InnovatiVET – Erasmus + Strategic partnership VET Project Project no. 2017-1-DK01-KA202-034250





# Intellectual Output 1

## **Evidence Gartering Report**

(Base line study)



لی Uddannelses- og Forskningsministeriet Tyrelsen for Videregående Uddannelser

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### Baseline study: Evidence gathering report Io1 InnovatiVET

This report synthesizes the literature and finding from cross national sector interviews conducted in al partner countries in 2018, relating to continuing professional development (CPD) for VET teachers. Focus is on identifying the elements influencing the VET teacher's ongoing Lifelong learning (Halttunen, T, et al., 2014)

#### **Key messages**

The authors highlight a number of the enduring issues influencing continuing professional development for VET teachers, including:

- The VET workforce and the organizations that employ them are varied. VET teachers come from a range of backgrounds, are employed under various conditions (part-time, casual or on a contract basis) and have significantly diverse career paths when compared with the schooling or university sectors. This diversity means that *no single approach* to continuing professional development for VET teachers can meet the needs of every industry, organization, teacher.
- A challenge for VET teachers is *ensuring their currency of skills* in both educational expertise and industry practices. Continuing professional development (CPD) for VET teachers needs to take into account the duality of the role.

The evidence gathering report underlines the paucity of current data on the VET teacher workforce and the lack of focused attention on this aspect of supporting quality in the development of the VET system. The last significant VET workforce review was undertaken by the Productivity Commission in 2011. There is a need to provide a better informed picture of VET teachers, including their qualifications, employment status and any continuously professional development undertaken. The importance of quality in training and assessment means this information should be just as relevant and critical as other national VET collections.

"VET teachers need to maintain industry currency in a dynamic economic environment and adapt their pedagogy to suit a variety of teaching/training situations and expectations." (Dr. Craig Fowler, 2017)

"...the emerging demands being made upon VET teachers and the diversity of the workforce call for a rethink of traditional approaches to CPD, which currently tend to be reactive and centered around standards, accountability and efficiency, rather than being proactive and focused on developing the innovative sorts of skills and characteristics required of an adaptive and modernised workforce" (Webster-Wright 2009)

#### 1. Purpose and scope of the evidence gathering report

The purpose of this occasional report is to provide a synthesis of recent developments in the field of continuing professional development (CPD) in order to identify elements likely to be of most value in supporting vocational education and training (VET) teachers' ongoing lifelong industry and pedagogical learning.

This report is anchored by two research questions:

- What current processes and practices of Continuing Professional Development (CPD), including the maintenance of industry currency, are most relevant to VET teachers?
- How does the current Continuously Professional Development provide a foundation for the development of needed adaptive and innovative VET teachers?

Using actor and group interviews and major academic databases, with an emphasis on journals and reports, the literature and empirical findings relevant to the questions was comprehensively surveyed by the partners in the InnovatiVET project. From this survey it was apparent that there have been few advances over the past decade or so in the research underpinning VET teachers' CPD.

#### 2. Background

In a rapidly changing and sometimes volatile economic and industrial environment (World Economic Forum 2016; Hajkowicz et al. 2016), international competitiveness is increasingly premised on the capacity of industry, and hence the workforce, to respond promptly to changing conditions and to forecast what might lie ahead. In such dynamic conditions, the role of vocational education and training has become increasingly significant.

While VET teacher development has been on the EU education policy agenda for many years (The Bruges communiqué; 2010), it has not been sufficiently visible (Riga conclusions; 2015). The Riga conclusions (2015) have put renewed emphasis on the issue, calling for systematic approaches to and opportunities for continuing development of VET teachers. Underpinning the productivity of the VET sector is the capability of the VET teachers to support, mentor and train learners to ensure they have the skills and expertise desired by industry.

Volmari, Helakorpi and Frimodt (2009) identified a range of factors impacting on contemporary VET teachers, including pedagogic, technological, labour market and socio-cultural influences. They pointed out the pervasive influence of new technology, noting that 'new digital multimedia tools, collaborative technologies and social networking forums are dissolving the boundaries between informal and institution based learning and driving demands for flexible services from both learners and teachers'.

The 'rapid and uncertain' changes and the need for 'new and high skills' detected by Béduwé et al. (2009) have placed new demands on VET teachers to ensure that their vocational skills keep pace with what is happening in the industries for which they train workers (Andersson & Köpsén 2015).

These developments imply that the teaching role in VET continues to be a significant one, and VET teachers need to ensure they not only maintain industry currency in a dynamic environment, but also that they adapt their pedagogy to suit a variety of teaching/training situations and expectations. In line with this, Guthrie (2010, p.12) concluded that 'one of the professional development issues that emerges time and time again, is getting the balance right between maintaining vocational currency and fostering the skills to improve teaching, learning and assessment practices'.

