USING DATA TO ENHANCE 21ST CENTURY SKILL DEVELOPMENT IN VET

Discussion paper for the Summit on Data for Quality Improvement in VET

April, 2013

ABOUT ACER

ACER's mission is to create and promote knowledge and tools that can be used to improve learning across the lifespan

The Australian Council for Educational Research (ACER) is one of the world's leading educational research centres. ACER provides state-of-the-art research-based knowledge, products and services to improve learning in both formal and informal settings across the lifespan.

ACER was established in 1930, and has since built a strong reputation as a provider of reliable support and expertise to education policymakers and professional practitioners. As a not-for-profit organisation, independent of government, ACER receives no direct financial support and generates its entire income through contracted research and development projects and through products and services that it develops and distributes.

ACER has experienced significant growth in recent years and now has more than 350 staff located in Melbourne, Sydney, Brisbane, Perth, Adelaide, Dubai and New Delhi.

Significant current programs include international comparison surveys, diagnostic monitoring and achievement tests for students in schools and vocational education and training, senior secondary scaling and moderation tests, university placement and admissions tests, and assessments of graduate outcomes.

ACER is pleased to submit this discussion paper for the *Summit on Data for Quality Improvement* drawing on its long experience in the assessment of student learning and achievement, national and international research, and evidence gathering in support of adult, vocational and workplace education and training.

CONTENTS

EXECUTIVE SUMMARY

The National Summit on Data for Quality Improvement in VET is a unique opportunity for senior decision makers and stakeholders in policy, industry, training and research to come together to focus on the use of data to drive quality improvement. A joint initiative of the Australian Workforce and Productivity Agency (AWPA), the Australian Council for Educational Research (ACER) and the National Centre for Vocational Education Research (NCVER), summit participants will engage actively with policy and practice issues supported by the latest research on collecting and using data for quality improvement.

In response to the increasing demands of modern workforce and general life participation and perceptions of poor or declining educational standards, governments around the world are emphasising the important role of education systems in developing in learners a broader set of skills that will meet the challenges and demands of work, study and life in the 21st century. In many cases this has led education systems to focus increasingly on learning *outcomes* as a measure of system quality in addition to more traditional measures of *inputs* and *outputs*. In refocusing the notion of 'quality' around this proximate purpose of education (student learning outcomes), systems have been able to set ambitious agendas on improvements in outcomes and monitor and evaluate progress against those agendas.

While substantial investments have and are being made in the VET system in data collection and analysis in regard to enrolments, costs, completions and employment outcomes and in relation to monitoring, compliance and risk management, there has been less emphasis on collecting empirical evidence about the quality of teaching and broader learning outcomes and using such evidence to support local and system-wide continuous improvement strategies.

In Australia, the Standing Council on Tertiary Education, Skills and Employment (SCOTESE) and Skills Australia (now the Australian Workforce and Productivity Agency) have released major reports noting the increased need for workers with good LLN skills as the economy moves away from low-skilled work to greater knowledge-based work and linking the development of foundation skills (i.e. literacy and numeracy) to a range of positive education, work and general life outcomes, and hence as crucial to future success and workforce productivity. (Skills Australia, 2011; SCOTESE, 2012).

International research has demonstrated the individual and societal benefits of increased literacy and numeracy levels. The OECD Adult Literacy and Lifeskills Survey (ABS, 2007; OECD & Statistics Canada, 2011) described the strong association between educational attainment, literacy levels and positive employment outcomes and other, general life and health outcomes. In the United Kingdom, two longitudinal, representative cohort studies have measured economic and non-economic impacts of improving adult literacy and numeracy skills (Bynner *et al.*, 2001).

A number of studies have shown Australia to have a significant core skills gap. The 2006 Adult Literacy and Lifeskills Survey (ALL) showed that 46.8% of the Australian adult population (7.1 million people) were in the lowest two bands of achievement in document literacy and 52.5% (7.9 million people) in the lowest two bands for numeracy (ABS, 2007). Recently released preliminary results from the 2011-12 Programme for the International Assessment of Adult Competencies (PIAAC) confirms the earlier ALL data and suggests that little if any progress has been made in the intervening years (ABS, 2013).

