

Simply Good Teaching: Supporting Transformation and Change Through Education for Sustainability

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Abstract

This article proposes that Education for Sustainability (EfS), with its focus on transformative and learner-centred approaches, and higher order thinking skills, enriches teaching and learning in Vocational Education and Training (VET), with implications for quality pedagogy more generally. EfS pedagogy has the potential to inform a new discourse on VET's role in citizenship and responsibility for the future, characterised by some as a shift from productivism to ecologism, and described by UNESCO/ILO as critical thinking towards sustainable development. After reviewing the literature on quality pedagogy in VET, as well as on EfS itself, this article evaluates the impact and effectiveness of a nationwide professional development program to upskill VET practitioners in EfS pedagogy. Early findings indicate personal transformations for participants both as individuals and VET professionals, with high levels of teaching practice enhancement generally through uptake of EfS principles and practice. Based on our findings, we draw conclusions and make recommendations for further research.

With respect to pedagogy (defined as the art and science of teaching), what does quality teaching and learning mean in the Vocational Education and Training (VET) context? How might Education for Sustainability (EfS) enable quality teaching and learning? First, we review the literature to explore what 'quality' means in terms of VET teaching and learning. We then describe EfS and explore how it might fulfil the criteria for quality VET pedagogy, examining its potential contribution to enhancing pedagogy in general.

Finally, we review an evaluation study conducted on the impact and effectiveness of EfS professional development programs implemented nationally in Australia for VET practitioners during 2012–2013. We argue for the relevance of EfS as an enabler for quality pedagogy on the basis of evidence from this study and from the literature.

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In this article we use the terms *quality teaching and learning* and *quality pedagogy* interchangeably. We use the terms *VET practitioner* and *VET teacher* to designate anyone involved directly in the vocational teaching process: teacher, trainer, assessor, consultant, designer (Wheelahan, 2010, p. 4). We follow a contemporary convention in the use of the umbrella term *pedagogy*, nevertheless acknowledging claims for andragogical distinctions.

The Problematic Issue of ‘Quality Teaching and Learning’ in VET

The notion of a ‘good teacher’ is an accepted one in the schools sector (Robertson, 2008). Theorists from Pestalozzi to Dewey and Bruner have inspired holistic, constructivist, social, student-centred and experiential approaches to pedagogy. A consensus about what constitutes good teaching is not so evident in the VET sector.

Part of the problem is an issue of language. The term *quality teaching and learning* is often appropriated by policy and research discourses that are really about matters exterior to the experience of pedagogy; for example, compliance, managerial and organisational issues (Mitchell, Chappell, Bateman, & Roy, 2006). While these issues impact on the ability of the practitioner to teach effectively, they do not describe what quality pedagogy looks like in the teaching/learning space.

Further, discourse on quality teaching and learning in VET, rather than describing good practice, has tended to focus on specifying the barriers and challenges (Department of Education and Training, 2004), acknowledging the need for new skills in teaching, learning and assessment (Mitchell et al., 2006), and calling for more research and definition (Wheelahan, 2010).

Towards a Quality VET Pedagogy

Since its inception, VET pedagogy has been characterised by a relatively uncritical response to industry demands for skilled labour. Focusing on fuelling productivity, efficiency and economic growth through skills training, unintended environmental and social consequences have largely been ignored (Anderson, 2009; Arenas & Londono, 2013). Gradually, this instrumentalist approach to skills and knowledge transfer has become problematic as the VET landscape has become more complex (Darwin, 2007).

Chappell (2004) and Smith and Blake (2005) observed changes in VET teaching and learning, towards a more learner-centred, work-centred and attribute-focused pedagogy. They noted a focus on developing and transforming people, with teachers using multiple pedagogical strategies to serve the needs of learners and contexts. Describing what good teaching would look like in this changing VET context, Smith and Blake (2005) saw teachers as facilitators of learning, with the learner playing an active role in construction of knowledge. Eight characteristics of facilitative teaching were noted: an emphasis on the workplace as a meaningful learning context; interactive approaches to cognitive and performative aspects of learning; work-ready learning outcomes; learner collaboration in determining learning and assessment processes; learners as co-producers of knowledge; recognition of prior learning; flexible teaching strategies for different learning styles; and social interaction as integral to the learning process.

