



'Qualifications' without 'Skills'

Over the last decade we have heard an increasing number of employers' stating that they may be getting maintenance engineers with higher academic qualifications but not possessing the skills required to perform maintenance productively to performance levels expected by employers.

At every forum, conference and meeting, there are employers stating their lack of faith in the Competency Based Training (CBT) System for maintenance engineers and pilots—employers state that the outcome of this training is that many people are holding 'qualifications' but lack the skills to be employed. Some larger operators have started their own training to ensure the pilots and maintenance engineers have the right skills. This clearly identifies that the national academic 'qualification' system is not producing the right skills.

Though employers have identified for a very long time that the aviation education system is not providing highly skilled people for this industry; the governments, regulators and educators have not responded to the needs of this industry. The aviation industry is not alone as research shows similar issues in other industries.

CBT was introduced in the late 1980s as a wider economic reform to improve the skill levels of the Australian workforce to enable industries to be more competitive in global markets and establish new career structures for the Australian workforce.

In aviation, based on employers clearly identifying the need for better skills, it must be accepted that the current system is not providing the people to perform at an acceptable level. The main purpose of any training system is to ensure the workforce has the skills so industry can compete domestically and in the global aviation market.

The old adage of knowledge is in the head and skills are in the hands seems to be very important at this time. Qualifications are needed to obtain funding for training and are usually in your pocket. Skills however come from applying that knowledge and experience. Qualifications in wallets satisfy bureaucracies, but only qualifications in heads ensure the safety of a flight.

What the aviation flying and maintenance sectors are asserting is that the current CBT system may be providing the knowledge but skills are lower than prior to the CBT system. This issue is not just in Australia, as researchers see this problem as being so serious that some academics are questioning the safety of aircraft operations as 'skills' decrease. Reliability in aircraft design and service reduces a pilot and maintenance engineer from 'exercising' their fundamental skills—can they react correctly when they need to use their skills?

Has competency based training (CBT) moved far away from the old skills based training?

and

Why has the CBT system failed to provide qualifications and skills required by the industry?

To determine why the system needs to be changed, governments, regulators and educators need to listen to employers so their concerns will lead to adjustments being made as necessary so skills can be provided as part of the training outcomes.

The Needs of Industry

To produce maintenance engineers/technicians with the right skills and knowledge requires all elements of the training to be correct as industry places reliance on the training to provide skills and knowledge.

- Competency standards;
- Adequate funding;
- High quality training establishments;
- Class room knowledge and skill training;
- Practical experience and on job skilling;
- Assessment (both academic and technical competence).

The fundamental basis of vocational education—that of identifying and meeting the real demands of the labour market are the most pressing need.

Industry is looking for a high level of competence in the workforce – employable throughout the industry with qualifications and skills acceptable not just in Australia but with qualifications and skills recognised globally. Employers know that this industry has to have global acceptance to obtain off-shore work.

Employers expect competence (skills) with very broad knowledge to face the changing technology that industry is adopting. VET standards are inflexible and are seen as slow to respond to employer needs and are too often controlled by educators and regulators. Secondly, there has been no whole of government approach recognising the additional class room time required to provide the skills that are missing from the current system or provision of funds. Increasing technology needs additional training time.

Though we have a competency based training system producing qualifications, we need to move more towards a competence based system where graduates are provided with the skills and knowledge needed in the labour market. The current system of competency based training is not providing competence skills that the industry can use — is it the training system or employers failing their employees?

The purpose of aircraft and component maintenance is to not only keep aircraft and/or components serviceable but to ensure that maintenance returns the aircraft to conformity with its design standards. Therefore, knowledge of the airworthiness design standards must be fundamental in the training as well as the skills to perform maintenance tasks.

The CBT that is failing industry must be replaced by Competence Based Training so 'skills' that employers' state are 'missing' are included in the training/assessing system. Competence-based differs to competency-based in that it addresses the needs of employment — i.e. performance based.

Traditional competency based meets educational, procedures and regulations. One reason that competency based training in aviation has not met the needs of employers is that there is not enough elapsed time to impart and assess the capability of a person to provide performance and productivity levels that are expected by employers.

There is a possibility that there is confusion created by regulations that seems to be placing responsibilities on the 'system' as the carrier of competences and not the individual.

In the interest of safety, competence is a function of both an individual and shared capacity. Broader skills are required as new technology is introduced. Though we tend to have an aged aircraft fleet, much of the equipment and tooling available today are new technology. This has made maintenance of aircraft different to the methodologies and techniques used in the past.

If the current “qualifications” do not provide the ‘skills’ the employer needs, then it is time that educators and governments addressed the concerns of employers.

Are Traditional Apprenticeships still Applicable?

Is it time to adopt full time aviation maintenance engineer training as has been implemented in all other mature aviation countries including our Asian neighbours?

Is it time to set Year10, with specified subjects, as the entry level to aircraft maintenance engineering training? The basic entry level into full time tertiary training that will provide competence to students so they are employable throughout the aviation maintenance industry?

Surely the answer is to move to two year fulltime training with an entry level of Yr 10. This model must be based on and equate to the European, North America and Asian academic training systems. Training establishments will need to be able to provide the competence for employment. If the current model does not work, urgent action is needed to make changes for the future of safe aviation growth in Australia.

If Australia can introduce a full time aircraft/component maintenance training over two years that provides the competence that employers are expecting and are accepted globally, then Australian graduates would be employable in the global aviation maintenance industry.

Such a training system would provide graduates who would underpin an AME licensing system that would once again meet the purpose of the [Chicago] Convention’s Annex 1, Chapter 4. Chapter 4 clearly states that the Licence privileges are to:

4.2.2.1. Subject to compliance with the requirements specified in 4.2.2.2 and 4.2.2.3, the privileges of the holder of an aircraft maintenance [engineer] licence shall be to certify the aircraft or parts of the aircraft as airworthy after an authorised repair, modification or installation of a powerplant, accessory, instrument, and/or item of equipment, and to sign a maintenance release following inspection, maintenance operations and/or routine servicing.

Privilege One: To certify that the aircraft or part of aircraft as continuing to conform to airworthiness design standards after repairs, modifications or installations. (Annex 8 responsibilities)

Privilege Two: To sign a maintenance release after supervising and coordinating maintenance and servicing of an aircraft or part of the aircraft. (Annex 6 responsibilities)

An AME licence should confirm that a person has the academic ‘qualifications’ and the ‘skills’ to supervise and coordinate maintenance, including conformity inspections of installations, modifications and repairs (conformity & serviceability).

It is crucial that the AME qualifications and skills obtained under a national VET system enables the person to be employable in the global aviation industry, not just trained to meet the needs of an employer. This prevents wastage of government training funds and provides a workforce with more flexibility and mobility.

Until this aspect of the aviation maintenance training outcomes are corrected, recognition of aircraft and component maintenance potential will be restricted to within Australia.

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