justification of services the NZIMLS financial model for QMLT is weak as it always runs at a loss. However, this is seen as an essential service to the profession and the financial considerations are not paramount in the NZIMLS considerations for providing the QMLT examinations, rather providing a training and qualification system that is suitable for today's laboratories. As qualification systems go, it is very cheap for the candidates, but it does not provide a suitable route for further qualifications. What if the Polytechnics took over the provision of the QMLT (or equivalent qualification)? It would clearly need to be an on-line learning programme as it would be unlikely that candidates would be released from work to complete it part-time. The issue of practical assessment and competency would also need to be resolved. The qualification would be at an NZQA level for progression but what would the individual progress too? There are only two Universities providing the BMLSc and both courses are full-time as well as expensive. Which raises the additional problem of who will pay for the Polytechnic course compared to the current relatively cheap NZIMLS examination fee with no tuition fees? Is it possible for a 'hybrid' QMLT whereby the Polytechnics provide the academic component and the NZIMLS continues to provide the Practical Assessment (albeit a more modified document from the present documents) and the qualification is jointly issued? Or would the Practical Assessment fall solely to the employer to submit, using existing competency evidence and documentation?

This article started with the historical overview of Technician training and while it is clear the last 25 years have not been as dramatic as the first 50 years, there has been considerable developments in providing the most appropriate (and internationally unique) training and qualification scheme, maintaining professional practice via Registration and the introduction of a CPD programme for Technicians. It is likely that there will be a continual evolution of the QMLT but what the future may hold could be determined by the development of the new health care system rather than any decisions by the NZIMLS.

AUTHOR INFORMATION

Michael Legge, PhD MRSB FIBMS FNZIMLS FFSc(RCPA), Associate Professor¹ and Deputy Editor²
Mary-Ann Janssen, DipMLT, 2IC Specimen Reception³ and Vice President NZIMLS²

¹Department of Biochemistry, University of Otago, Dunedin

²New Zealand Institute of Medical Laboratory Science, Rangiora

³SCL, Wellington