Further, Gamble (2013) argues that contemporary vocational pedagogy involves much more than the classic definition of ‘learning by doing’. She refers to the need for conceptual knowledge and higher order thinking skills, and notes an increased focus on situated and social learning, as well as constructivist and experiential modes of learning. Corbel (2013) emphasises the importance of transformative learning alongside the more procedural and compliance-oriented, competency-based training more

usually associated with vocational education. These observations by researchers over a 10-year period point to a shift towards transformative, learner-centred, constructivist and socially critical learning modes.

Case Studies: Observing What Good Teachers Do

Case studies yield valuable learning on quality pedagogy. This article refers briefly to two research projects that used in-depth interviews and/or observation to create case studies of good practice.

Corben and Thomson (2001) used convergent interviewing to identify five clusters of attributes for great teaching, interviewing 18 expert teachers at the NSW TAFE North Coast Institute. The excellence they observed was more than just ‘competence in a set of practical skills’, but the result of a ‘rich and complex knowledge base’ (p. 1). The five attribute clusters identified were: learner focus (e.g., respect, tailoring of content, understanding of learning styles); technical knowledge and currency (via networks, journals and conferences); expertise in learning and teaching (practice informed by theory, resources and strategies); personal attributes, beliefs and values (passion for facilitating learning and helping others reach their potential); and influences on teacher development (review and support, reflection on practice).

The TAFE NSW VET Teaching and Learning Project (2004) provided another focus on quality teaching and learning. Twenty-four case studies of teaching excellence yielded rich insights into ‘great teaching’ in VET. Common themes included, for the learner: a variety of learning modes, self-directedness, peer learning, and development of generic skillsets. For the teacher, themes included: peer learning and reflective practice, holistic and learner-centred approaches, pastoral care, and strong partnerships.

Additional themes noted in a more recent review and analysis of the Teaching and Learning Project case studies by the current authors included:

- *participatory approaches*, seen in the pedagogical process itself and post classroom as empowerment and community engagement;
- *lifelong learning orientation* — encouraging self-direction of learners, cultivating a sense of inquiry, work as learning;
- use of *multiple teaching/learning/assessment/evaluation strategies*;
- *multiple roles* for both teachers and learners: facilitator, instructor, mentor, problem solver, investigator, co-producer, collaborator, evaluator;
- creation of a *climate for transformation* — stimulus, passion, challenge, links to real life and lived experience, respect and empathy, fun, empowerment, inquiry;
- *constructivist, social and situated learning* — real life problems, peer learning, groups and community learning, learners as co-constructors of learning.

In summary, this case study review points to a rich variety of best practice elements that contribute to defining quality VET pedagogy, including holistic approaches to teaching for lifelong learning, development of more generic attributes such as empowerment, higher order thinking skills, and learner-centred, constructivist, socially situated and transformative approaches. In terms of the learner, the reach of good pedagogy is ‘beyond competence’, and for the teacher, it is underpinned by critically reflective practice and a passion for the art and science of teaching.

How Can EfS Support Quality VET Pedagogy?

There is a significant role for EfS in VET in Australia. The increasing recognition of environmental values in our society and the changing nature of work have necessitated a shift in the way that we think and act in learning and in life (Goldney, Murphy, Fien, & Kent 2007, p. 36).

Within international concern for environmental sustainability, education has been seen as critical to changing the way individuals, the economy, and society function. Globally, and in particular under the aegis of the United Nations, an approach to pedagogy has been developed to support *learning-based change* towards sustainability. Emerging in particular from the 1992 Rio Earth Summit's Agenda 21 (UNCED, 1992), and later promulgated through the UN Decade of Education for Sustainable Development (DESD) 2005–2014, Education for Sustainable Development (ESD), or Education for Sustainability (EfS) as it is known in Australia, provides the pedagogical platform for sustainability education.

Australia's federal response to global policy initiatives was, for VET, described in a variety of action plans and green skills agreements. Core to the initiatives were EfS principles that were proposed for the Australian Government's Living Sustainably Action Plan (Department of the Environment, Water, Heritage and the Arts, 2009). These principles are:

- *transformation and change* — the skills and capacity to plan and manage change;
- *lifelong learning and education for all* — all learning spaces and all people;
- *systems thinking* — finding connections between the environment, economy and society;
- *envisioning a better future* — developing a shared vision of sustainability;
- *critical thinking and reflection* — rethinking our values and beliefs;
- *participation* — both in the pedagogical process and in community action;
- *partnerships for change* — across community, industry, institutions and individuals.

