

1-1-2012

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[10.1016/j.sbspro.2012.09.035](https://ro.ecu.edu.au/ecuworks2012/395)

Bahn, S. T., & Barratt-Pugh, L. G. (2012). Emerging issues of Health and Safety training delivery in Australia: Quality and transferability. *Procedia: Social and Behavioral Sciences*, 62, 213-222. Available [here](#)

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WC-BEM 2012

Emerging issues of Health and Safety training delivery in Australia: Quality and transferability

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Abstract

This paper presents some initial findings that have emerged from a critical realist study in progress in Western Australia that is examining the impact of health and safety training in relation to the introduction of a national Work Health and Safety Act (WHS Act). Training has been identified as a key support mechanism to implement improved work health and safety under the newly harmonised regulatory framework through professional development, workplace certificated training, and tertiary educational training. There are a limited number of studies that evaluating safety training programmes by examining the quality of training and the impact on reducing work-related injury. This paper addresses this issue, indicating the impact and opportunities for safety and health training from the perspective of diverse managing stakeholders within the system and concludes by calling for research to evaluate training that monitors and supports quality delivery standards and transferability of the learning into the workplace.

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Keywords: Safety training, harmonisation of the OHS Acts, quality of training, work-related injury

1. Introduction

The harmonisation of work health and safety legislation in Australia commences on January 2012 and is part of the Council of Australian Governments (COAG) National Reform Agenda (Safe Work Australia, 2010). Some states in Australia will be ready to operate under the new laws by this date with others progressing the legislation through their state parliaments; however two states are in the process of reviewing the requirements. One of the issues that has arisen from the review of the regulations by these last two states has been the burden on business in relation to the additional training they may require in order to comply with the additional legislative framework. This paper uses some of the preliminary findings of a research study currently in progress (2011-2012) that is investigating the impact of the new legislation on training requirements in Australia. Training in its various forms has been identified by a wide range of stakeholders as a key support mechanism. For this study training includes: professional development courses, eg training on changes to the legal obligations required to meet compliance; certificated training, eg supervisor management training, dangerous work permit training, and safety representative training; and tertiary training, eg undergraduate and post graduate degrees in Occupational Health and Safety

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(OHS). These activities may impact on subsequent employee and organisational performance by changing employee values and decision making, generating improved work systems and instilling patterns of improved personal action.

Training in Australia has over the past two decades been developed from a disparate State based system into an integrated national system orchestrated at first by the Australian National Training Authority until 2005, and then by the Department of Education, Employment and Workplace Relations through a range of advisory and regulatory bodies. All vocational training in Australia, by universities, training colleges and private training companies has to be developed to conform to the Australian Quality Training Framework (AQTC, 2011). In 2011 a National VET Regulator was established to ensure uniform national training delivery within Australia. It is planned that once this regulatory authority has been established, in 2013 it will be merged into the Tertiary Education Quality Standards Authority (TEQSA) that currently audits all higher education within Australia (DEEWR, 2011).

All training to nearly 2 million trainees within the vocational education training (VET) sector is delivered by Registered Training Organisations (RTOs), who must conform to the standards published by the Australian Quality Training Council (2011). The national VET system is based upon three critical principles: it is employer led with industry and unions defining the outcomes required from training; it is national with all industry and State partners generating transferable qualification; and it is flexible through using of training packages that can be adapted to client needs and diverse location of individual tailored learning programmes (DEEWR, 2011). Vocational training is delivered by RTOs by State managed technical colleges, institutes and polytechnics as well as a wide range commercial training organisations with often a specific training focus such as occupational safety and health.

In addition, the rapid expansion of the university system has generated significant emphasis on vocational courses and qualifications at both undergraduate and postgraduate levels. Learning about safety and health procedures, processes and management takes place in a wide range of professionally orientated and management courses. However, all training, whether within the university or vocational education system has to be constructed within the broad framework of the AQTF. For RTOs engaged in vocational and practical skills delivery in the workplace, in simulated environment, workshops, classrooms and even on line, there is both regulation and flexibility. RTOs must prove their capability and competence in their chosen fields of training delivery. They can only deliver nationally endorsed training packages which stipulate the competencies that must be achieved by participants, but the mode, speed and order of delivery can be tailored to the location, situation and participants (NCVER, 2011). Every training package includes a module of learning that concerns safe working practices and an understanding of safety and health responsibilities in the workplace. In summary, the delivery of training associated with occupational safety and health in Australia is delivered within a nationally regulated system that has been constructed to stipulate standards, regulate training organisations and audit delivery standards. University courses may provide prospective managers with knowledge of the regulatory and procedural environment of OHS in their chosen industry. All vocational training using national training packages will deliver modules of safety and health training to participants. Technical and vocational colleges provide most young and retraining employees with their vocational learning, while commercial training organisations, who deliver more than half of all vocational education and training, focus more on workplace and industry based training (NCVER, 2011).

