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Introducing Mandatory Training Systems? Investigating the Implementation of Compulsory Pre-site Construction Training

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Introducing mandatory training systems: investigating the implementation of compulsory pre-site construction training.

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Abstract
There can be no more effective learning than that achieved by training systems to reduce death and injury. In such cases the imposition of a mandatory course would appear justifiable, especially where there is a history of unfortunate incidents and current rapid workforce growth. Installing learning as an imperative within a vibrant industry requires considerable negotiation between stakeholders to turn evidence into policy, industry intent, regulatory curriculum and subsequent workplace practice. This paper *reflects back* and reviews the introduction of such training within the construction industry in Western Australia as it is adapts to the additional pressures of the development boom. This paper reviews the impact of such training on the commercial sector of the industry, the training organisations, and the employees, using a mixed methods study reviewing both stakeholder perceptions and accident statistics. The study presents a landscape of construction workplaces where the culture is in a state of change. The final discussion *projects forward*, tracing the complex relationships between research, policy formation and implementation that underpins the development and embedding of such national programmes.

Introduction

This paper reviews a safety training study from a Vocational Education and Training (VET) pedagogy perspective, looking back to investigate the *impact* of a mandatory training scheme, and then projecting forward and using evidence of this study, to propose *the mechanisms* that enable national VET training program initiatives to be proposed, implemented, to permeate the landscape and be institutionalised. While this paper is primarily about a safety training initiative and its impact upon the lives of workers in the construction industry, it is also about how we as activists within a discipline, and more importantly within a field of practice, combine our knowledge, ideas and passions to effect change. Why is it that so many ideas discussed in corridors and over drinks drift out just as words, and are closed off as quickly as their echo's fades? Actor network theory (Law 1986) would indicate that it is because it is not the quality of the words that count, but the power of those who express them. To get 'agendas up' we need to attach them to the voices of powerful people. The politics of action link potential activity to existing agendas and existing power sources. Often, as we have seen in the field of VET, this appears to be a random process, where political agendas seem to be driven by diverse public incidents, with limited regard to research evidence, evaluation results and emerging pedagogic practices. Why does one VET initiative flourish while others voiced loudly from the field slowly drift into atrophy? It would appear that some form of relational alignment often underpins success. This is a harmony between players and actors in the field of practice that produces a relational and national strength. This paper analyses this VET safety training initiative and then uses the evidence to explore such territory.

As reflective practitioners and researchers seeing what we see is not enough. We need to be able to classify it, describe it, and link it to other phenomena in order to pass our exploration studies on to others. Furthermore, if we have any interest in

effecting change, rather than just voyeuristically reporting our studies, we need to link our visions into the agendas and vision of others, and specifically, powerful others.

This is what is at the heart of this paper. At one level the paper is a review *looking back* at an interesting field study of a VET training initiative; examining the initial impact. At another level we use this examination to *project forward* and trace why this specific VET training initiative has been established and institutionalised. We attempt to map what relational actions are evident that link this innovative VET practice to existing agendas and power in the field, the changing the VET training landscape, and the subsequent experiences for workplace employees. As VET researchers we are all interested in how we might categorise, classify and introduce change. This paper describes some mechanisms that might be used to achieve this goal.

The justification for the study of safety training in WA is almost self-evident. The construction industry is one of the highest offenders in terms of industrial incidents in 'boom' mode (times of significant increased production), there could be no more 'effective learning' than introducing a training system to reduce death and injury. In such cases the imposition of a *mandatory* course would appear justifiable, especially where there is a history of unfortunate incidents and current rapid workforce growth. But, installing learning as an imperative within a vibrant industry requires considerable negotiation between stakeholders to turn evidence into policy, industry intent, regulatory curriculum and subsequent workplace practice. This study is the first stage of ongoing research over 2 years into pre-site construction industry certification that has been funded by the WA Construction Training Fund and the Faculty of Business at Edith Cowan University. This paper *reflects back* and reviews the introduction of such training within the construction industry in Western Australia as it is adapts to the additional pressures of the development boom. Finally, we *project forward* and explore what we can learn about how worthwhile VET initiatives gain relational traction and become part of the training landscape for the benefit of individuals, business and society.