The Industry Skills Councils, which are responsible for VET training for their respective industry areas, were mandated to embed sustainability across all training packages. To facilitate the integration of sustainability, VET curriculum writers and teachers were upskilled through professional development VET courses in EfS. For example, 1,000 national scholarships to undertake the Sustainable Practice Skill Set (two diploma level units of competency) and 150 national scholarships to undertake the Vocational Graduate Certificate in Education and Training for Sustainability were provided to VET educators over 2012–2014. Both qualifications provided VET educators with the skills and knowledge to embed EfS approaches into teaching and learning. This Australian experience of applying EfS to competency-based vocational training has provided a creative response to perceived tensions between competency-based education and more transformative modes.

Embodying transformative, constructivist, and social approaches to learning, EfS aims to develop higher order thinking modes such as reflective, critical, relational, whole-of-systems, or ecological thinking. Learning activities invite students to examine experiences, beliefs, values and worldviews, and engage in change towards ecological sustainability. Tilbury and Cooke (2005) argue that EfS pedagogy provides:

a critical theory/constructivist approach to examining root causes of problems, facilitating ongoing values clarification (rather than 'teaching' values), seeing people as agents of change rather than as the source of the problem, and moving from a continuous improvement model to an innovation model. (p.16)

Table 1, adapted from Sterling (2012), illustrates key differences between traditional and EfS pedagogical approaches.

Addressing the implications of EfS for quality higher education teaching in the United Kingdom, Sterling (2012) quotes the Policy Studies Institute:

TABLE 1: Education for Sustainability Pedagogical Approaches

From transmissive instruction	To constructivist and transformative learning
From fixed knowledge	To provisional knowledge
From discipline based	To inter- and transdisciplinary based
From abstract knowledge	To real-world knowledge
From teaching/instruction	To participatory learning
From few learning styles	To multiple learning styles
From passive learning	To reflective/active/'knowing about knowing' learning

Note: Adapted from Sterling (2012).

... in general, good sustainable development pedagogy is often simply good pedagogy... potential synergies exist between the development and dissemination of pedagogies appropriate to sustainable development teaching in higher education and the enhancement of pedagogic quality across the sector more widely.
(p. 18)

Similarly on a global stage, Wals (2012) notes the emergence of EfS as a means to rethink education in general: 'In some parts of the world ESD is causing a co-evolution of pedagogy and has arguably become a catalyst for educational change and innovation' (p. 84).

EfS as Quality VET Pedagogy: From Productivism to Ecologism

EfS gives VET the opportunity to knock a traditional relic on the head: the tendency to follow uncritically in the footsteps of industrial *productivism* (Anderson, 2003). Arenas and Londono (2013) theorise a new VET discourse emerging with an emphasis on citizenship and responsibility for the future, and what Anderson (2009) calls a shift from productivism to *ecologism*. Ecologism posits that the non-human world is worthy of moral consideration, and therefore should be taken into account in social, economic and political systems (Baxter, 1999). Ecologism in VET would therefore suggest a more critically reflective and systems thinking approach. Problematising the tensions between a competency-based VET system and transformative pedagogy (Hodge, 2011) is perhaps a logical part of this shift.

Linked to a traditionally uncritical response to perceived industry demands is VET's historical silence on issues of economic, environmental and social injustice, including 'dull and degrading work' (Arenas & Londono 2013, p. 167). UNESCO and ILO (2002) argued for a new, more critical VET discourse marked by greater democratisation, more critical approaches to social, political and environmental impacts of innovation, and empowerment for people to contribute to environmental sustainability in their lives. Noting the need to teach higher level thinking skills and change skills as part of quality education, Wals (2012) refers to the classical question: 'Is education about social reproduction or about enabling social transformation?' (p. 22). The UNESCO/ILO recommendation argues firmly for the latter proposition.

