

Premier’s TAFE NSW Scholarship

Bricklaying training

A focus on catering to excellence and inclusion

Troy Everett

Wollongong Campus, TAFE NSW Region South

Sponsored by



# Introduction

One of the main challenges for the modern Vocational Education and Training (VET) practitioner is to cater for all students considering the broad range of individual differences that can be encountered. This report looks into a study I have conducted in Australia and the UK focussing on two prominent areas of learner engagement: support processes for literacy and numeracy deficient students and catering for excellence in a competency based environment. The study is based on bricklaying training and assessment but there are relevant themes across the construction sectors.

Literacy and numeracy are nearly always gauged during enrolment but are students receiving the best support possible after this screening? The screening is aimed at making sure the learners have the capabilities to enter into the coursework or determine if they require support to undertake the coursework. The support can vary greatly and if not handled well the learner will struggle or drop out. This study will look at all the different mechanisms and processes being utilised in Australia and the UK to see if there are any good practices that are worth consideration.

Teachers take great pleasure in the accomplishments of their students and so for the second component of the study I have chosen to investigate the forms of encouragement being employed to ensure students are striving to produce their best work and that they are not just aiming for a work standard that is recognised as sufficient in order to be deemed competent. I personally also believe that better performing students should receive the acknowledgement they deserve.

### Focus of the Study

The focus of the study is to identify good practice in effective literacy and numeracy support (post screening) and to explore methods used to encourage students to produce their best work in a competency based training environment.

To achieve this I conducted a series of interviews with leading practitioners across every state of Australia and the ACT capturing information from a variety of bricklaying teachers and bricklaying educational leaders. This has included very experienced long term teachers as well newer teachers and teachers from both government and non-government registered training organisations.

Rather than focus on sending out questionnaires and surveys, I thought conducting direct interviews would give me the qualitative information that would be more useful. I did have a framework of questions but also allowed the conversations to flow when unique or interesting perspectives were uncovered. I used a similar format when visiting colleges and staff in the UK based on the responses and prominent themes identified in Australia.

# Significant Learning

## Australian based interview findings

For the Australian component of this project there were nine different respondents from nine different colleges from around Australia: Albury NSW, Newcastle NSW, Perth WA, Holmesglen Victoria, Hobart Tasmania, Brisbane Queensland, Elizabeth South Australia and two from the ACT.

### Literacy and Numeracy

#### LLN screening

As nearly all states and territories mandate initial screening for Language, literacy and numeracy (LLN) levels, the tools used for this were also reasonably similar and with the same intent: gauging existing levels of capabilities in these areas to help identify any possible barriers that may need support. The screening also verifies that students possess the base skills to do justice to the course requirements and that we are not accepting their enrolment but setting them up to fail.

#### Existing literacy and numeracy abilities of learners

The first of the unanimously strong responses was in regard to the abilities of the students enrolling into trade courses, predominantly coming from school into an apprenticeship. All respondents stated that these abilities in the learners are clearly declining, resulting in more attention and time being needed from the VET practitioner especially during the early stages of a course.

Some alluded to technology combined with the increased “traffic of information passing in front of the eyeballs of the learners” affecting the engagement with the material and others rightly or wrongly said the schools had not adequately taught or supported those with deficiencies in these areas.

#### Post screening support

After screening, the course of action can vary from the teacher providing extra support within the classroom (utilising reasonable adjustment) to engaging dedicated teachers for additional tuition, sometimes during but often outside of regular class times. There is quite a bit of variety between using general education teachers with no knowledge of bricklaying compared to using teachers that hold bricklaying qualifications. Some institutions use both, depending on the situation. The type of support can also be affected by availability of teachers.

All respondents acknowledged that either could work well. Some preferred an industry based teacher because of the heightened contextualisation but general education teachers had higher level skills in dealing with learners who require this type of assistance. The point was made numerous times that general education teachers do require a period of time to hone in and understand the contexts specific to the trade to better complement the course delivery.

#### Knowledge testing

Nearly all of the knowledge testing is now composed of open book testing - so if students do not know the answers, they can look it up. Initially I was very surprised and thought there may be a lot of mixed feelings from teachers over this. Surely this could not measure the knowledge as effectively as the closed book testing of the past? The responses proved this assumption to be wrong. Most were quite comfortable with the move in this direction and took the opinion that the real proof of competence is assessed when students physically build the projects in the skills assessment.