As the VET system moves to address these broader learning outcomes and set goals and expectations to address the needs of individuals, employers and society in the 21st century, policymakers and providers need to consider what data and processes are needed to monitor the effectiveness of the system and to drive a continuous improvement approach that will directly impact on the quality of teaching and broader learning outcomes.

KEY QUESTIONS FOR CONSIDERATION RAISED IN THE PAPER

1. How can notions of system quality in VET be refocused to drive outcomes crucial to addressing the needs of individuals, employers and society in the 21st century?
   pp 3–4

2. What are the skills that have been identified as key to success in the 21st century workforce and society?
   pp 5–6

3. What do we know about current levels of foundation skills of the Australian workforce and general population?
   pp 7–8

4. How can data be used to enhance 21st century skill development in VET? In particular:

   - How can evidence of broader learning outcomes, such as core skills and other 21st century skills, be collected?
   - How can evidence of broader learning outcomes be used to improve teaching and learning outcomes for individual students?
   - How can evidence of broader learning outcomes be used to monitor progress and evaluate program effectiveness at an institution and system level?
   - How can the VET workforce be better prepared to assess and teach broader learning outcomes?

   pp 9–12

FROM INPUT/OUTPUT MEASURES TO OUTCOME MEASURES

How can notions of system quality in VET be refocused to drive outcomes crucial to addressing the needs of individuals, employers and society in the 21st century?

In response to the increasing demands of modern workforce and general life participation and perceptions of poor or declining educational standards, governments around the world are emphasising the important role of education systems in developing in learners a broader set of skills that will meet the challenges and demands of work, study and life in the 21st century. In many cases this has led education systems to focus increasingly on outcomes (e.g. student achievement, employment outcomes, student engagement) as an indicator and driver of system quality in addition to inputs (e.g. enrolments, funding levels, staffing) and outputs (e.g. completion rates, qualification/certification numbers).

In refocusing the notion of 'quality' around this proximate purpose of education (student learning outcomes), systems have been able to set ambitious agendas on improvements in outcomes and monitor and evaluate progress against those agendas.

In Australia, the National Assessment Program-Literacy and Numeracy (NAPLAN), which replaced earlier state-wide school testing programs in 2008, assesses all Australian school students in Years 3, 5, 7 and 9 using common national tests in reading, writing, language conventions (i.e. spelling, grammar and punctuation) and numeracy.

Internationally, the OECD Programme for International Student Achievement (PISA) tests 15-year-old students in over 60 countries in three domains: reading literacy, mathematical literacy and scientific literacy. The tests are not curriculum or knowledge based but rather designed "to assess to what extent students at the end of compulsory education, can apply their knowledge to real-life situations and be equipped for full participation in society." (http://www.oecd.org/pisa/aboutpisa/).

Similarly the OECD Assessment of Higher Education Learning Outcomes (AHELO) includes the assessment of 'generic skills' such as critical thinking, analytical reasoning, problem-solving, and written communication alongside discipline specific skills.

School and higher education assessments such as NAPLAN, PISA, AHELO and other system-wide and international programs, have focused the attention of governments, employers, educators and the general public on the role (and success) of educational systems in equipping students with the foundational skills for study, work and active participation in 21st century society, and informed significant local, regional and system-wide improvement agendas.

For example, the Smarter Schools National Partnership for Literacy and Numeracy, for which the Commonwealth Government allocated up to $540 million between 2008 and 2012, was established 'to facilitate and reward the implementation of evidence based strategies that improve student literacy and numeracy skills'. The 2012 Queensland Progress Report notes how data from PAT Reading and PAT Maths 'allowed for close analysis and school planning for Indigenous students' and that 'triangulation of the NAPLAN, Local Measure testing and school based data [was used] to inform specific short term student learning goals.' (DEEWR, 2012). In Victoria, the successful Northern Metropolitan Regional School Improvement Strategy *Powerful Learning* identified specific, outcomes-related goals (e.g. 'in 2013 a student finishing primary school will demonstrate individual performance at or above national standards in literacy and numeracy') and used evidence of broader student learning outcomes throughout the strategy. (DEECD, 2011).