Earlier work by Goldney et al. (2007) pointed out that industry itself was now expecting 'a more rounded worker with higher level skills', with a call for 'soft' or generic skills, and a preparedness to embrace change (p. 15). Industry and enterprise are increasingly looking to the future: they want change-ready, critical and creative thinkers — they want more than social reproduction.

In his UNDESD report, Wals (2012) names the following attributes of quality EfS teaching: learning-based change, integrative, problem-based, exploratory forms,

critical, creative, multi-stakeholder, visionary leadership, participation, social networking, and lifelong learning. These are attributes that synergise elegantly with contemporary conceptions of VET pedagogy.

Implementing EfS in Australia: A National Professional Development Program

Swinburne University of Technology was funded by the Australian Government to implement national capacity building of VET educators as part of the government's 2009 national Green Skills Implementation Plan. Adopting the EfS principles from the Living Sustainably Action Plan for Education for Sustainability framework, Swinburne developed in 2010 the Vocational Graduate Certificate in Education and Training for Sustainability (VGC EfS).¹ This program provided an Australian Qualifications Framework (AQF) Level 8 qualification for educators from VET and other sectors seeking to embed sustainability in their workplaces, through training packages, curriculum, teaching and assessment, infrastructure, policy, and processes.

Delivered over 2012–2014, in excess of 80 VET practitioners in five state-based cohorts completed the VGC EfS program.² The course was delivered using a blended learning approach, with face-to-face intensive workshops, participatory online webinars, and work-based application, ending with a national EfS conference. The program's specific aims were to develop high quality teaching and learning practice, and to facilitate change towards more sustainable practices in VET institutions through infusion of EfS pedagogy. Aimed initially at the VET sector, the program is applicable for educators from early childhood education through to higher education.

Evaluation Study of 80 VGC EfS Graduates

The VGC EfS Evaluation Study involved a mixed methods survey-based evaluation capturing participant self-perceptions on various measures related to changed or improved teaching and learning practice (Pritchard, 2014). All 80 participants were requested to complete a baseline online survey at the commencement of the program. They were then requested to complete a more comprehensive survey six months after program completion. Eight face-to-face or telephone interviews provided richer data on individual experiences. The questions focused on program impacts at four levels: personal change, growth and transformation; changes to teaching and learning practice; sustainability-related changes at organisational levels; and finally, sustainability-related changes within industry (see Table 2).

Of specific interest to the authors is whether this qualitative research study on teacher self-perceptions of improved quality teaching and learning supports the proposition that EfS is an enabler for quality VET pedagogy in general.

Findings

The 47 participants (58% of the total program participants) who responded to the survey strongly supported the proposition that EfS is an enabler of quality teaching and learning in general, with positive outcomes for VET practitioners, their learners, and training institutions.

Sixty-three percent of respondents reported increased personal confidence, improved teaching quality, more engaged learners, and increased ability to support other staff. Ninety percent of participants experienced personal change, growth, and transformation through their involvement in the program; while 90.5% of program participants adapted and improved their teaching and learning practice to incorporate EfS tools and principles. Take-up of newly acquired EfS pedagogical models and skills to enhance

TABLE 2: Evaluation Questions

Personal transformation

To what extent has the program facilitated ongoing personal transformation beyond the end of the program?

Teaching and learning practice

To what extent have participants continued to adapt and improve their teaching and learning through the incorporation of EfS principles and practices?

Organisational level

To what extent has the program created motivated leaders that push for and achieve shifts in organisational culture and teaching practices at their institutions?

To what extent have participants continued to translate the learning into real individual and systemic change within their organisation?

Industry level

To what extent have participants facilitated a shift in their industry sector to adopt sustainable practices and green skills?

Barriers

What barriers hinder the adoption and embedding of EfS knowledge, skills and principles in participant's teaching and learning practice?

What barriers hinder the adoption and embedding of EfS knowledge, skills and principles in the participant's organisation?

What barriers hinder the adoption and embedding of EfS knowledge, skills and principles into the industry sector(s) that participants are associated with?

Unexpected outcomes

What were the unexpected outcomes that resulted from the program?

training delivery across disciplines was 70.2%; 68.7% of respondents indicated maintained or increasing use of EfS principles and tools after the program, indicating sustained longitudinal change in teaching practice.