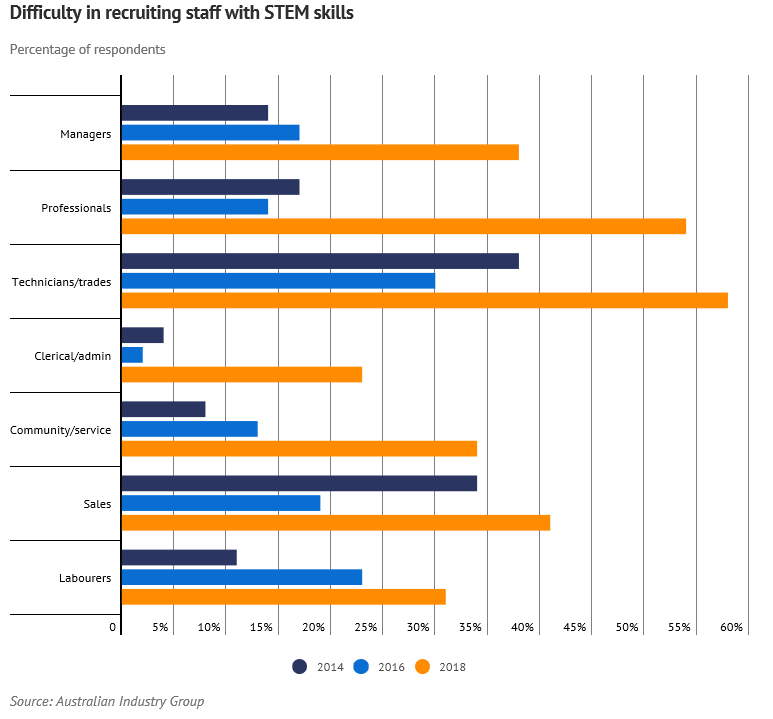
It should be noted that six of the nine respondents identified that although they were comfortable with this change, it is not the case in regard to the diminishing technical drawing requirements. The drawing component has been a very beneficial method for ensuring students have an adequate understanding of the project and the terminologies before they build it. The following quote came up a number of times: “If they can draw it then they can build it”, indicating that the time spent on drawing provides the students with a greater level of understanding before construction.

#### Maths/ numeracy

Another strong set of responses was received in terms of maths/ numeracy ability. All recognised the importance of basic numeracy skills in order to be proficient in the workplace. Many teachers identified that these skills are now taking more time and effort from the teacher to cover. When asked for specific examples, the main numeracy barriers identified were:

* converting units, especially millimetres to metres or metres to millimetres
* calculating areas and volumes
* applying decimals or rates , e.g. $/hr, $/m2.

This is supported by a recent study conducted by AI Group covering 298 companies and 111,209 employees 99 percent reported that low levels of literacy and numeracy (of employees) was affecting the business. Further to this the challenges around recruiting staff with the desired level of ability in Science, Technology, Engineering and Mathematics (STEM) skills has escalated significantly in recent years, as illustrated in the graph below.



**Figure 1**: highlighting the marked rise in the difficulty to recruit staff with STEM skills, especially in the technicians/trades area where the percentage rose from 30% to over 57% between 2016 and 2018.

(See [Sydney Morning Herald article](https://www.smh.com.au/business/workplace/99pc-of-employers-report-low-literacy-and-numeracy-skills-study-finds-20180910-p502xp.html))

This study is also relevant to the earlier point where respondents identified that the calibre of abilities in school leavers is declining.

#### Conducting theory sessions in practical work areas

Some centres have found success with the integration of practical work areas during theory lessons. Rather than just use workbooks, discussions, etc.in a classroom some teachers are bringing theory sessions into the practical workshop to complement the delivery so that the students can see built models, bricklaying equipment or students demonstrating techniques. The teachers who did this felt the learners grasped the contexts better than from only reading from a text or workbook, especially if they had issues with literacy and numeracy.

#### Including technology and devices in delivery

Not so long ago the usual practice was for teachers to get students to turn devices off or place them in a box at the front of the classroom, but some technology savvy teachers are going the other way and encouraging students to use smart phones during sessions. With the right controls it does make sense to use these devices that are such a big part of daily life for so many, especially in the younger generations.

A good example of this is with the use of online footage of both good and bad practice, some teaching sections are using this more and more in the classroom and allowing students to share (appropriate) footage for broader discussions. Students bringing in relevant videos for group discussions or hyperlinks that the teacher has sought out can add to the lesson and connect with the learner on a medium they are very familiar with. It also enables the learner to re-watch any footage they may assist them with skill and knowledge development.

#### Teacher rapport and student engagement

The importance of teacher-student relationship and the ability of the teacher to engage students cannot be underestimated. All respondents recognised the importance of this dynamic and it will be mentioned further later in my report.

### Excellence in a competency based environment

#### Teacher rapport and student engagement

Just as the rapport between teacher and student was identified as very important in assisting students with LLN difficulties, the same could be said for teachers that inspire students to produce their best work. The effect of engagement cannot be underestimated. One teacher quoted that “invested teachers generate invested students” and another “the students reflect what you project”. They may be old teaching adages but they continue to be directly relevant.