The implications are that effective professional development approaches are likely to require a range of understandings of the different circumstances of the VET teacher's role, and of the VET teachers themselves.

#### 3. The VET teacher profile

This report encompasses the range of VET teachers identified by Wheelahan and Moodie (2010) as 'teachers' — those designated as teachers, trainers, lecturers, tutors, assessors, workplace assessors and/or trainers, VET workplace consultants, those who develop and deliver courses, modules and learning and assessment materials. These VET teachers are diverse: 'the different backgrounds, the variety of skills and prior experiences people bring to the VET sector, and the careers paths they are on are typically much more varied than is the case in the schools and university sectors' (Wheelahan and Moodie, 2010).

In the face of ongoing industry and workplace change, Continuing Professional Development (CPD) for European VET teachers continues to increase in importance. However, the emerging demands being made upon those teachers and the diversity of the workforce call for a rethink of traditional approaches to CPD, which currently tend to be reactive and centered around standards, accountability and efficiency, rather than being proactive and focused on developing the innovative sorts of skills and characteristics required of an adaptive and modernised workforce (Webster-Wright 2009).

One feature of CPD that distinguishes it from entry-level training is that VET teachers are more likely to be aware of the need to improve their knowledge and practice (Cervero 2001). Cervero (2001, p.26) emphasised that the challenge is to take advantage of that awareness and 'find ways to better integrate continuing education, both in its content and educational design, into the ongoing individual and collective practice of VET teachers'.

Taking account of the diversity of the sector and the external influences on it, each of the sections that follow, provides key findings from the examination of literature and empirical findings in regards to the two research questions noted earlier. The report concludes with a number of responses to the research questions and identifies areas for further research and development to be conducted in the trans-European Erasmus + project InnovatiVET.

#### 4. Current processes and practices

"Research findings generally indicate that short-term approaches to CPD do not promote the development of new and innovative practices."

#### 4.1 International developments in CPD for VET practitioners

Béduwé et al. (2009, p.22) identified a number of key drivers bringing change and uncertainty to Europe, including global economic development; the high costs of living, labour and production in most developed nations; shrinking and ageing populations in almost all 28 European Union (EU) member states; and migration flows. The authors proposed VET as one of the policy mechanisms for responding to such changes, but also noted that dynamic economic and social environments call for the optimization of VET through improved learning and 'better synergy between teaching and practice' (p.50).

Parsons et al. (2009, p.104) observed that the VET teaching profession was changing dramatically, but that the extent of the change varied greatly across the European Union, reflecting 'different legacies' of professionalization and levels of maturity in the modernization of VET. They saw endogenous change as emanating from new VET structures, new legislation, enhanced quality assurance requirements, and the impact of technology on VET delivery and management. Parsons et al. (2009, p.104) noted that typically 'endogenous change may involve either job enlargement or job enrichment'.

#### 5. Summary

The research into the experiences of European Union countries shows that, even with an organization dedicated to promoting CPD in VET across the network — Cedefop — and agreement across all countries that continues professional development is essential for VET teacher, implementation is patchy. Even in those countries with a mandatory requirement, practitioner attitudes vary, and the monitoring of outcomes appears to be unsatisfactory.

The question for VET teacher CPD arising from this review include:

• Should the outcomes of CPD be promoted, recognized and certified for individuals, and if so, how might that best be done?

Developments across Europe appear to have pedagogical skills as their focus, although the duality of the VET teachers' role is acknowledged in research reports. However, the maintenance of industry currency has been a topic as much debated as the need for an appropriate educational/training qualification.

#### 6. Industry currency

As so-called 'dual professionals' (Productivity Commission 2011), VET teachers have an obligation to maintain their capacity to operate in both educational and industry environments. The Standards for Registered Training Organisations (RTO) 2015, specify that trainers and assessors require 'current industry skills directly relevant to the training and assessment being provided'. The credibility of the trainers and RTOs, and the integrity largely depends on how closely that requirement is met (Clayton et al. 2013). Particularly for those whose daily working environment is the classroom or simulated work environment, maintaining industry currency may be a major challenge.

Industry currency has been defined as 'the maintenance of a teachers' vocational technical skills and knowledge, enabling the VET practitioner to deliver and assess vocational training relevant to current industry practices' (VOCEDplus 2016). The extent of the currency required can be influenced by industry-related factors, such as technological innovation; changing legislation and regulatory requirements; changes to industry practice; new and emerging skills and specializations; and the degradation of technical skills through lack of use. Clayton et al. (2013) reported that the term, 'industry currency', was not widely used in the trades or VET environment, with the preferred terms being 'professional competence' and 'industry relevance'. The Standards for Registered Training Organisations 2015 use the term 'Industry engagement'.