While substantial investments have and are being made in the VET system in data collection and analysis in regard to enrolments, costs, completions and employment outcomes and in relation to monitoring, compliance and risk management, there has been less emphasis on collecting empirical evidence about

the quality of teaching and broader learning outcomes and using such evidence in local and system-wide continuous improvement strategies.

By refocusing the understanding of 'system quality' in VET to include broader learning outcomes, policymakers, educators and employers can more effectively set goals and expectations and monitor progress of those outcomes crucial to addressing the needs of individuals, employers and society in the 21st century.

SKILLS FOR LEARNING, LIVING AND WORKING IN THE 21ST CENTURY

What are the skills that have been identified as key to success in the 21st century workforce and society?

Educators and policymakers have grappled with what education and training means in a world in which the skills and knowledge needed to successfully undertake a particular occupation are changing as rapidly as the level of demand for one occupation or another. This has placed a spotlight on the VET sector whose functions include providing training in specific job-related areas, ensuring industry and business are well supplied with qualified and skilled workers, and enhancing individuals' employability and social inclusion.

While defined sets of skills and knowledge can be developed for particular areas of work and study at particular points in time, rapid changes in technology and social and economic structures, including those related to globalisation, may mean that specific skills and knowledge learned during education and training are quickly outdated in the real world.

Masters (2013) notes that employers, in particular, have emphasised "the need for employees who can work collaboratively in teams, use technology effectively and create new solutions to problems" and highlights the work of the international collaboration known as the Assessment and Teaching of 21st Century Skills (ATC21S).

ATC21S is one prominent attempt to define in detail this wider range of skills. These can be grouped into four broad categories:

- ways of thinking (including creativity, critical thinking, problem-solving, decision-making and learning);
- ways of working (including communication and collaboration);
- tools for working (including information and communications technology and information literacy); and
- skills for living in the world (including citizenship, life and career, and personal and social responsibility).

<div style="text-align: right">Griffin, McGaw and Care, 2012</div>

Inherent in this approach is the view that changes in assessment and reporting processes have "a pivotal role to play in focusing the attention of schools and school systems on the development of broader life skills and attributes." (Masters, 2013).

While significant work is being done to develop effective data gathering tools to measure attributes such as problem solving, collaborative thinking, ICT literacy and civics and citizenship, most assessment and reporting work on broader learning outcomes has concentrated on collecting valid and reliable evidence of generic skills in language, literacy and numeracy, which have been termed 'foundation' or 'core' skills.

In its 2012 report *National Foundation Skills Strategy for Adults,* the Standing Council on Tertiary Education, Skills and Employment (SCOTESE) described the critical role of foundation skills in addressing individual and societal needs:

> The importance of strong foundation skills in a modern, knowledge-based society is well established. These skills underpin workforce participation, productivity and social inclusion. People with higher LLN skills are more likely to be employed, participate in their community, experience better health and engage in further training…The link between numeracy, literacy and problem solving skills and the central use of technology in contemporary communication means that foundation skills are increasingly important for effective participation in modern workplaces and contemporary life.

A move away from low-skilled work to greater knowledge-based work has increased the need for workers with good LLN skills. As modern workplaces become increasingly complex and supporting technologies evolve, there are rising expectations around acceptable levels of foundation skills. The need for individuals to continually build and adapt their foundation skills for new contexts, technologies and purposes means that these skills extend beyond the entry-level skills required to obtain employment and enter the workforce. Foundation skills exist across a continuum of levels and affect an individual's ability to progress through a career, change career paths, participate in education and training and engage with their community.

SCOTESE, 2012

This position is well supported by evidence from a number of national and international studies.

The OECD Adult Literacy and Lifeskills Survey (ABS, 2007; OECD & Statistics Canada, 2011) described the strong association between educational attainment, literacy levels and positive employment outcomes and other, general life and health outcomes. Individuals with high levels of literacy and numeracy skills were shown to have a better chance of securing stable, full-time employment; were significantly more likely to engage in community groups or organisations, even when controlling for level of education, age, community size, gender, children present in the home, income, and parents' education; and were more likely to engage in unpaid voluntary activities (Statistics Canada, 2011).