Literature review

Producing safety through training

The actions of individuals within organisations are the main cause of industrial accidents. These are the result of individuals, who are strongly influenced by what they perceive to be the expected, or expedient, practices of the workplace. They are influenced by the safety culture that surrounds them which consists of both formal practices and informal learning from watching others. Production jostles with the safety culture of an organisation in an ongoing contest for supremacy. Gherardi and Nicolini (2000, p.11) state that 'learning safety means how to behave as a competent member in a culture of safety practices'. A good safety culture does not mean there will be no incidents at all, but that if these occur they will be responded to openly and considered a learning opportunity (Reiman & Oedewald, 2002). A study conducted in 2002 (Prussia, Brown & Willis, 2003) with workers in a high-hazard industry found that the convergence of supervisor and worker attitudes towards safety created a good safety climate. This was supported by the 2005-08 study conducted by Bahn (Bahn & Barratt-Pugh, 2009) in the civil construction industry that found that the value managers placed on safety determined the level of the safety culture in the workplace. Other research indicates that safety culture is determined by, the commitment, ability,

leadership and the communication styles of management, and that it is supported by the participation, competency, training, behaviour and attitudes of individual employee (Farrington-Darby, Pickup, & Wilson, 2005; Glendon & Stanton, 2000; Guldenmund, 2000). Interestingly, those that place a high value on safety often also place a high priority on training (Marsh, Robertson, Phillips, & Duff, 1995).

Numerous studies have indicated that safety-training interventions lead to an improvement of safety behaviour and a reduction of hazards in the workplace (Kinn, Khuder, Bisesi & Whoolley, 2000; Dong, Entzel, Men, Chowdhury & Schneider, 2004; Gillen, Baltz, Gassel, Kirsch & Vaccaro, 2002; Varonen & Mattila, 2000). However, as Biggs, Sheahan & Dingsdag (2006, p.2) point out, the requirements for safety training in Australian organisations is unclear and this is supported by Zanko (2006, p.4) who found that there is ambiguity and uncertainty about 'what to do and what not to do'. Quinlan and Mayhew (2001) indeed argue that Australian safety policies and procedures need to be altered to mandate reporting through formal OHS Management Systems. However, safety training and compliance is often seen as just another organisational cost (Hager, Crowley, & Melville, 2001; Bradley, 2006), however essential in incident reduction (Dingsdag, Biggs, Sheahan, & Cipolla, 2006). But without safety training 'most experienced workers think they know approximately where the 'edge' between safety and disaster lies' with workers choosing to work against safety rules and procedures as this leads to an easier and more efficient way of working (Reason, Parker and Lawton (1998, p.2). In 1997 the USA OHS Administration developed a Union-based ten-hour hazard-awareness training program called 'Smart Mark' for the construction sector (Sokas, Nickels, Rankin, Gittleman & Trahan, 2007). Evaluations by Kinn, et al. (2000) and Sokas et al (2007) indicate the impact is significant changes with reduced injuries.

Construction Induction Training (CIT)

Worksafe WA also took a step towards addressing safety culture issues by introducing mandatory safety awareness induction training, the 'Blue Card' in 2006/07, for all construction workers. The aim of the Blue Card was to ensure that all construction workers had minimum training in general site safety including working at heights, working in confined places, general lifting, and working with hazardous materials before they work on any construction site. In 2009, Blue card was aligned to the national competencies and rebadged national Construction Induction Training (CIT). The state Blue Card used to require re-training every 3 years, but the national CIT provides workers with a unit of competency as a single once-off training program.

Mandatory training programmes

There are no greater risks in the workplace than those that may result in death and injury. It is therefore understandable that OHS legislation attempts to produce greater compliance to minimise risk and promote safer work practices. While much social learning occurs as a voluntary activity, issues of health and safety are in the vanguard of those that are often positioned to be mandatory (NOHSC: 3020, 1994). Compliance with safety regulation is positioned as an imperative and given the highest priority. Hart (2000) indicates that it should be the context of the situation that is most relevant in determining how the voices for and against voluntary and mandatory approaches should be valued. Often mandatory programs do offer an illusion of complete and continued compliance that is seductive and easily consumed. However, a plethora of research stresses the imperative of personal motivation and contextual relevance in achieving changes of personal knowing and subsequent

actions (Knowles, 1990; Kolb, 1984; Lave & Wenger, 1991; Rogers, 1969). Despite such literature, learning design often privileges institutional control of the selection of learners, content of learning, goals of learning, methods and location of learning, and the subsequent certification processes. These patterns position the learner as a passive recipient rather than an active participant.

