Soft Skills in the Construction Industry: How can the generic competencies assist continuous improvement?

Paul Hager, Suzanne Crowley and John Garrick

University of Technology, Sydney

Abstract

This paper arises from an ARC funded project of the Australian Construction Industry focussing on the generic competencies in relation to workplace reform. As a SPIRT (Strategic Partnership with Industry - Research & Training) project, the industry partner is the Department of Public Works and Services (DPWS). The project could not have been undertaken without this partnership and the assistance of some of the larger New South Wales building and construction companies.

The construction industry in New South Wales has been undergoing significant change and the strategic vision for the industry developed by the New South Wales government promotes ongoing development through continuous improvement.

This research project was undertaken in three phases. Phase 3 analysed the workplace reforms of occupational health, safety and rehabilitation and environmental practices. One of the outcomes of the project was to use the knowledge gained about generic competencies in the construction industry to inform best practice and provide mechanisms that enhance continuous improvement.

The research identified the generic competencies of communicating ideas and information, planning and organising, teamwork and collecting, analysing and organising information as very significant to the industry. This paper will report on how these generic competencies can assist the construction industry in its' pursuit of continuous improvement.

Conference Key Words: Cooperative research

The Research

The Australian Construction Industry is currently undergoing enormous change otherwise known as workplace reform. In New South Wales this workplace reform in the construction industry is being managed and directed by the state government in consultation with the industry. This Strategic Partnership with Industry Research and Training (SPIRT) project The Generic Competencies and Workplace Reform in the Australian Construction Industry includes the University of Technology, Sydney (UTS) and the New South Wales Department of Public Works and Services (DPWS), together with some major construction companies.

The 3-year project provided the research team with the opportunity to investigate the industry in several phases. Once issues, themes and development strategies had been identified in the first two phases, the third phase of the project was used to examine two specific workplace reform issues in relation to the earlier findings.
Phase 1 identified the competencies that are significant to the Construction Industry. Phase 2 verified the critical role of the competencies of communication, teamwork, planning and organising and to a lesser extent collecting, analysing and organising information. For the third and final phase middle and senior management were interviewed about two aspects of workplace reform, occupational health and safety and environmental practices. This data was then analysed in relation to the role of the competencies and the management aspects of construction work.

Workplace Reform

The Labor Government of the 1980’s initiated workplace reform. With the increasing emphasis on global economics it was decided that for Australia to maintain its competitive edge Australian industries needed to improve work practices. The result has been that "workplace change has become mandatory." (Sefton, Waterhouse & Cooney 1995). Workplace reform has been most frequently understood to relate to industrial relations but it also includes many other developments such as multi-skilling, work organisation and training, all accompanied by a move away from conflict and toward cooperation.

Generic Competencies

The Meyer Key Competencies form the basis of the concept of generic competencies used in this paper. The project takes an integrated approach to competence. This means competence is thought of in general terms of knowledge, abilities, skills and attitudes. The narrow task-based approach to competency is not the focus here. We draw on the generic competencies set out in the reports by the Finn, (1991) and Mayer (1992a & b) as follows:

- Collecting, analysing and organising information (KC 1)
- Communicating ideas and information (KC 2)
- Planning and organising activities (KC 3)
- Working with others and in teams (KC 4)
- Using mathematical ideas and techniques (KC 5)
- Solving problems (KC 6)
- Using technology (KC 7)
- Using cultural understandings (KC 8)

The Construction Industry 2000

Nationally the construction industry annual output 'is expected to exceed $45 billion through to the year 2005.' (DPWS 1998, p.17). In New South Wales, government ongoing capital investment expenditure is around $5-6 billion each year (DPWS, 1998, p. 10). While government is a significant client and regulator of the industry, the actual work in the state is undertaken by private enterprise.

In New South Wales it is an industry undergoing enormous change. In 1992 a Royal Commission established to investigate the industry found, among other things, that it had a history of highly competitive, conflictual and combative structures. Since that report the industry has embarked on many changes, but it has also been impacted by the rapid development of the global market and the increasing emphasis placed on competition, best practice and improving efficiency.

Of the 25,000 industry enterprises in New South Wales sixty-five per fit the Australian Bureau of Statistics (ABS 1998) classification of "small business". Only 1.3 percent of construction industry enterprises have a turnover of $20 million a year or more (DPWS, 1998). The role of the major companies has been identified as the starting point for the
implementation of new work practices, including the introduction and development of environmental management, occupational health and safety practices and the promotion of technology and training packages.