Irrespective of the terminology, Wheelahan and Moodie (2010, p.24), found that approaches to maintaining industry currency for VET teachers were ad hoc and varied in effectiveness. They noted difficulties in identifying and arranging relevant industry placements, as well as financial and logistical impediments for institutions to releasing teachers for such purposes. Nor was it always clear what the VET teachers should actually do while on release to industry. The authors advocated that, rather than employing teachers with current industry skills or casuals from industry, a more sustainable approach would be to implement CPD programs that supported teachers to maintain and extend their industry currency.

In their discussion paper, Toze and Tierney (2010, p.24) suggested that maintenance of industry currency 'is still driven by compliance rather than improving teaching and learning practice', and that it was more difficult to stay up to date with technical skills than with industry knowledge.

It was noted that it was sometimes difficult to find mutually convenient times for VET teachers and VET enterprises, and that VET teachers without strong industry networks often had trouble finding placements.

Toze and Tierney (2010) also noted that VET teachers in schools sometimes had trouble maintaining industry currency because they lack the contacts and may also find it hard to convince school administrators of the importance of industry release. The two authors concluded that industry currency is:

"...not a specific activity that only occurs at certain times, although this is often the way it is recorded in staff profiles. VET teachers can be constantly adding to their knowledge and skills base through a range of activities, interactions and information they receive through their daily work... (p.17)"

In another major study of industry currency, Clayton et al. (2013) looked at the strategies used in seven sectors: plumbing, hairdressing, printing, science, engineering, human resources and the health professions. They found that employers in plumbing, hairdressing and printing acknowledged the difficulties of keeping up to date with technological developments, new regulatory requirements and changing client demands. The preferred ways of keeping current in those three industries were attending trade events, reading industry magazines, undertaking online research, and engaging in industry networks, along with product manufacturer/vendor training.

RTO auditors, however, questioned the value of industry events and online research, and wanted to see evidence that ongoing industry learning informed teaching practice. Clayton et al. (2013, p.8) concluded that 'a "one size fits all" approach ... would seem to be inappropriate and any audit processes would need to take into account the context, location and type of work that teachers and assessors were involved in'.

In the knowledge-based industry sectors, Clayton et al. (2013) found that maintaining employee currency was linked to the extent to which organizations valued such activities. Employers supportive of ongoing training had established processes, strategic planning and flexibility to allow for 'just in time' learning, and rewarded those who consistently updated their skills, and sometimes acted against those who did not. The workplace was identified as the ideal location for maintaining currency, and in small-to-medium organizations, learning tended to be a collaborative activity.

Updating for VET teachers was, however, more ad hoc in these industries, and there were indications that not all teachers accepted responsibility for maintaining their currency.

Clayton et al. (2013, p.9) made a number of recommendations for improving the currency of VET teachers, including:

- greater clarity of the term 'industry currency'
- targeted funding for professional development
- ongoing support for individuals responsible for implementing innovations in training packages
- collaborative, informal and incidental learning in the workplace as a basis for such upskilling
- peer-supported learning and project-based work to help develop new skills

Clayton et al. (2013, p.37) also called for a 'systemic framework for continuing professional development and access to training in key areas, together with some innovative organizational thinking about the provision of developmental opportunities for teachers'.

In summing up their findings, Smith et al. (2009) argued that, although industry currency was highly regarded by all the research informants, strategies for achieving that goal were not well developed. They suggested that working part-time in an industry, short 'unfocused' industry placements, study tours, seminars, networking and master classes were unlikely to be sufficient.

Some teacher resistance to industry currency was observed, which the authors attributed to the teachers' nervousness about their self-perceived level of expertise. Smith et al. (2009, p.88) concluded that VET teachers 'need constant development in two areas: industry engagement and pedagogical engagement. The word "engagement" is deliberately used, rather than "expertise", "skills" or "currency", to signify the breadth of the requirement'.

After analyzing submissions on industry currency for VET teachers, the Productivity Commission (2011, p.246) concluded:

"Industry currency is not well-researched or understood. Although currency is often equated with industry release, or work in industry, maintenance of currency can occur through a variety of activities. There is evidence of currency gaps in the current workforce, particularly among those who have worked full-time in the VET sector for more than 10 years. Professional development systems need to identify and address these gaps."

#### 7. Summary

The picture of approaches to industry currency that emerges is one of considerable variation in understandings of the meaning of the term and of what is regarded as acceptable in meeting requirements. In some instances, currency was determined by the recency of industry experience, sometimes by expectations of part-time industry employment alongside casual training employment, and on occasions even on top of a full-time teaching role. It is also clear that the nature of the occupation or industry influences the sorts of activities possible, as do other elements such as accessibility for industry placements or creating meaningful placements.