Organisational change

In terms of generating acceptance of new training programmes and institutionalising them within an industry and associated training practices we enter the world of inter-organisational politics. Theory suggests that such endeavours to embed schemes should be guided by two principles; 1) working within established patterns and 2) harnessing the cooperation and powers that existing within a system. Institutional theory tells us that what is most acceptable is something that looks like what is already happening, it is less frightening and more readily accepted (Scott, 2004. Actor Network theory tells us that the quality of an idea matters far less than the power of the voice that expresses it (Callon, 1986). What is needed is to gain the support of powerful figures and transmit the edict through their network to affect the greatest number of people and organisations, with the highest fidelity for the message to ensure uniformity of translation. So, while safety training in a dangerous and growing industry appears to be an effective economic and social investment, it has to walk a fine line between being yet another compliant act effecting embedded behaviour change. Additionally, it has to gain the support of a large number of competitive industry bodies to establish a system with universal support (ILO, 2005).

Research design and method

This paper reviews the impact of such training on the commercial sector of the industry, the training organisations, and the employees, using a mixed methods study. The study focused on collecting industry perceptions of the value and effectiveness of the *certification system*, the relevance of the *training activity* and the subsequent *workplace impact*. The study produced recommendations to improve the effectiveness of the training system and industry relations. There were three key research questions.

1. How effective has the CIT certification system been for the industry?
2. How effective have the CIT practices been for the industry?
3. How has the CIT system impacted upon organisations and the industry?

The sample frame for the investigation is described in Table 1.

Table 1: The Sample

Instrument	Sample frame
Incident Statistics	Tabulation and segmentation of Commercial Construction sector records from Worksafe WA for the previous 6 years – Pre and during the Construction Induction Training scheme.
Questionnaire	Distribution to the complete MBA Membership of approximately 669 CEOs and supervisors - 25 returned completed.
Semi-Structured Interviews	23 interviews with clusters of supervisors, OH&S Managers, trained employees at two commercial construction sites. 17 were conducted as telephone interviews and 6 as face-to-face. 7 interviews with representatives of peak/key bodies: CTF, Worksafe WA, CCF, the CCF Board, MBA, HIA, CFMEU, and a RTO. 6 interviews were conducted as telephone interviews and 1 as face-to-face. 1 focus group with representatives from TAC.

Research Method

The qualitative data for the study were collected through semi-structured face-to-face interviews, and telephone interviews. Semi-structured telephone interviews were conducted in most cases due to distance, the availability of participants, and the participants' preferences. The interviews were generally held for 15 to 30 minutes. The quantitative incident data for the commercial construction sector was supplied by Worksafe WA and NOSI databases some of which was available freely online and other data was tabulated by Worksafe WA for the specific needs of this study. An online questionnaire was developed, tested and distributed by the Master Builders Association in two rounds to 669 CEOs and supervisors in the commercial sector. The response rate was 4%, with 25 completed questionnaires. Twenty three semi-structured interviews followed the questionnaires and were conducted with clusters of related site supervisors and OHS Managers, and Construction Induction Training trained employees at five commercial construction sites, that were constructing buildings under three storeys and those that were involved in multi-storey construction. The sample was equally spread over both types of construction as it was considered that the different site conditions might produce different safety cultures. Seven interviews were also held with key stakeholders within the industry including representatives from Worksafe WA, Master Builders Association (MBA), Housing Industry Association (HIA), Civil Contractors Federation (CCF), CTF representatives and Board members (involved in delivering training at TAFE and with the Apprentice Group Training Schemes), a former representative from an RTO involved in designing and delivering the training, and a union representative from the CFMEU. Finally, a small focus group was conducted with representatives from the Training Accreditation Council (TAC).The themes that have emerged from these interviews were compiled the quotes used in this paper are examples typical of similar perceptions gathered in the data collection.