The data also showed substantial and direct individual financial benefits associated with higher levels of literacy or numeracy, noting a steady gap in median income of people assessed at each of the five described skill levels (ABS, 2007).

In the United Kingdom, two longitudinal, representative cohort studies have measured economic and non-economic impacts of improving adult literacy and numeracy skills (Bynner *et al.*, 2001). The data from these studies showed that individuals who increase their literacy and numeracy levels:

● improve their chances in the labour market, moving up the occupational status scale and resisting unemployment;

● suffer less from poor physical and mental health are less likely to have children experiencing difficulty at school;

● are more likely to be active citizens, as shown by voting behaviour and expressing interest in politics; and,

● are more liberal and less discriminatory in their attitudes.

Bynner et al. (2001) also used micro-economic modelling to calculate the impact on gross domestic product and government finances of improving the literacy and numeracy skills in the United Kingdom to meet stated government targets. Their analysis found that meeting the literacy and numeracy targets would generate £0.44 billion and £2.54 billion per annum benefit (at 2001 prices), respectively, to the taxpayer.

AUSTRALIA'S CORE SKILLS GAP

What do we know about current levels of foundation skills of the Australian workforce and general population?

The 2006 Adult Literacy and Lifeskills survey (ALL) (ABS, 2008) showed a large proportion of the Australian adult population in the lowest two bands of achievement in literacy and numeracy.

ALL Scale	Number of adults with skill levels 1 and 2	Percentage of adult population with skill levels 1 and 2
Prose literacy	7.0 million	46.4%
Document literacy	7.1 million	46.8%
Numeracy	7.9 million	52.5%
Health literacy	9.0 million	59.5%
Problem solving	10.6 million	70.1%

Level 3 is the level regarded as a suitable minimum for coping with the increasing and complex demands of modern life and work.

At the same time the Australian report on the OECD Programme for International Student Assessment (PISA) 2006 (Thomson & DeBortoli, 2008) described a significant decline in average reading literacy scores of Australia's 15 year old students between PISA 2000 and PISA 2006 and a significant decline in the average mathematical literacy scores of female students. The decline in reading literacy scores was confirmed by PISA 2009 (Thomson, De Bortoli, Nicholas, Hillman & Buckley, 2011) and in addition a significant decline in the overall mathematical literacy scores for all students was reported.

Australia was the only high achieving country in PISA to show a significant decline in reading scores and one of ten to show a significant decline in mathematical literacy scores.

Core skills have been identified as the key skills for current and future workers to learn and apply knowledge and skills in the workforce, and hence as crucial to the future success and productivity:

> Adult Language, Literacy and Numeracy (LLN) skills are now recognised as fundamental to improved workforce participation, productivity and social inclusion… International research shows that a one per cent increase in a country's literacy score leads to a 2.5 per cent increase in labour productivity.

> Skills Australia, 2010

Recognition that Australia has a significant core skills gap and that core skills are directly related to workforce productivity has resulted in a number of key reports and papers and led to an increase in the number and scope of different programs and strategies to improve the LLN skills of the Australian workforce.

Despite this renewed focus on core skills, preliminary data from the 2011-12 Programme for the International Assessment of Adult Competencies (ABS, 2013) confirms the earlier ALL results and suggests that little if any progress has been made in the intervening years.

PIAAC Scale	Number of adults with skill levels 1 and 2	Percentage of adult population with skill levels 1 and 2
Literacy	7.3 million	44%
Numeracy	8.9 million	55%

The PIAAC preliminary data also confirms earlier concerns raised by the ALL data about low levels of literacy and numeracy skills in the workforce, both employed and unemployed.

PIAAC Scale	Employed, with skill levels 1 and 2	Unemployed, with skill levels 1 and 2
Literacy	38%	46%
Numeracy	48%	57%

There is a range of significant challenges facing Australia in relation to improving the core skills of the Australian workforce and general population. These are well summarised in the 2011 report, *No more excuses*, in which the Industry Skills Councils (Australia) and AgriFood Skills Australia propose:

- better identification of the LLN skills of learners before training, and targeted funding to address identified LLN skill gaps

- the inclusion of clear advice on LLN skill requirements in Training Packages and/or their companion volumes

- the implementation of a strategy to develop greater national awareness of LLN issues, including the de-stigmatisation of LLN skill development

- an increased capacity in the VET system, and all practitioners, to support the LLN skill development needs of learners and workers

- better-targeted solutions for building the LLN skills of workers/learners.