Eight out of the nine respondents believe that competency based training can be detrimental to student motivation because some will aim to produce sufficient work rather than their best work, but this can be counteracted by well delivered teaching. One comment was “There are a portion of learners that will strive and do well regardless of the learning environment, we need to make sure we give due attention to those in the mid to lower sections of the class that need to have their potential unlocked, the key to this is effective engagement”.

#### Defining excellence

One of the questions asked teaching practitioners to define the excellence in terms students’ performance and progression. It would be reasonable to presume that many responses would mention the quality of work produced especially in terms of accuracy and appearance, but this was not the case. Nearly all described human qualities mainly around attitude and how students apply themselves. I thought this was very interesting but when you consider what is important to employers it makes sense. Excellence does not necessarily need to be in context to measurable quantities but in terms of application and often the things that can be controlled like attitude, punctuality, effort, persistence, problem solving, honesty, communication and reliability.

#### Student grading and feedback

All respondents spoke about the importance of feedback in the learning cycle. Comments were made that industry works to a set of minimum standards, but the enticement needs to be there for students to excel and exceed this standard not just meet it. As part of the student feedback many of the teachers still utilise percentile marks (accompanied with the comments) even though this goes against the intentions of competency based training. It is seen as a universal measure that can give a better indication of the level of performance rather than if the work is good enough or not. In NSW all trade based Certificate III’s are not graded competencies, the result codes are either Competent/Not Competent or Satisfactory/Not Satisfactory.

## Overview of the UK technical education system

The structure of the vocational education and training (technical education) in the UK market is significantly different from Australia. There is a framework similar to Australia’s Australian Quality Framework (AQF) in place in England, Wales and Northern Ireland called the Regulated Qualifications Framework (RQF). The levels range from entry level to level 8, gauged according to the competence requirements and the application of skills and knowledge in industry.

The qualifications awarded are National Vocational Qualifications (NVQs) which have been designed and developed based on National Occupational Standards. The most noticeable broad difference is that the overarching assessment process is administered by an independent body, usually City and Guilds for construction industries. There is training and formative assessments taking place in the teaching sections over a considerable amount of time but for the main assessments for the NVQ (Level 2 and Level 3 for bricklaying) the students can apply and pay to be assessed when they feel they are ready. It should be noted that many industries and courses are transitioning from NVQs to the new Standards system so there are currently a mixture of disciplines operating under two different structures. The introduction of Standards has not been issue free with some describing it as chaotic with reports of distorted industry consultation and significant issues with reference groups.

Under the new structure end-point assessments have been introduced. All apprentices under this structure must complete an end-point assessment in order to complete their apprenticeship (essentially capstone testing in some courses in Australia). Like NVQs they are delivered by a separate external end-point assessment organisations to ensure there is a consistent quality and approach to assessment in line with the apprenticeship standards. These high level assessments take place over a week and involve a series of practical tasks, knowledge tests and also verification of on-site experience. The knowledge tests are not open book.

In UK colleges there is also a high proportion of entry level students not yet employed and they undertake formative training as a step towards gaining employment as an apprentice. These students are often integrated with apprentices or it is a composite group. There are many accelerated assessment products available for those that may have extensive existing experience and relevant capabilities, but these do vary significantly across the training organisations.

The separation between the training and assessment is very attractive in my opinion. In many situations under the competency based training model in Australia, the assessments end up being guided assessments meaning the students are often guided and corrected while their competence is being assessed. Obvious questions then arise as to whether the candidate can truly perform the work independently.

The other appealing characteristic was that I found the colleges and the practitioners to be extremely focussed on teaching and providing broad industry training and less focussed on heavy assessment controls aligned to stringent compliance auditing. I got the impression a lot of these controls are governed through the regulation of the independent assessment bodies. As a teaching practitioner I found this aspect particularly appealing.

### UK based interview findings

During the interviews there were many occasions where the descriptions could very well have been about the Australian VET sector and vice versa, indicating the sectors are very similar in terms of common challenges, despite operating under different structures.

When discussing the challenges at teaching section level, they are very similar between the UK and Australia. Meeting compliance obligations, maintaining quality while operating within budget and adapting to constant change and restructuring were all strong themes.

The importance of staff shone through. All the sections I visited in the UK had very capable and respected educational leaders. This greatly affected how smoothly the sections ran and how well they could adapt to change. Like Australia, many sections were facing the challenge of attracting enough suitable teachers to keep up with training demand.

#### Teacher student relationships and wellbeing

The first distinct observation was the heightened awareness and inclusion of student wellbeing. Mainly monitored and supported through teacher-student rapport, there were also many avenues of support available through the designated units and also the campus based associations. There is a high visibility of the services on offer, as you walk around the campuses and many staff are dedicated to these support mechanisms. This is not limited to just study related support but also holistic wellbeing.