Findings

The study presents a landscape of construction workplaces where the culture is in a state of change. The accident statistics for the previous six years indicate a significant increase of lost days within the industry. However, when they are related to the rapid expansion of the industry a different picture appears.

Table 2 WA construction industry incidents and industry growth 2003 - 2008

Year	H&S Lost Days	Workforce Numbers	Lost days per person employed
2003	10,700	85,000	.125
2004	12,000	82,000	.146
2005	12,800	102,000	.125
2006	13,300	110,000	.120
2007	16,500	115,000	.140
2008	13,690	125,000	.100

While the table shows a growth in lost days through injury, when they are related to the growth of the industry the figures show a decline in the lost hours per employee over the period. This is at a time when rapid growth has brought many new, young and migrant workers into the industry. While the reduction in lost days may be attributed to the combination of a number of factors, it has occurred during the period that the CIT has been introduced.

Questionnaire Findings

An online questionnaire was developed with the reference group and distributed in two consecutive rounds to 669 recipients: CEOs and supervisors in the commercial construction sector by the MBA. 25 or 4% questionnaires were completed. 72% conducted work in the city; 52% conducted work in regional locations. The returns presented data from different sized companies and from new and established organisations. Four key questions that were asked to determine the value of the Construction Induction Training (CIT). 60% of the respondents agreed with the statement that the CIT provided a good first step to developing safety awareness for their staff; with a further 40% of respondents strongly agreeing. No respondents disagreed with the statement. Comments received by the respondents included:

> *It is a good first step in developing a think first environment.*
> *The test following the course could be better run and supervised, it appears that no one can fail. This is only the start as an introduction and should be updated every 3 years.*

The respondents were asked if they perceived that after their staff completed the CIT there was a measurable benefit to their business. 67% agreed with this statement, with a further 13% strongly agreeing and 21% undecided; therefore 79% of those surveyed report a measurable benefit to their business by completion of the CIT by their employees. 96% of responses indicated that the CIT assisted their business by reducing accident/incident rates, with only 4% having a cynical attitude.

> *[I]Often wonder if some people on site have attended a safety-training course, they have the relevant card but make basic breaches on site.*

Respondents were asked to comment on the extent they believed that the CIT contributed adequately to basic safety awareness, as a first stage, prior to site-specific and job-specific training. 86% of the responses made very positive statements.

> *Training at this level helps bring the focus onto safety issues before they arise.*
> *It is only basic training but it does give the employee a head start when continuing that training.*

> *It gives a broad overview of risks likely to be encountered on site - especially good for people new to the industry.*

However, additional comments indicate that those working in the industry for many years (‘old hands’) may be less influenced by the training; and that some employees do not see the value of, or indeed absorb the training, due to its compulsory nature.

> *Training seems to work better on Novices in the industry, the "old hands" think they know it all and tend to treat training as an encumbrance rather than a benefit.*

> *As the cards are a pre-requisite to working on a construction site, some employees obtain the card but do not appreciate the course content; the site management are continually required to remind them of basic safety issues.*

The respondents were asked to suggest improvements that could be made to the CIT. Responses included making the course more detailed for *'different skill levels';* providing more emphasis on the *'responsibility of individuals for front line safety'*; and providing *'more stringent testing'*. One respondent suggested that the CIT would be more effective if the course was conducted on site, while another suggested renewal should remain at every three years rather than life accreditation.

Interview Findings

In general most participants were happy with the course content of the CIT. They recognised that the course is safety awareness training and is the first step to a deeper site-specific induction that does not replace the need for further training.

> *I found it to be a very informative course and I do honestly believe that it should be a minimum requirement for anyone working on a construction site*.

The most valued section of the training was the 'duty of care' information. Some participants stated that this was the only forum where they were exposed to OSH legislation and they appreciated the chance to be informed of current requirements.

> *When it's being delivered it is basically focussing on the duties of care. People often still don't understand that*.

However, some participants felt that the content was delivered at too high a level and should be 'dumbed' down for the construction audience. This was particularly an issue for non-English speaking participants, where understanding could be limited due to the use of complicated language. In addition the quality of the assessments was questioned by many, indicating that they were ineffectual, as 'those who paid passed'.