For this paper, we focus on and discuss the issues involved in delivering more effective safety training in terms of quality and impact upon work-related injury. We draw on the international literature that reviews evaluations of safety training programs to argue that there is a paucity of this type of research, particularly in Australia. We present narrative from nine semi-structured interviews with representatives from RTOs, the Australian OHS Education Accreditation Board, a public sector Union and a Health and Safety Manager in a large Australian resources company. Finally, we discuss quality of training delivered by RTOs and call for more evaluation of training research.

2. Training to improve workplace safety

Training is defined as the systematic acquisition of knowledge, skills and attitudes in order to develop the competencies necessary for effective performance in the work environment (Salas & Cannon-Bowers, 2001). Effective training involves changing cognition, attitudes and behaviours and consequently the way people conduct themselves at work (Tannenbaum & Yukl, 1992). In the light of work-related injury, research has shown that effective safety training assists in the reduction of these events leading to an improvement in organizational culture (Kinn, Khuder, Bisesi & Whoolley, 2000; Dong, Entzel, Men, Chowdhury & Schneider, 2004; Gillen, Baltz, Gassel, Kirsch & Vaccaro, 2002; Varonen & Mattila, 2000; Zohar, 1980). However, there is a paucity of research that evaluates the effectiveness of safety training in regards to content and transferability to the work environment as well as the quality of the delivery by trainers, particularly in Australia. Research in this area is frustrated by the complexity of the relationship between training and subsequent workplace incidents as there are many interwoven mediating factors that influence any causal relations.

The recent work of Burke, Salvador, Smith-Crowe, Chan-Serafin, Smith and Sonesh (2011) noted that safety-related problems in organisations are often training related or training relevant. Their study investigated the impact of safety training and workplace hazards on safety knowledge and safety performance. They found that the method of safety training delivery had an effect. They argued that training is more effective when it is engaging and results in “greater knowledge acquisition, a higher level of safety performance, and a greater reduction in accidents and injuries” (Burke et al, 2011:42). Their argument shines a critical light on the mode of delivery of training by RTOs. In Australia there is an increasing use of online delivery in many areas of training and in particular for professional development courses which is changing the nature of the training and learning experiences in relation to safety training.

In Australia, Bahn and Barratt-Pugh (forthcoming) completed a two phase evaluation of the Construction Safety Awareness Training in Western Australia in 2010-11 to find that ninety six percent of construction companies from small to very large in size believed this training improved their business through more robust safety awareness of their staff contributing to a reduction in work-related injuries. However, there is little evidence in the construction lost time injury statistics to support this perception, and at the time of this study other safety interventions were occurring such as a strengthening of legislation leading to the WHS Act and a greater uptake of professional safety training. A key finding of this study was a reluctance to receive this training in the online mode, although it was acknowledged that this method was cheaper and faster. Participants in this study also questioned whether participants actually really learned anything through this method of training delivery. This finding is supported by the studies of Goldstein and Ford (2002) and Pidd (2004) who argued the importance of the positive transfer of training to the job, which leads to relevant changes in work performance, and as a key criterion for evaluating the effectiveness of training programmes.

There have been some evaluations of safety training in the US, including a study by Sokas, Nickels, Rankin, Gittleman and Trahan (2007), who evaluated Smart Mark (a Union-based ten-hour hazard-awareness training program for the construction sector). They assessed the strengths and weaknesses of the training materials, determined the most commonly encountered hazards and the impact the training may have had, and investigated whether interactive instruction and the inclusion of supervisors impacted the training transference into the workplace. They found that a little over half of the work sites improved safety practices by either changing their safety policies or work practices and supervisors included in the training had no impact in supporting the learning or change. The researchers recommended that this last aspect of the evaluation requires further exploration. Furthermore, Kinn et al (2000) conducted a study with plumbers and pipe fitters in Ohio and found that workers who had received a site specific safety induction, carried out at the individual work place to address the hazards specific to that context, had fewer injuries, although interestingly the impact of the safety awareness training could not be determined. In addition, in 2001, Goldenhar, Moran and Colligan, evaluated health and safety training in

open-shop construction companies to find that one hundred per cent of their forty five participants agreed that the safety of their work environment had increased due to safety training. Finally, in 2010, Shaikh studied the impacts of safety training on Newfoundland fishermen's knowledge and attitudes toward safety and found that the group moved from a general aversion to support for continual training in safety. Safety training may therefore be evaluated through mixed research approaches using both statistical incidents and perceptions of culture change to gauge impact.