Among training organizations and VET teachers, exposure to industry was often seen as sufficient to maintaining currency, whereas RTO auditors working with the Standards for Registered Training Organisations reportedly wanted to see evidence that such exposure led to changes in teaching programs. There was considerable difference in what was regarded as an appropriate length of time in an industry placement, and again the type of industry influenced possible arrangements.

Across industries there is a commitment to the importance of industry currency as part of teaching in VET, but efforts among VET teachers to maintain it, with any consistency, appear to fall short of that required by the training authority. There are some good reasons for this, such as the difficulty of releasing teaching staff for these purposes and arranging appropriate industry secondments. On the other hand, some efforts appear to be aimed at merely meeting the requirement rather than keeping up to date with practice and knowledge, and some organizations seem to expect teachers will maintain their currency, often in their own time. There is great variation in how the requirement is met.

There are differences among the sorts of placements that are possible and desirable in different industries, and some VET teachers without close industry links may have difficulty accessing suitable placements.

The questions for arising from this review of research into the maintenance of industry currency include:

- Who should be responsible for ensuring VET teachers remain up to date in their industries the RTO, an industry body, the individual, or a combination?
- What sorts of activities should be regarded as helping to maintain industry currency, and should these differ among industries?
- Should VET teachers have to show how an 'industry currency' activity has impacted on their teaching practice; if so, how might this be monitored?

The lack of a consistent approach, but a general consensus in favor of maintaining industry currency, as well as developing pedagogical expertise, has seen interest in various quarters in establishing some framework or mechanism that might include oversight of CPD for VET teachers.

Much of the discussion about the extent of VET teachers' engagement with CPD relates to barriers and compliance. For example, Harris et al. (2001) found that the main barriers, ranked in order of importance, were:

- lack of time
- lack of management support or expertise
- ageing VET workforce/resistance to change
- organizational cultures not supportive of staff development
- lack of general funding
- national or organizational lack of vision
- VET workforce casualisation/contracts
- lack of funding for staff development

Lowrie, Smith and Hill (1999, p.90, cited in Harris et al. 2001, p.45) identified factors such as career stage; the nature of initial teacher training; preferred way of learning; industry area; employment status; and course availability and timing as influences on the extent of individual engagement with CPD. Altena (2007, p.48) listed access to and the cost of professional development; organizational culture; geographical barriers; and teacher workload.

#### 8. Conclusion

Vocational education and training plays a key role in the training of workers, in assisting the upgrade of their skills to meet the changing demands of industry and workplaces, and in preparing workers for a future that may be quite different from today's world of work, especially in regard to technology.

Learning and training in VET is increasingly moving out of the classroom and into new settings, for example, online, through social media and in the workplace, and through greater collaboration and networking. Equipping VET teachers for this rapidly changing environment is a major challenge, especially for those VET teachers already in employment, because their professional credibility and consequently their employment rely on both maintaining their industry currency and developing their teaching and assessment skills.

In this scenario, the role of Continuing Professional Development (CPD) for VET practitioners cannot be underestimated. Yet this survey of literature and cross national interviews has shown that the variable nature of the VET teacher workforce and of the organizations that employ them militates against the development of any systematic CPD response. There is a lack of agreement on the composition of the workforce itself, let alone on such issues as maintaining industry currency and pedagogical skills.

Hence, it has not been possible from the research literature and empirical findings to provide specific answers to the two research questions. Answers that might support the development of national CPD policy or processes, even if such a course of action were to be universally welcomed, which the research to date indicates is unlikely.

Nevertheless, some of the findings from the research need to be considered in any discussion and the further developments in the project InnovatiVET focusing on innovating CPD for VET teachers, including:

- There is no single approach to CPD for VET teachers that can meet the needs of every industry, every organization or every teacher.
- Industry currency is highly regarded but differently understood, and requires a variety of approaches, which must have accountability for the sake of credibility.
- CPD is often undertaken to fulfil obligations and meet certification requirements as opposed to recognizing its potential to impact on the quality of practice. The exercise of individual agency is a key element of learning in CPD.
- CPD is more than participation in courses and events: it is concerned with long-term Lifelong learning from a variety of sources and in a variety of contexts, including the workplace.
- CPD should consider the needs of both the individual and the organization.

In many professions, continuing professional development is generally seen as part of the occupational requirement — expected and fulfilled — to a greater or lesser extent. The synthesis of the literature and empirical findings presented above suggests that the VET sector has yet to arrive at a point where all actors, including VET teachers, are wholeheartedly committed to CPD. That commitment is only likely to develop more fully with a widespread acceptance that industry currency and updated pedagogical practice are essential in the rapidly changing world of work.

Such a commitment may also be part of what the sector needs to help restore its status as a significant contributor to the development of a more skilled workforce and to the improvement of Europe's productivity and international competitiveness.