> *If I had any criticism of the Blue Card courses it's I would say that the questions at the end are possibly just a little bit too easy. I don't know of anybody who's failed the Blue Card course.*

The majority of those interviewed were unaware that the CIT is now a unit of competency. Participants suggested that if the significance of the accreditation was emphasised the training might hold a higher value within the construction industry.

> *Most workers may just want the card; however RTOs also don't understand what a statement of attainment is now that it's a unit of competence. The Blue Card didn't have a statement of attainment.*

> *The unit of competency means nothing to them (apprentices); they are just interested in getting back to work as soon as possible*.

Participants suggested changes to the CIT content and these included: practical assessments, provision of standardised supporting materials, and additional emphasis placed on the achievements of the unit of competency in the form of a certificate.

The commercial construction sector has embraced the move to national CIT training. The CIT addresses OHS content with a particular focus on duty of care The participants were very vocal about the need to refresh the CIT as a means of revisiting the content. As the construction industry has a transient workforce, with workers moving in and out of the industry, localised refresher programmes would be a benefit.

> *I'm an opponent for the one off training….. I think when these sorts of things happen people should be made aware of them therefore I think there needs to be a review and a refresher process…..We have people who leave the industry for a number of years and go to mining or other primary industry and then come back …. Obviously things do change.*

The data indicated that most participants believed the mandatory CIT had made a positive effect on workplace safety. Almost all participants agreed that their workplace had increased safety awareness and that the CIT along with other safety inductions specific to their individual workplaces attributed to a safer culture. Participants held the belief that the CIT had increased their personal safety awareness.

> *I think it has to have a positive influence; I'm not sure if there is any hard evidence.… It has a positive influence because they can demonstrate that basic knowledge.*

Some long-term workers in the industry did not think CIT was worthwhile but ironically, were convinced that refresher training was essential for safer workplaces.

Discussion

This discussion looks back at the findings from the study and *projects forward*, tracing the complex relationships between research, policy formation and implementation that underpin the implementation of such national programmes. In this section, we first look back at the study and respond to the research questions tracing the impact of the initiative within Western Australia. We then project these experiences forward. Using the evidence of this study we attempt to trace the critical components that underpinned the relational and political development nationally and provide some clues about the essential criteria for building successful VET training agendas.

In terms of what can be learned from the impact of the CIT as a mandatory VET training program there are some clear messages from the findings. First, the statistical evidence suggests that the CIT is part of a change process that has reduced incidents at a time of rapid expansion. Second, despite the diverse nature of the industry and the vast geographical expanse of WA there appears to be almost universal coverage and cultural acceptance of the CIT. Workers are denied access to construction sites if they have not completed the CIT and some employers only accepting face-to-face certification. While there is evidence of dubious practices associated with the mandatory nature of the qualification they are limited and appear to be no more evident than in other training certification processes. RTOs, happy with the competencies seek relevant supporting training materials and podcasts of real issues. Third, and perhaps most importantly, the culture of the industry appears to have taken a positive shift towards the privileging of safety at a time of intense production. Participants vocalise that the training has increased their personal safety awareness and contributed to the safety culture on site. This was not apparent in an

earlier study where training was seen as a useless legislative hurdle with costs and no gains (Bahn & Barratt-Pugh, 2009). The most valuable aspect of the CIT is that it brought industry players together, uniting them around a common goal, and benefiting all stakeholders.

However, we found it difficult to reflect upon the 'structural development' of the CIT without questioning how new VET training initiatives gain support, traction and become institutionalised. The CIT is of course a unique VET training initiative. It is aimed at employees off the job, completed within hours, and uses a mandatory approach to reduce workplace incidents and death in a specific industry. Yet it has been established as a unified national VET program. What is of most interest to us is what critical components have underpinned this success. While not a blue print such components may provide a structural framework for those implementing VET training initiatives. We identify *six components* that the development of both initiatives had in common.