Although all of the studies above indicate that the perception of the participants moved to that of supporting training to improve safety culture there is no statistical evidence to indicate that the training transferred into the workplace had an effect on reducing work-related injury. Booth (1986) echoed this argument and countered the generally positive research findings around safety training, when he noted the uncertainty of the effectiveness of safety training and the difficulties in robust measurement. Furthermore, Cooper and Cotton (2000:487) stated that "there are particular difficulties in relation to the evaluation of both training performance and safety performance". So while there is evidence that safety training has established support by organizations in improving safer work practice, there remains limited empirical evaluation to determine specific impact on improvements in safety culture and safety performance. As Cooper and Cotton (2000) point out, it is difficult to determine safety performance when indicators such as accident data are generally the preferred tool used to measure success given this type of data reports on events that occurred in the past (lag indicator). In addition, the formal evaluation of health and safety training programmes is not mandated by law and as Vojtecky and Schmitz (1986) argue this does not encourage organizations or RTOs to determine the quality of the training they receive or deliver. Indeed in an increasingly competitive and commercial training there may well be an emphasis on providing evidence that supports continued contractual relationships rather than investigating radical delivery changes that would prove costly.

3. Methodology

A critical realist perspective (Sayer, 1992; Archer, Bhaskar, Collier, Lawson & Norrie, 1998) informed the study. The "realist asserts that organisations are real. They have form, structures, boundaries, purposes and goals, resources, and members whose behaviours result from structured relations among them" (Dubin, 1982:372). Sayer (1992) defines organisational structures as sets of internally related objects and mechanisms as ways of acting. These objects are internally linked to the structure and their identity depends on their relationship with the other components of the structure. People are therefore co-creators of their reality and have some power to frame their experiences and understandings of their world. Human experience is viewed from this perspective as complex, and human behaviour is unpredictable, although generally explicable. The meanings, actions and processes of the other people with whom they interact, impact upon each individual's experience of everyday life (Clark, 2008). However in organizations, structures exist which are beyond a person's control, impacting upon the capacity of individuals to construct their own sense of reality. From this perspective regulations are *structures*; safe work practice is the *mechanism* and *action* of those structures in the workplace. Actions are mediated by the structures of regulation, and by training and safety culture maturity. Structures in organisations can be changed and are changed; however, whether these changes permeate to individuals to create a change in their behaviour is of interest to this study. The harmonisation of OHS in Australia has created heavier penalties for non compliance and is producing a regulatory *structure* that will impact on organisations and managers, and mediate the mechanisms within organisation. Organisations are endeavouring to have in place processes to adhere to the new regulations, including engaging in training to support compliance and reduce work-related injury.

Our interest was in how the new regulatory framework will impact upon organizations, specifically in terms of safety training mechanisms. The purpose of the study is determine how the harmonization of safety legislation is impacting upon organizations and what training mechanisms appear to have the to greatest utility in terms of impacting upon work-related injury rates. The interview structure was based upon investigating participant awareness and knowledge of the national harmonization of the regulatory framework and then exploring what

impact previous safety training had made upon organizational performance and what safety training was being constructed as a future mechanism for organizational change.

The sample for the study interviewed at the time of writing this paper, consisted of nine semi-structured 30-60 minute interviews (Fontana & Frey, 2008) conducted with representatives from six RTOs, the Australian OHS Education Accreditation Board, a public sector Union and a Health and Safety Manager in a large Australian resources company. Three interviews were conducted face-to-face and six by telephone. Additional interviews were scheduled to be conducted in 2012 and the data from these have not been analysed for this paper. The interviews were audio recorded, fully transcribed and checked for errors and paralinguistic information. The data was analysed using a template approach (Miles & Huberman, 1994), which entails analysing the text through the use of a ‘guide’ consisting of a number of relevant themes including future training needs, training delivery issues and quality of training, supported by NVivo (Grbich, 2007).