USING DATA TO ENHANCE 21ST CENTURY SKILL DEVELOPMENT IN VET

How can data be used to enhance 21st century skill development in VET?

So far this paper has highlighted the crucial role of the VET system in meeting the current and future training needs of the Australian workforce and wider population through an increased focus on delivering broader learning outcomes incorporating enhanced foundation skills. By refocusing the understanding of VET system quality to include these broader learning outcomes, policymakers and providers can begin to set goals and monitor progress in addressing the needs of education, work and society in the 21st century.

As the system moves to address these broader learning outcomes, policymakers and providers need to consider what data and processes are needed to monitor the effectiveness of the system and to drive a continuous improvement approach that will directly impact on the quality of teaching and broader learning outcomes.

This raises a number of key questions:

- How can evidence of broader learning outcomes, such as core skills and other 21st century skills, be collected?

- How can evidence of broader learning outcomes be used to improve teaching and learning outcomes for individual students?

- How can evidence of broader learning outcomes be used to monitor progress and evaluate program effectiveness at an institution and system level?

- How can the VET workforce be better prepared to assess and teach broader learning outcomes?

How can evidence of broader learning outcomes be collected?

While progress is being made on describing a range of 21st century skills and developing valid and reliable tools for collecting data (including the National Sample Assessment in Information and Communication Technology Literacy and the National Sample Assessment in Civics and Citizenship) there is already significant capacity for valid and reliable assessment of the core skills of language, literacy and numeracy.

The revised and updated Australian Core Skills Framework (ACSF) (McLean, P. *et al*, 2012) is a well-constructed framework that describes performance in each of five core skills at five levels of performance along a continuum. Using the ACSF enables trainers, assessors and program developers to benchmark individual learners' core skills, map core skills requirements in education and training including in streamlined Training Packages, customise and target appropriate teaching and learning and describe core skills relevant to the workplace and employment. The ability to assess accurately and reliably against the ACSF is crucial to the effective delivery of VET.

However, there are a number of challenges in assessing against the ACSF. Understanding, interpreting and applying the complex framework and its breadth of content and levels requires both specialist LLN knowledge and opportunities for regular moderation to ensure reliability across contexts and over time. Unpacking and mapping the core skills requirements in streamlined Training Packages requires expert knowledge of both the ACSF and the content knowledge of the particular Training Package. Further, developing assessment tasks that are valid, reliable and fair is a specialist skill and one that is often misunderstood and undervalued. Given the concerns over VET workforce capacity in LLN this is a critical issue that needs to be addressed and targeted.

While improvements in VET workforce skills in the assessment of LLN against the ACSF are essential, in order to facilitate the collection of valid and reliable evidence of student achievement across the system, VET trainers and providers must have access to easy-to-administer, professionally developed assessment tools that can be operated at scale and can provide objective, reliable data on student achievement against the ACSF to add to other subjective, local judgements.

How can evidence of broader learning outcomes be used to improve teaching and learning for individual students?

While there are various arguments in the field of educational assessment around appropriate assessment purpose, approach and methodology (for example, formative vs. summative, criterion referenced vs. normative referenced, etc.) in *Reforming Educational Assessment,* Masters describes "a simple unifying principle" of assessment:

> the fundamental purpose of assessment is to establish where learners are in their learning at the time of assessment.