During the interviews, the importance of the teacher-student rapport once again came up, identifying that this is a critical factor in identifying issues and taking the right action for support. Students are sometimes hesitant or self-conscious about coming forward and so the trust that comes from a strong rapport can assist in the students willingness to raise and discuss issues.

#### Literacy and Numeracy

Initially there is a screening process similar in structure to what is implemented around Australia, but one interesting difference is that this is revised six weeks into the course. The screening outcome is coupled with the teacher assessment during low level coursework. The aim is to provide a better diagnostic base for further action and support. If the screening clearly identifies additional support is required then these mechanisms are employed, but the method of the sixth week review is to gauge those that have mid to mild deficiencies. The support mechanisms can be activated at any time including during the six weeks if need be but the event is to make sure the support is specific to the learner needs.

#### Enticements for students to produce their best work

A wide range of competition events and pathways are available in both Australia and the UK, but I could see they were more entwined with training and assessment in the UK sector. There are more connections between the coursework and the competition content meaning that credit was more easily accessed for those who competed. The largest network of competitions and upskilling events occur under WorldSkills in both the UK and Australia. In terms of WorldSkills competitions in the UK there is a separate entity (SkillBuild) that focusses on the running of competition events every year. This model offers competitions as both a complement and an enticement, utilising specific metrics for performance in the context of excellence. In Australia these events occur biannually and are at the discretion of the teaching sections, often as an additional load to the usual operations of the section.

The UK system also has a wider use of gradings for assessments, end-point assessments and course outcomes. The range of grades available are Distinction, Merit, Pass and Not Yet Achieved. In my experiences in Australia there has been a move to ungraded competency for units and courses (especially in trade level qualifications) meaning that students are usually deemed either competent or not yet competent. In my opinion the graded range offers more enticement for students to strive for excellence, especially as the grade will be displayed on a transcript for future and prospective employers or clients to see.

# Conclusion

The study tour interviews have generated a mixture of similarities and variation. There were many common themes that arose when comparing responses to the Australian teacher interviews with the UK teacher interviews. There were also some very interesting different methods that may be worth considering as teaching sections continually shape their operations in order to cater to learners as effectively as possible. Both environments strive for a balance between the occupational demands of industry with the organisational supply of institutions but go about it differently.

There were some discoveries that stood out.

I felt the independent end point assessment of the UK model was better set up to gauging competence because the student has to pass the assessment unassisted with a separate, accredited entity. Although institutions are still subject to auditing, the assessment compliance falls with the end point assessors allowing the training organisations to focus more on quality teaching in line with occupational requirements.

There is no doubt there is a broader awareness of the importance of personal wellbeing in society and this is also the case in the VET sector. This is reflected in the measures that are quite extensive in the UK. The check-in milestone at the six week class for students identified as needing support also makes a lot of sense. It enables further adjustment to hone in on what would work best for the learner, especially as the initial screening is not an absolute measure.

A recurrent theme that came up during the interviews and study tour was the importance of the human elements of the teaching craft. This has always been a big part of the teaching profession, but I sense it is even more important in the modern VET environment where there is declining student resilience and concern over technology and social media that is invading student headspace. The ability to work with students and not just at them is invaluable and will have a great bearing on the completions and outcomes achieved. One respondent articulately described the risk of not doing so as students potentially “falling down the staircase of opportunity”. (John Halder, 23 March 2019).

Reflecting on the interviews with so many outstanding VET stakeholders and the opportunity to experience visiting so many teaching sections in another country, the most resounding message is that despite change and distraction the traditional pillars of teaching such as building a rapport, establishing trust and maximising engagement are as important now as they have ever been. The challenge now is to apply them to the modern environment.

# Acknowledgements

***Respondents***

***Australia:***

Eddie Campbell - Swan Polytechnic Perth

Glen Kilpatrick - TAFE NSW Albury

Eric Davis - DET Qld Brisbane

Paul McKay - TAS TAFE Tasmania

Eric Parletta - TAFE SA Adelaide

Duncan Todd - Holmesglen TAFE Victoria

David Lange Smith - TAFE NSW Newcastle

Lynn Sheffield - ACT

Peter Locke - ACT

***United Kingdom:***

Jenny Shackleton - UK skill standards advisor

Stewart and Catherine - from Gable Constructions (Industry) , Harpendon, England

Ashley Terron - Redrow Homes, Warrington, England

Mike Burdett - York, Northern England

Keith Binns - Leicester, England

Graham Baker - York College, Northern England

John Halder - York College, Northern England

Malcolm Greig - Glasgow, Scotland

Sean Johnston - CITB Edinburgh, Scotland

Patrick Phillips - Newry College, Northern Ireland

Billy Lacey - Dublin Institute of Technology, Ireland

James Cronin - Cork College, Ireland

Peter Moore - Durham College, Northern England