#### 9. The challenge and need for transformation

When considering how continuing professional development might be most effective for VET teachers, two elements stand out:

- "How CPD might best be developed, structured, organized and monitored for the individual VET teacher?"
- "How CPD might best be co-created and implemented to enable individual VET practitioners to maintain industry currency and pedagogical expertise?"

Consideration of these two major elements — organization and implementation — leads to research questions that still need to be answered:

- *"How can CPD be best organized and supported to meet the needs of a diverse VET teacher workforce in a wide variety of learning and training settings?"*
- "What are the respective roles and responsibilities of the individual VET teacher, learner/student, industry body, in Promoting, Assessing, Recognizing, and Certifying CPD for the VET teacher workforce?"

As the synthesis of research has shown, most of these questions are not new. They have been raised at different times, in different places and by different stakeholders, individuals and organizations, and sometimes in different ways.

It seems that, across the VET sector, there has not been the will, nor have there been sufficient resources allocated, for sustained discussion of the issues involved. Another possibility is that, in the complex environment of VET provision in Europe, the questions have been just too hard to answer in ways that will satisfy the key stakeholders.

Consequently, it may be timely to restore the debate on the capacities and professionalism of CPD for VET teachers. In line with this the Productivity Commission (2011, p.246) concluded after analyzing submissions on industry currency for VET teachers that:

"Industry currency is not well-researched or understood. Although currency is often equated with industry release, or work in industry, maintenance of currency can occur through a variety of activities. There is evidence of currency gaps in the current workforce, particularly among those who have worked full-time in the VET sector for more than 10 years. Professional development systems need to identify and address these gaps."

Therefore the next logical next step in the InnovatiVET project is to address the "currency gaps" and develop a more innovative and comprehensive approach to CPD for VET teachers that can promote, asses, recognize and certify an adaptive and innovative Continuous Professional Development for the VET teacher workforce.

#### References

Alexandrou, A 2009, 'Development through partnership: how learning representatives are helping to meet the challenge of upskilling Scottish FE lecturers', Research in Post-Compulsory Education, vol.14, no.3, pp.233–49.

Altena, S 2007, 'Effective professional development for 21st century vocational education and training teachers', in D Berthelsen (ed.), Transforming Queensland VET: challenges and opportunities, vol.1, QUT Publications, Brisbane

Andersson, P & Köpsén, S 2015, 'Continuing professional development of vocational teachers: participation in a Swedish national initiative', Empirical Research in Vocational Education and Training, vol.7, no.1, pp.1–20.

Australian Chamber of Commerce and Industry 2010, Submission to Productivity Commission Education and Training Workforce Study, viewed August 2016, <a href="http://www.pc.gov.au/inquiries/completed/education-workforcevocational/submissions/sub042.pdf">http://www.pc.gov.au/inquiries/completed/education-workforcevocational/submissions/sub042.pdf</a>>.

Australian Committee on Technical and Further Education 1974, TAFE in Australia: report on needs in technical and further education, the Kangan report, AGPS, Canberra

Australian Community Workers Association 2016, 'Professional and career development', viewed September 2016, <a href="http://www.acwa.org.au/continuing-professional-education/endorsed-CPD">http://www.acwa.org.au/continuing-professional-education/endorsed-CPD</a>.

Australian Council for Private Education and Training 2010, Submission to Productivity Commission study into VET workforce development, viewed August 2016, ttp://www.acpet.edu.au/uploads/files/Reports\_Submissions/2010/VET%20workforce%20devleo pment.pdf>.

Australian Health Practitioner Regulation Agency 2016, 'Continuing professional development', viewed September 2016, <http://www.ahpra.gov.au/Registration/RegistrationStandards/CPD.aspx>.

Australian Library and Information Association 2016, 'Professional development', viewed September 2016, <a href="https://membership.alia.org.au/pdinfo/professional-development">https://membership.alia.org.au/pdinfo/professional-development</a>>.

Australian Qualifications Framework Council 2013, Australian Qualifications Framework, viewed October 2016, <a href="http://www.aqf.edu.au/wp-content/uploads/2013/05/AQF-2nd-Edition-January2013.pdf">http://www.aqf.edu.au/wp-content/uploads/2013/05/AQF-2nd-Edition-January2013.pdf</a>>.

Australian Skills Quality Authority 2016a, 'About the standards for RTOs 2015', viewed September 2016, <http://www.asqa.gov.au/users-guide-to-the-standards-for-registered-trainingorganisations-2015/about-the-standards-for-rtos/about-the-standards-for-registered-trainingorganisations-2015/about-the-standards-for-rtos/about-the-standards-for-rtos.html>.

——2016b, 'Fact sheet — meeting trainer and assessor requirements', viewed March 2017, <https://www.asqa.gov.au/sites/g/files/net2166/f/publications/201702/fs\_meeting\_trainer\_and \_assessor\_requirements.pdf?v=1487036839>.