Masters, 2013

Masters (2008) describes the process that teachers take in addressing the learning needs of their students as a 'decision making loop' in which a teacher's understanding of the current situation (i.e., an individual learner's current skills and knowledge), knowledge of how to address the situation and the resources required are translated into action which leads to improved learning outcomes. Once the action is complete, a feedback or evaluation phase provides the teacher with an updated understanding of the situation and builds the teacher's knowledge about effective practices and required resources for action in the future.
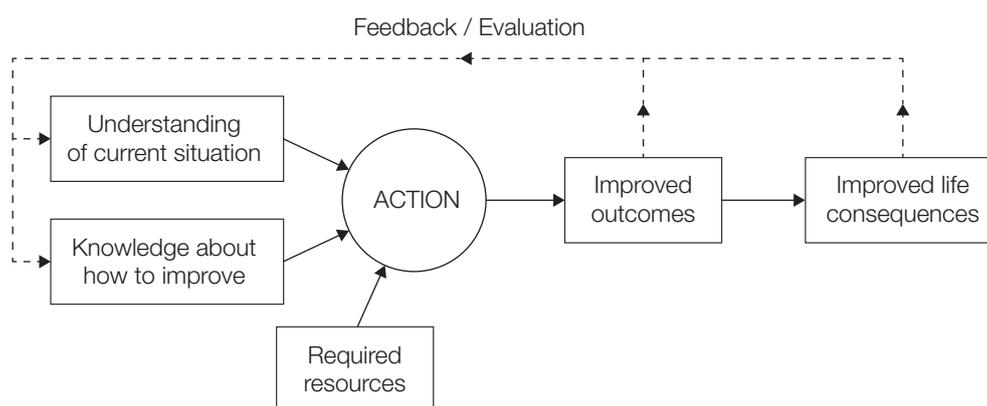
Masters, 2008, 2013

Evaluation both of the starting point and the observed improvement is critical to the process. Fullan, Hill and Crévola suggest that:

> In an ideal world the teacher would have precise and current knowledge of each student's starting points and also of what assistance each student requires to move to the next level.

Fullan, Hill and Crévola, 2006

Consistent and effective methods of assessing and reporting on the content knowledge and core skills of learners is crucial to student engagement and improved learning outcomes. Such assessment practices allow trainers to better understand individual learner strengths and weakness, how to set goals and targets for learners, where to direct attention, resources and expertise, and how to adapt teaching practice to achieve greater student success.

How can evidence of broader learning outcomes be used to monitor progress and evaluate program effectiveness at an institution and system level?

A key use of quality data on broader student learning outcomes is to provide a basis for monitoring progress and effectiveness of educational provision at an institution and system level. Data used for this purpose must be collected from robust and well-constructed test instruments that are underpinned by a measurement model that provides valid and reliable evidence of student learning and allows for fair comparisons over time and contexts.

At an institution level, evidence of students' core skills can play an important role in planning, resourcing and delivery. For example, data on students' core skills collected on enrolment can help to ensure placement in an appropriate program and allow providers to make informed decisions on resourcing, such as targeted investment in literacy or numeracy support services. Ongoing assessment of students' core skills achievement can be used to monitor the effectiveness of specific strategies and overall educational provision.

At the system level, governments and policymakers can use evidence of student learning outcomes to assess the success of broader strategies and programs in meeting the goals of policy initiatives. Examples have been given earlier of how measures such as NAPLAN and PISA have been used to identify system-wide or regional challenges, set improvement agendas and monitor progress.

Evidence of student learning outcomes can also be used to monitor and drive the quality of individual institutions by providing comparisons and measuring progress against system-wide (and international) standards.

The Commonwealth Government's MySchool website (www.myschool.edu.au) provides a range of system-wide and between schools comparisons of student outcomes and progress. The between schools comparisons are made against 'like schools' (that is 'schools serving students from statistically similar backgrounds') and students with the same starting points.

In the UK, the Office for Standards in Education, Children's Services and Skills (Ofsted) uses the Common Inspection Framework to evaluate the effectiveness of pre-schools, schools and further education providers, including by evaluating "the extent to which … all learners achieve and make progress relative to their starting points and learning goals." (Ofsted, 2012) The UK Department of Education publishes data for each school which indicates the percentage of students making "expected progress" and a value added measure that compares students' progress with students elsewhere who started from the same level of ability (http://www.education.gov.uk/schools/performance/).

A note on 'value-added' and 'distance travelled'
While the terms 'progress', 'value-added' and 'distance travelled' are sometimes used interchangeably, there are some significant differences in approaches to progress monitoring. The term 'distance travelled' is often used to describe measured improvement from the starting point or measured progress towards a defined level of achievement. By contrast, 'value-added' is normally used to describe additional progress learners in particular institutions make *over and above* what they would normally be expected (or estimated) to achieve given prior attainment and contextual factors (or 'contextualised value-added') such as gender, SES, indigeneity, LBOTE and a range of other factors.