Competition is a significant influencing factor in an industry dominated by the private sector. The tender process favoured by both government and private sector dictates how projects are allocated. Also, the industry is affected by a reliance on specialist subcontracting and outsourcing, the independence of these subcontractors, financial constraints and an industry culture that emphasises material outcomes.

The Role of the NSW Government

The New South Wales government takes a very proactive role in directing change and the document *Construct New South Wales* represents the State's "framework for strengthening the capability of the construction industry." (DPWS 1998, p 7). Part of this vision is "to ensure the development of a more competitive, innovative, productive and safe industry," that is also "seamless, efficient and profitable, innovative and environmentally responsible." (1998, p 7). This vision emphasises consultation (p 11).

**Learning and Training**

Within the government strategy for change, training is seen to have an important role. This is evidenced by the proliferation of government publications through the Construction Policy Steering Committee; *Training Resource Manual 1999-2000* (DPWS 1999-2000), *Developing and Implementing a Training Plan for Small Business* (DPWS 1999), and numerous training resources available from the DPWS (http://www.cpsc.nsw.gov.au). The NSW government is keen to continue the pace of change through the development of a learning/training culture within the industry.

Government strategy links the capacity of small businesses to be competitive directly to the improvements sought through workplace reform:

> Industry participants, in particular small and medium enterprises, will be encouraged to take a longer term view when addressing workplace issues so that they are more able to meet the demands of competition, to implement workplace reform initiatives... (DPWS 1998, p51).

There are contradictory indicators as to the state of training in the construction industry. The Australian Bureau of Statistics (1996) identifies a low participation rate in training by the construction industry. Some of the middle-management interviewed in Phase 2 suggested there is no training available for them (Interviewee 6, Interviewee 4, Interviewee 2 Phase 2) or that the industry is not supportive of training (Interviewee 1 Phase 2). Despite these responses and statistics, the majority of company management interviewed in Phase 3 of referred to the importance of training and the induction process as an essential way to introduce new methods of work:

> The Industry needs a change in mindset...through training (Project Manager 3 Phase 3).

> Education and training is the answer (OHS& Environmental Officer 1 Phase 3).

> You need to educate people in their responsibilities and the consequences. (Construction Manager 1 Phase 3).
A construction company's commitment to such training comes at least in part from the pressure being brought to bear through government legislation. To stay competitive the company has to address the issues prioritised in government policy. The present situation has the company motivated to introduce change in order to comply with legislation and successfully tender. The subbie according to the data is participating reluctantly.

The Key Role of Soft Skills in Current Building and Construction

The previous sections of this paper have outlined the background against which the current research was carried out. The workplace reform noted above has brought many changes to the way things are done in building and construction. Accompanying these changes has been the growing recognition of the need for 'soft skills' in the industry. Phases 1 and 2 of the research identified teamwork, communication and planning and organising as particularly prominent amongst these soft skills. Building and construction workers incorporating soft skills into their work practices can be compared legitimately to the 'new' knowledge workers emerging in high-tech industries.

When we interviewed workers in the industry, they commonly reported that people with good soft skills are "born with them". Whether a team works well together, or whether a foreman has good "people skills", can be easily put down to personality traits. You either have the required attributes or you don't is a very widespread attitude. However things are not this simple. Our research demonstrated that this common view - that you either have soft skills or you don't - is not the full story. Many instances were identified where workers had been able to improve and refine their soft skills with experience and practice. Management too is able to employ a range of strategies that support this soft skills development. Our case studies identified a wide range of strategies that both organisations and individual workers can employ successfully to further their own and others' soft skills (Hager, Garrick and Crowley 2000).

Two other main themes that emerged from Phases 1 and 2 of the research were the holistic interweaving of soft skills and the need for them to be learned and adapted to the unique and changing circumstances of each building and construction site. We found that occupational health, safety and rehabilitation (OHS&R) practice provided an excellent example of this. Teamwork, communication and planning and organising were all important components of good OHS&R practices that we encountered. The successful spread of sounder OHS&R practices throughout the building and construction in the 1990s is one way in which soft skills have been incorporated into the work of the industry. The presence and strengthening of the interweaved soft skills should help to create learning cultures. Ones where, for instance, sound OHS&R practices are implemented on a voluntary basis rather than because of coercion by government agencies. The growing emphasis on environmental aspects of building and construction can be seen as an emerging area requiring further development of soft skills. The likely unique environmental aspects of particular sites will require capabilities to adapt and tailor soft skills to new circumstances. As we noted earlier, this is parallel to capabilities required of knowledge workers in other industries.