Balatti, J, Goldman, M, Harrison, P, Elliott, B, Jackson, M & Smith, G 2010, 'A model of professional development delivery for VET teachers by VET teachers: an evaluation', in AVETRA 13th Annual Conference, Proceedings, Gold Coast, pp.1–11.

Béduwé, C, Germe, JF, Leney, T, Planas, J, Poumay, M & Armstrong, R 2009, 'New and emerging issues in vocational education and training research beyond 2010', in The training and development of VET teachers and trainers in Europe: fourth report on vocational training research in Europe: background report, Cedefop, Luxembourg, pp.17–65.

Billett S 2001, 'Learning through work: Workplace affordances and individual engagement', Journal of Workplace Learning, vol.13, no.5, pp.209–14.

Billett, S, Choy, S, Dymock, D, Smith, R, Henderson, A, Tyler, M & Kelly, A 2015, Towards more effective continuing education and training for Australian workers, NCVER, Adelaide.

Bolton, JE 2002, 'Chiropractors' attitudes to, and perceptions of, the impact of continuing professional education on clinical practice', Medical Education, vol.36, no.4, pp.317–24

Brennan, B 2014, 'Continuing professional education in Australia: a tale of missed opportunities', PhD thesis, Griffith University, viewed August 2016, <a href="http://e-publications.une.edu.au/1959.11/16878">http://e-publications.une.edu.au/1959.11/16878</a>>.

Brint, S 1994, In an age of experts, Princeton University Press, Princeton, NJ.

Cedefop 2013, Trainers in continuing VET: emerging competence profile, Cedefop, Luxembourg.

Cedefop & European Commission, 2014, 'Guiding principles on professional development of trainers in vocational education and training', viewed October 2016, <http://www.cedefop.europa.eu/EN/Files/TWG\_Guiding\_principles\_on\_professional\_developmen t\_of\_trainers\_in\_VET\_FINAL.pdf>.

Cervero, RM 2001, 'Continuing professional education in transition, 1981? 2000', International Journal of Lifelong Education, vol.20, nos.1–2, pp.16–30.

Chartered Accountants Australia and New Zealand 2016, The future of work: how can we adapt to survive and thrive?, Chartered Accountants Australia and New Zealand, Sydney.

Clayton, B 2009, Practitioner experiences and expectations with the Certificate IV in Training and Assessment (TAA40104): a discussion of the issues, discussion paper, NCVER, Adelaide.

Clayton, B & Guthrie, H 2011, Scoping study examining the feasibility of an association for VET professionals, TAFE Development Centre, Melbourne.

Clayton, B, Jonas, P, Harding, R, Harris, M & Toze, M 2013, Industry currency and professional obsolescence: what can industry tell us?, NCVER, Adelaide.

Clayton, B, Meyers, D, Bateman, A & Bluer, R 2010, Practitioner expectations and experiences with the Certificate IV in Training and Assessment (TAA40104), NCVER, Adelaide.

CPA Australia 2016, Continuing Professional Development, viewed September 2016, <http://www.cpaaustralia.com.au/member-services/continuing-professional-development>.

Curran, VR, Fleet, L & Kirby, F 2006, 'Factors influencing rural health care professionals' access to continuing professional education', Australian Journal of Rural Health, vol.14, no.2, pp.51–5.

Dawkins, J 1988, Industry training in Australia: the need for change, the Dawkins report, AGPS, Canberra.

Dening, A 2016, 'Improving VET teachers' skills and their approach to professional learning', in L Jackson (ed.), No frills: refereed papers, National Vocational Education and Training Research Conference, Sydney, 6–8 July 2015, NCVER, Adelaide.

Department of Education and Training 2016, Quality of assessment in vocational education and training — discussion paper, viewed September2016, https://docs.education.gov.au/system/files/doc/other/quality\_of\_assessment\_in\_vet\_discussion\_paper\_jan\_201 6.pdf>.

Department of Education, Employment and Workplace Relations 2010, Submission to Productivity Commission Education and Training Workforce Study, viewed August 2016, <a href="http://www.pc.gov.au/inquiries/completed/education-workforcevocational/submissions/sub060.pdf">http://www.pc.gov.au/inquiries/completed/education-workforcevocational/submissions/sub060.pdf</a>>.

Department of Education, Employment and Workplace Relations 2012, TAE10 - Training and Education (Release 3.0), DEEWR, Canberra.

Derrick, J 2013, "Practitioner learning" not "professional learning": towards a non-technocratic model of autonomous development for post-compulsory sector teachers', Research in PostCompulsory Education, vol.18, no.3, pp.269–79.

Down, C, De Luca, W & Galloway, P 2009, 'The Certificate IV in Training and Assessment: what are our VET teachers learning?' in Aligning participants, policy and pedagogy: traction and tensions in VET research, AVETRA 12th Annual Conference, Sydney, 16–17 April 2009.