A note on 'high stakes' applications
In his recent report *Measuring and Rewarding School Improvement*, Masters warns of the unintended consequences of using the results of system-wide monitoring tools for 'high stakes' purposes, such as rewarding or sanctioning schools. He points to evidence from a range of sources that such high stakes purposes are not generally associated with long term improvement and can drive a range of unintended, negative behaviours. (Masters, 2012)

How can the VET workforce be better prepared to assess and teach broader learning outcomes?

A critical issue for improving learning outcomes in VET is the capacity and skills of the VET workforce. For trainees and employees to have access to high quality education and training, they need to be taught by well-trained teachers and trainers (Productivity Commission, 2011; Skills Australia, 2011). Evidence suggests a significant gap in the VET workforce in relation to both the teaching and assessment of literacy and numeracy.

In 2008, Innovation and Business Skills Australia (IBSA) investigated the feasibility of a set of new national qualifications in adult language literacy and numeracy. The documentation for the resulting courses stated:

> The existing LLN workforce (like the general VET workforce) is ageing and the number of university based undergraduate and post-graduate qualifications specifically designed to produce and/or up-skill adult literacy and numeracy practitioners has dwindled dramatically since the mid-1990s. Practitioners operating in the field today hold a range of credentials – but there is no standard national qualification for LLN practitioners available in Australia. NCVER research also found the opportunity for formal professional development for credentialed and non-credentialed practitioners was also rare and that there had not been a formal replacement for the Adult Literacy Teaching and Adult Numeracy Teaching courses that were developed by the National Staff Development Committee in 1995.
>
> IBSA, 2010

As a result, in 2010 IBSA developed two new post-graduate level VET qualifications. The two qualifications developed are:

- *TAE70110 Vocational Graduate Certificate in Adult Language, Literacy and Numeracy Practice*, which represents the skills and knowledge required to address the LLN skill development of learners
- *TAE80110 Vocational Graduate Diploma of Adult Language, Literacy and Numeracy Leadership*, which provides leadership and research opportunities.

As an entry level Certificate IV for VET practitioners, the TAE40110, provides the foundation skills and knowledge for trainers and assessors to begin work in the VET sector. However, for the VET sector to deliver quality outcomes, skills and knowledge beyond TAE40110 are required. As such, IBSA views TAE40110 as an entry-level qualification which provides the basis for training and assessing in a competency based system while introducing the rudiments of facilitating learning and the transmission of skills and knowledge.

Some knowledge of literacy and numeracy assessment and teaching is embedded in the Certificate IV in Assessment and Training, but currently only through an optional unit, *TAELLN401A – Address adult LLN skills*, which is to become a core, and hence compulsory, unit from 2014 onwards. Similarly the unit *TAELLN501B Support the development of adult language literacy and numeracy skills* which is included in the next higher level qualification, the Diploma of Training and Assessment, as an optional unit, will become compulsory within the Diploma from 2015.

While there is now emerging a range of relevant VET accredited courses available as part of in-service training and support, or that could be required as pre-service qualifications, there will need to be significant investment and commitment to this area if the skills gap in the VET workforce is to be closed. This will be crucial if we are to enhance 21st century skill development in VET in Australia.

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GLOSSARY

ACER – Australian Council for Educational Research

ACSF – Australian Core Skills Framework

ALL – Adult Literacy and Lifeskills survey

AWPA – Australian Workforce and Productivity Agency

CSPA – Core Skills Profile for Adults

DIISRTE – Department of Industry, Innovation, Science, Research and Tertiary Education

IALS – International Adult Literacy Survey

IBSA – Industry and Business Skills Australia

LLN – Language, Literacy and Numeracy

NCVER – National Council for Vocational Education Research

OECD – Organisation for Economic Co-operation and Development

PIAAC – Programme for the International Assessment of Adult Competencies

SCOTESE - Standing Council on Tertiary Education, Skills and Employment

Skills Australia – now Australian Workforce and Productivity Agency

VI – Vocational Indicator