The first is a clear target of action in terms of skills and knowledge for a distinct target group that is well justified and is a vision that sets the scene with clarity. The second is an environment of economic and political receptivity, a component that is out of the control of the originators. Often schemes can be killed off by adverse changes in economic climate or by changes in government. Third, is the political will and financial backing through the imperatives of legislation. Fourth, is the development and propagation of the initiative through the existing power structures, using existing players within the development process. Those with an existing role in the area need to be involved with the development and share in these opportunities. This risks the scheme being hijacked and distorted, but prevents early strangulation by those with existing vested interests. The use of pilots to provide visible proof provides the fifth component for the introduction of the scheme. Finally a collaborative approach using multiple agencies captures the achievers in the field and harnesses their energies, dispersing the competitive relationships to a later stage of development. Do people throw themselves enthusiastically at new ventures for the good of their field of practice? Perhaps on a good day, but when they are invited to play a role in the development of schemes the 'what's in it for me' factor adds to the altruism and provides a platform of development that utilises the best existing skills in the field. These six components underpin the patterns of the CIT development process.

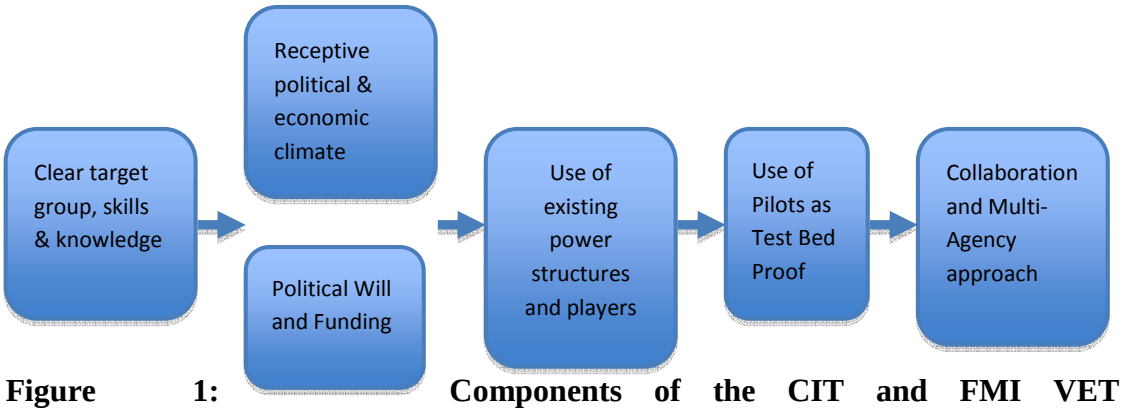

Figure 1: Components of the CIT and FMI VET development process.

Beer's (1993) model is perhaps one of the most established in terms of assessing and analysing change management practices. In Beer's model, the road to eventual institutionalisation consists of four stages; commitment, shared vision,

consensus and local revitalisation. In this study similar stages are reflected. The evidence from this study indicates that the gathering of diverse representatives in the formulation of the scheme provided significant commitment, forging a shared vision, and gaining a consensus about the operational detail of the eventual program. As those involved with designing the scheme were those involved with operationalising the scheme, multiple bodies and agencies drove the development locally, bridging existing relationships and monitoring the progress.

Conclusion

This review of a study of mandatory pre-site safety training in WA has explored three linked territories. First, looking back, the study demonstrates that a mandatory approach to training has validity, in the appropriate context. Second, the study indicates how a collaborative, all industry approach can be the springboard for cultural change within organisations. Often a strong argument can be made by indicating how universal the wave of change is around an organisation. A major action has been taken that is helping protect people from death and injury before they step onto a construction worksite. Third, and perhaps most importantly in projecting forward, the study indicates some components of this change process that may provide a framework for others wishing to institute radical VET program change in other areas. Getting training schemes 'up' and embedded is about relational alignment - not just having a great idea. It may well be that the most valuable critique that VET researchers can provide from their work are ideas and evidence of how we can institute change. Researchers should consider how they can: provide the arguments from their evaluations that enable VET activists to lobby and politic for change, embed new programs to support trainees, enrich our organisations, and improve industry skilling, competitiveness, and ultimately social prosperity.

We would like to thank all the members of the construction industry reference groups who have made this project both possible and stimulating.

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