Education & Training Foundation (ETF) 2014, Initial guidance for users of the professional standards for teachers and trainers in education and training — England, ETF, London.

Eppich, W, Rethans, JJ, Teunissen, PW & Dornan, T 2016, 'Learning to work together through talk: continuing professional development in medicine', in B Brennan, D Dymock & S Choy (ed.), Supporting learning across working life, Springer International Publishing, Dordrecht, pp. 47–73.

Field, N 2004, 'Mandatory continuing professional education: do we need it?', The Radiographer, vol.51, no.1, pp.5–9.

Figgis, J 2009, Regenerating the Australian landscape of professional VET practice: practitioner-driven changes to teaching and learning, NCVER, Adelaide.

Ginns, P, Kitay, J & Prosser, M 2008, 'Developing conceptions of teaching and the scholarship of teaching through a Graduate Certificate in Higher Education', International journal for academic development, vol.13, no.3, pp.175–85.

Guthrie, H 2010, Professional development in the vocational education and training workforce, NCVER, Adelaide.

---2012, 'The issue of Cert IV TAE', Training & Development, vol.39, no.1, pp.8-10.

Hajkowicz, SA, Reeson, A, Rudd, L, Bratanova, A, Hodgers, L, Mason, C & Boughen, N 2016, Tomorrow's digitally enabled workforce: megatrends and scenarios for jobs and employment in Australia over the coming twenty years, CSIRO, Brisbane.

Halttunen, T; Koivisto, M; Billett, S, Promoting, Assessing, Recognizing and Certifying Lifelong Learning, International Perspectives and Practices; Lifelong Learning Book Series 20, Springer 2014

Harris, R, Clayton, B & Chappell, C 2007, Supporting vocational education and training providers in building capability for the future: research overview, NCVER, Adelaide.

Harris, R, Simons, M, Hill, D, Smith, E, Pearce, R, Blakeley, J, Choy, S & Snewin, D 2001, The changing role of staff development for teachers and trainers in vocational education and training, NCVER, Adelaide.

Hodge, S 2014, Interpreting competencies in Australian vocational education and training: practices and issues, NCVER, Adelaide.

Hutchings, P 2004, 'Foreword', in SM Wilson (ed.), The wisdom of practice, Jossey-Bass, San Francisco, pp.xxvii-xviii.

Innovation & Business Skills Australia (IBSA) 2007, Continuous improvement of the Training and Assessment Training Package (TAA04): summary of consultations and priorities for 2007 continuous improvement, IBSA, Melbourne.

Krečič, MJ, Perše, TV & Grmek, MI 2015, 'Educational professionals in VET as active designers and guides of their own professional development', Journal of Elementary Education, vol.8, no.3, pp.77–93.

Lee, S, Reed, W & Poulos, A 2010, 'Continuing professional development: the perceptions of radiographers in New South Wales', Radiographer: The Official Journal of the Australian Institute of Radiography, vol.57, no.1, pp.33—9.

Margetts, K 2014, 'Early childhood education under qualifications threat', The Age, 10 February, viewed September 2016, <http://www.theage.com.au/national/education/voice/early-childhoodeducation-under-qualifications-threat-20140206-323f3.html>.

Martin, T 2012, 'Policy to practice: TAFE teachers' unofficial code of professional conduct insights from Western Australia', International Journal of Training Research, vol.10, no.2, pp.118–31.

Misko, J 2015, Developing, approving and maintaining qualifications: selected international approaches, NCVER, Adelaide.

Mitchell, J, Chappell, C, Bateman, A & Roy, S 2006, Quality is the key: critical issues in teaching, learning and assessment in vocational education and training, NCVER, Adelaide.

Mlotkowski, P & Guthrie, H 2010, 'Getting the measure of the VET professional: an update', in Vocational education and training workforce data 2008: a compendium, NCVER, Adelaide, pp.13–28.

National Centre for Vocational Education Research 2007, Did you know? A guide to vocational education and training in Australia, viewed September 2016, <a href="https://www.training.nsw.gov.au/forms\_documents/vet/ncver\_guide\_to\_vet.pdf">https://www.training.nsw.gov.au/forms\_documents/vet/ncver\_guide\_to\_vet.pdf</a>.

National Training Board 1992, National competency standards — policy and guidelines, National Training Board, Canberra.

Parsons, DJ, Hughes, J, Allinson, C & Walsh, K 2009, 'The training and development of VET teachers and trainers in Europe', in Modernising vocational education and training, vol.2, Cedefop, Luxembourg, pp.73–156

Peck, C, McCall, M, McLaren, B & Rotem, T 2000, 'Continuing medical education and continuing professional development: international comparisons', British Medical Journal, vol.320, no.7232, pp.432–5.