4. Findings

The data identified issues with government funding and funding sourced by industry associations in supporting training. In Australia, industry associations provide membership for business and act as a collective voice to lobby on their behalf. However, in the case of regulatory authority’s support of industry associations it would appear that some of this funding has not been used to encourage, support and develop training as one participant argued:

The authorities have failed to provide assistance in regards to training within the work place. They give money to their association who use the money for self-serving purposes like increasing their membership. However; the monies were originally intended to help the industry sector they represent and they don’t do that. That has been a bit of a problem particularly in New South Wales.

A critical assessment by those interviewed, believe RTOs have a focus on profits rather than the delivery of quality training.

RTOs are more financially oriented than maybe quality control oriented.

It [training] was driven by educators who are knowledgeable in the vocational education training sector but not necessarily knowledgeable in high risk work – emphasis being placed on procedure, not on outcome.

The VET sector has dabbled with the competencies for Cert IV and Diploma and Advanced Diploma so badly. I’ve already been up to one of the TAFE’s up here that were RPL-ing [recognised prior learning accreditation] - great for their Cert IV but again that’s just a desperate grab for market share without any inkling of what kind of products you’re actually releasing out into the marketplace in terms of trained people.

4.1 RTOs and safety training

Participants discussed the ability of RTOs to deliver specialised training with a number expressing their concern that the trainers do not have expertise specific to the training courses they offer:

So particularly they’d [RTOs] get accredited to do certain things but don’t really have any practical expertise in this area.

I don't think an RTO should ever been involved in specific training unless they're experts in a particular area, but to me they seem to be out in the field harvesting what they can get out of the industries.

You've got RTOs conducting manual handling courses, but in fact the manual handling is specific to a training package or to one of the sections of the training package and it's generic. It is not specific. It doesn't help at all.

One participant suggested that the expertise to deliver quality training in safety should be left to higher education facilities such as technical colleges and universities:

I think the whole situation with RTOs should have been disbanded, everything given back to universities or the TAFE, who have the facilities, qualifications and the commitment to do this appropriately. There's no short cuts with them.

However to counter these views a response from an RTO identified the issue of meeting the requirements of the VET sector to deliver the trainer as well as needing to be approved to deliver safety training by the state regulators.

As a trainer I am now serving two masters and so not only do I have to show compliance with the VET system, all my trainers still have to be authorised and approved by the safety system. This all comes about because of the non-collaboration or non-understanding from the VET sector about what's going on with the safety regulator and worse, the VET sector insists on us calling all of our courses by the VET sector name.

The final significant issue that arose from the data for this theme was the assertion that RTOs in Australia are not audited closely enough against the quality of the training they provide.

I don't think there's been close enough monitoring of training providers, how they're delivering and what actually the outcome is, and we rarely ask the industry has this made a difference?

4.2 Training that's made a difference

Australian business and individuals place significant trust in RTOs to deliver training that provides an increase in the skills of their staff. Some questioned if the training that they had invested in provided quality outcomes.

The training world is in flux in terms of trying to get quality outcomes and that really is what it's all about. There probably is still some questions out there about could the quality of what's been delivered by training providers be improved.

It's like in Western Australia we introduced fork lift licences and when we looked around the country to say is it better to be licensed we couldn't find evidence to suggest it was safer if we had fork lift licensing.

However, some praised the efforts of state authorities encouraging increased training for workplace health and safety representatives:

I believe now that there must be in Western Australia, of the order of thirty to fifty thousand trained safety and health representatives.... they've gone through a five-day intensive program and that in itself has to

have tremendous knock-on effect where you've got these people who understand the nature of the act, the importance of consultation, some low level workplace inspection and accident reporting skills.

Others noted that training needed additional support from structures and managers in the workplace to encourage positive changes to the workplace culture by using the new knowledge of recent trainees:

You end up with this dilemma where your safety and health rep comes out from five days of training and if the training's being done by a trained provider they're gonna be pumped. They walk away on a Friday and all of a sudden they've got all of this new knowledge, they're enthusiastic and often zealous, sometimes overzealous, and then they get into the workplace and bump straight into a cross old supervisor who bangs them straight into a box and you know. If you're gonna insist on reps then you've got to have all the other workplace structures that are gonna support them.

Some have called for higher levels of training for OHS professionals:

In the early days of the harmonisation when public comment was called for there were several groups that threw in the hat and said "look, it's time now to mandate what are the correct qualifications for practice".

They're talking about wanting to dump the Advanced Diploma. And we all know that's counter-productive. Why would you do that particularly when the Advanced Diploma's been the leading stone to tertiary studies?