Participants reported that the adoption of EfS principles and tools had:

- improved the quality of their teaching;
- contributed to a positive impact on student learning outcomes;
- initiated more problem-based project work and interaction with the 'real world';
- developed higher level systems thinking skills in learners;
- developed critical thinking analysis among learners, applied to their industries;
- stimulated ongoing mentoring and professional development initiatives;
- initiated creation of communities of practice at local, state and national levels;
- inspired ongoing sustainability projects within training organisations, from small-scale 'greening' interventions to strategy and policy development at executive management level (Pritchard, 2014).

Examples of reported changes included integration of EfS into teaching practice, greater community engagement, stronger professional networks, connecting with people holding different worldviews, more sustainable lifestyle choices, empowerment, and social action.

There was minimal evidence to support the notion that the program had resulted in broader systemic change within training organisations. However, participants acknowledged that organisational change would take much longer than 3–6 months to achieve. Some of the changes noted at the organisational level included increased 'green office'

activities, the writing of new sustainability policies, and the delivery of professional development to staff on the topic of sustainability.

Participants identified barriers preventing the use of EfS skills in the workplace, such as lack of management support, high staff turnover, economic uncertainty, and retrenchment across the VET sector. The program also achieved some unexpected positive outcomes, such as the development of collaborative change projects between public and private sector VET providers and the community.

Another unexpected outcome of the VGC EfS was the empowerment provided by exploring underpinning pedagogical theory. Faraday et al. (2011) noted the inability of surveyed UK vocational education teachers to identify underpinning theoretical pedagogical models. Yet theory gives a conceptual architecture and a language with which to describe, understand and reflect on practice, and with which to engage in dialogue with peers. Although not captured in the Evaluation Study survey questions, accompanying anecdotal feedback indicated the powerful effect of having a shared language of theory and practice.

Implications of the Findings

Findings from the VGC EfS Program Evaluation indicate a correlative relationship between the adoption of EfS and enhancement of quality teaching and learning in VET. Enrichment of teaching practice and learning outcomes is attributed to take-up of EfS, from the perspective of participants. The findings of this Evaluation Study, in supporting the proposition of EfS as an enabler of quality VET pedagogy, suggest a range of possibilities for further research. These include: case study research into EfS theory and practice in the VET sector; detailed, comparative analysis of EfS and quality pedagogy in general; EfS as VET professional development; and investigation of linkages between emerging industry demands and emerging VET pedagogy.

EfS provides both theoretical underpinnings and practical tools and methodologies for quality VET teaching and learning across disciplines and industries, with implications for the ongoing professional development of VET practitioners. The inclusion of the Training and Education (TAE) Sustainability Skillset (TAESUS501A and TAE-SUS502A) as a Level 2 practitioner developmental opportunity in the recent IBSA VET Capability Framework is encouraging in this respect (Innovation & Business Skills Australia, 2014), and supports our recommendation of EfS as professional development for VET teachers.

Conclusion

After reviewing the literature to determine the characteristics and attributes of quality VET teaching and learning in general, we then examined how EfS meets existing empirical criteria for quality VET pedagogy. We also pointed to the potential to contribute to enhancing quality pedagogy in general. Finally, we reviewed the findings from an evaluation study on EfS professional development and concluded that the outcomes correlate with the proposition of EfS as an enabler of quality VET pedagogy. Based on the findings, a range of possibilities for further research were suggested.

In conclusion, we propose that EfS, with its focus on transformative and learner-centred approaches, and higher order thinking skills, provides for an enrichment of teaching and learning in general: it is simply good teaching. For VET, EfS provides pedagogical models and thinking skills to rise to the challenge of a new discourse on VET's role in citizenship and responsibility for the future as we move towards more sustainable development in the 21st century.

Endnotes

- ¹ The Vocational Graduate Certificate in Education and Training for Sustainability Program (Swinburne University of Technology), also known as the National Sustainability Champions Program, won the Green Gown Award in the category of Teaching & Learning, bestowed at the annual Australasian Campuses Towards Sustainability (ACTS) conference, Hobart, November 7, 2014.
- ² The program was implemented again from 2013–2014. For the purposes of this paper, the evaluation focused only on the 2012–2013 cohort.

Keywords: education for sustainability, vocational education and training, VET, pedagogy, transformation and change, whole-of-systems thinking, learner-centred, critical thinking

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