Productivity Commission 2011, Vocational education and training workforce — research report, Productivity Commission, Canberra.

Psychology Board of Australia 2016, 'Mandatory registration standards', viewed September 2016, <http://www.psychologyboard.gov.au/Standards-and-Guidelines/Registration-Standards.aspx>.

Queensland College of Teachers 2016, Continuing professional development policy and framework, Queensland College of Teachers, Brisbane.

Rasmussen, C 2016, Improving the quality, capability and status of the VET teacher workforce, Department of Education and Training, Victoria, viewed October 2016, <a href="http://www.issinstitute.org.au/wp-content/media/2016/10/Rasmussen-Final-LowRes.pdf">http://www.issinstitute.org.au/wp-content/media/2016/10/Rasmussen-Final-LowRes.pdf</a>.

Robertson, I 2008, 'VET teachers' knowledge and expertise', International Journal of Training Research, vol.6, no.1, pp.1–22.

Saunders, R 2012, 'Assessment of professional development for teachers in the vocational education and training sector: an examination of the concerns based adoption model', Australian Journal of Education, vol.56, no.2, pp.182–204.

Seezink, A & Poell, RF 2010, 'Continuing professional development needs of teachers in schools for competence-based vocational education: a case study from the Netherlands', Journal of European Industrial Training, vol.34, no.5, pp.455–74

Shulman, LS 2004, 'Theory, practice, and the education of professionals', in SM Wilson (ed.), The wisdom of practice, Jossey-Bass, San Francisco, pp.523-44.

Simons, M & Smith, E 2008, 'The understandings about learners and learning that are imparted in Certificate IV level courses for VET teachers and trainers', International Journal of Training Research, vol.6, no.1, pp.23–43.

Skills Australia 2010a, Australian workforce futures: a national workforce development strategy, Skills Australia, Canberra.

--2010b, Creating a future direction for Australian vocational education and training, Skills Australia, Canberra.

Smith, E & Keating, J 2003, 'From training reform to Training Packages', Social Science Press: Tuggerah Lakes, NSW.

Smith, E & Grace, L 2011, 'Vocational educators' qualifications: a pedagogical poor relation?' International Journal of Training Research, vol.9, no.3, pp.204–17.

Smith, E, Grace, L, Brennan Kemmis, R & Payne, W 2009, The new deal: workforce development for service industries VET practitioners, Service Skills Australia, Melbourne.

Toze, M & Tierney, S 2010, Keeping it real: industry currency of trainers in Queensland, Department of Education and Training, Brisbane

Tyler, M, Dymock, D & Henderson, A 2016, 'The critical role of workplace managers in continuing education and training', in S Billett, D Dymock, & S Choy (ed.), Supporting learning across working life, Springer International Publishing, Dordrecht, pp. 249–65.

Velg Training 2016, viewed March 2017, <http://www.velgtraining.com>.

VET Development Centre 2016, 'About us', viewed March 2017, <a href="http://www.vdc.edu.au/about-us/">http://www.vdc.edu.au/about-us/</a>>.

VET Network Australia 2016, 'About us', viewed September 2016, <https://www.vetnetwork.org.au/about-us>.

Villeneuve-Smith, F, West, C & Bhinder, B 2009, Rethinking continuing professional development in further education: eight things you already know about CPD, Learning and Skills Network, London.

VOCEDplus 2016, Glossary term: 'Industry currency', viewed September 2016, <http://www.voced.edu.au/content/glossary-term-industry-currency>.

Volmari, K, Helakorpi, S & Frimodt, R 2009, Competence framework for VET professions: handbook for practitioners, Finnish National Board of Education, Sastamala, Finland.

Webster-Wright, A 2009, 'Reframing professional development through understanding authentic professional learning', Review of Educational Research, vol.79, no.2, pp.702—39.

Wessels, SB 2007, 'Accountants' perceptions of the effectiveness of mandatory continuing professional education', Accounting Education: An International Journal, vol.16, no.4, pp.365–78

Western Australia Training & Accreditation Council 2016, Fact sheet: vocational competence & industry currency, WA Training & Accreditation Council, Perth.

Wheelahan, L 2010, Literature review: the quality of teaching in VET, LH Martin Institute, Melbourne.

Wheelahan, L, & Moodie, G 2010, The quality of teaching in VET: options paper, LH Martin Institute, Melbourne.

--2011, The quality of teaching in VET: final report and recommendations. Australian College of Educators, viewed March 2017, <a href="http://www.lhmartininstitute.edu.au/userfiles/files/research/quality\_vetteaching\_final\_report.pdf">http://www.lhmartininstitute.edu.au/userfiles/files/research/quality\_vetteaching\_final\_report.pdf</a>>.

World Economic Forum, 2016, The future of jobs: employment, skills and workforce strategy for the fourth industrial revolution, World Economic Forum, Geneva.