In order to determine the impact of safety training programmes in Australia research that provides a critical evaluation is needed. The paucity of such evaluations was identified by the participants in this study:

If you're talking about training initiatives that had the most impact I don't believe we've had any structured research that really gives much answer to that.

I'd be really interested to see some systematic structured research that has occurred where we can say, you know, there was an intervention and there was an evaluation so you know I think we know the state of decent research in Australia is pretty limited.

5. Discussion

Training in work health and safety in Australia is delivered by a range of training providers, requiring varied levels of competence by trainees, and delivered in a variety of modes (for example: face-to-face, online and simulations). Previous research has shown that training in safety has a positive effect on safety culture (Kinn, et al 2000; Dong, et al 2004; Gillen, et al 2002; Varonen & Mattila, 2000; Zohar, 1980). However, our research so far has already identified several areas of concern regarding safety training content and training delivery and its contribution to improved safety culture as measured by work-related injury events. Participants identified the structural issues of delivering training in Australia in that RTOs are required to adhere to the VET guidelines as well as be deemed a competent safety trainer by the regulatory authorities. This complex reporting arrangement has the RTO serving two masters. Participants complained that this is further complicated by the lack of communication and negotiation between these two governing bodies.

The data indicated that there are concerns about the motives of RTOs with some depicting them as profit driven rather than quality focussed. In addition some claim that there is a divide between training delivery in general and provision of quality training in the safety arena. There were numerous calls for ensuring the trainer delivering this type of education to have expertise in work health and safety. The issue of quality emerged strongly throughout the data.

The other significant issue identified in this study was whether safety training programmes really made a difference to improving safety culture in organisations with a direct affect on work-related injury reduction. The literature identified this issue with Booth (1986) and Cooper and Cotton (2000) both arguing that determining improved safety performance as a result of safety training interventions is problematic. The data revealed that there has been a significant increase in training of safety representatives for organisations and that the increase in their skills and knowledge should have had a positive impact on the safety performance. However, the participants in this study were seeking some robust evidence through research to indicate whether the transeference of the learning had indeed permeated into organisational practice. This issue is further exacerbated in Australia where much high risk work requires mandatory training to achieve competency and ultimately a recognised license to carry out the work. Examples of this include forklift, confined space, working at heights and hazardous material handling tickets. However, as one participant argued their staff are required to complete mandatory training with an RTO in order to operate a forklift, yet there is no evidence to suggest that this formalised training resulted in better and safer work practice than on the previous informal training in the machines use that they previously carried out.

Further to the discussion on transferrability of training skills into the organisation the issue of support after the training through workplace structures and by those in managerial and supervisory roles emerged. Organisations that apportion part of their budget on training subordinates and then fail to support the changes to practices from the learning are merely paying lip service to safety in the workplace and undermining the role of training.

While participants called for minimum training qualifications such as tertiary education for safety professionals there has been limited research evaluating the transfer of skills and this study has identified both a paucity of literature in the field as well as noting a call for research from practice.

6. Conclusion

This study has highlighted a number of issues in safety training in Australia including the quality of training delivery and the transferability of learned skills into the workplace. The research has shown that due to the variety training providers, level of skills taught and different delivery modes, evaluating the impact on improving safety culture is complex and difficult. Participants questioned the value of such training and are seeking confirmation that the time and money spent is worthwhile.

If organisations are unable to substantiate the value adding achieved through safety training they might restrict their resources for such *mechanisms* and generate less supportive discourses about the value of safety training within their organisations. This may have an adverse impact on the *co-creation* of the future safety culture with the organisation, from a critical-realist perspective. Organisations who fail to become engaged with developing improved safety training mechanisms may simply go through the motions to satisfy the legislative requirements. Naturally, we would not argue for safety training to cease due to a lack of evaluative evidence; however, conversely we would call for an increase in the evaluation of training programmes in Australia from professional development courses to tertiary qualifications. We believe that a critical assessment of safety training and the transferrability into the workplace will assist organisations and regulators to better target their training budgets and thereby have a greater impact on reducing work-related injury. While evaluation in this area is complex, failure to evaluate may result in maintaining flawed training mechanisms and restricting the growth of a safety culture based upon inquiry and evidence. Individuals, managers and organisations will be confronted by a harmonised safety regulatory

environment. Training will be a major response to this environment and evaluation of training will provide organisation with the evidence to develop the most appropriate mechanisms for their specific contexts.

Acknowledgements

We would like to thank Edith Cowan University, Faculty of Business and Law for providing funding for this study and the participants for giving up their time to talk to us about this issue.

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