Our findings about the holistic interweaving of soft skills and the need for them to be learned and adapted to the unique and changing circumstances of each building and construction site, are supported by earlier research findings about generic competencies (e.g. Stevenson (ed.) 1996, Gonczi et al. 1995, Hager et al. 1996). This research has shown that when any significant component of work is considered, there tends to be a clustering or interweaving of key competencies together with more specific competencies as well as features that are particular to the context. Thus the key competencies, by their nature, serve to direct attention onto broader approaches to competence. A second crucial feature of key competencies is their strong sensitivity to changes in work context. The different forms that
key competencies take in different workplace contexts has been confirmed by both Australian (Gonczi et al. 1995, Hager et al. 1996, Stevenson (ed.) 1996) and overseas (Stasz et al. 1996) research. Stasz et al. concluded that:

...whereas generic skills and dispositions are identifiable in all jobs, their specific characteristics and importance vary among jobs. The characteristics of problem solving, teamwork, communication, and disposition are related to job demands, which in turn depend on the purpose of the work, the tasks that constitute the job, the organisation of the work, and other aspects of the work context. (p. 102)

What this means for the building and construction industry is that the soft skills demands on workers are likely to vary across sectors of the industry, and even across different sites in the same sector according to differences in work organisation and practices. It is likely, for example, that soft skills demands on workers will be greater on sites that are well advanced in workplace reform, reflecting research findings that the key competencies are major features of work in workplaces that focus on high performance or high quality products (Field & Mawer 1996, Gonczi et al. 1995).

Given the importance of the clustering and contextuality of soft skills or generic competencies identified in the first two phases of the research project, it was decided to investigate these more closely in phase 3 by focusing on OHS&R and environment. OHS&R and environment were chosen as prime examples of the implementation of workplace reform in the industry. OHS&R has been a central plank of workplace reform for more than a decade, whereas the environment is a recently emerging focus of ongoing reform in the industry. Phase 3 of the research produced a variety of interesting data, but for the purposes of this paper we will concentrate on findings that relate to subcontractors ('subbies') and the soft skills demands placed on them by recent changes in the industry.

Subcontractors and Workplace Reform - An Ongoing Challenge for the Industry

As reported above, phases 1 and 2 of our research project identified significant progress in development of soft skills as workplace reform has been implemented in the building and construction industry. However these findings were derived mainly from interviews with employees of large companies undertaking major projects. These represent a distinct minority (about 15%) in the industry with much of the work being carried out by subcontractors who have adapted less smoothly to workplace reform. Our phase 3 data shows that subbies are perceived to be an ongoing problem for workplace reform in the building and construction industry, a problem whose solution is seen to lie in training or educating them into behaving in new ways.

However, we want to argue that this problem is not just one to do with subcontractors. Rather it is a problem systemic to the industry as a whole. The real problem, we claim, lies with certain structural givens of the industry together with a view of training that is now outdated. Although workplace reform has made major progress in the building and construction industry, the stage has been reached where further progress is doubtful without a more sophisticated approach to workplace learning and training.

Quite simply, in the context of increasing globalisation of the world economy, a different understanding of learning and training in the workplace is essential. As, for example, Ford (1990 pp. 1-2) argues, the overall impact of change is such that the standard concepts that have been used for thinking about workplaces, such as ‘technology’, ‘work organisation’, ‘employment relations’, and the like, have lost their currency and now serve merely to cloud our thinking. According to Ford, this is because they derive from the era of the early forms of
mass production and involve assumptions that are no longer applicable. This applies to the
notions of training that our research finds to be prevalent in the building and construction
industry in which training is seen as something that occurs in separate training sheds away
from the actual construction work. Typical examples are the OHS&R induction courses that
are mandatory for all workers including subbies before they commence working on a site.

But very different notions of training are now needed. According to Ford (1990 pp. 3-5), the
internationalisation of demand has meant that organisations need to transform themselves
to provide greater quality; improvement and innovation; adaptability and reliability; and
service. The required transformations by organisations centre on a more multifunctional and
multiskilled workforce. This is facilitated by the creation of a responsive workplace culture.
As Ford points out, there are diverse strategies for achieving this, but they generally
integrate new kinds of work organisation, innovations in technology, innovative skill
formation practices, and innovations in employee commitment, participation and
remuneration. Many of these, especially new kinds of work organisation and innovations in
employee commitment, participation and remuneration, are just the kinds of strategies that
have driven successful workplace reform in the Australian building and construction industry
over the last decade or so. However skill formation practices are one area where further
innovation is needed. To see why this so the full scope of skill formation practices needed to
be considered.

Ford (1990 p. 8) argues that 'skill formation' should be viewed as 'an emerging holistic
concept that embraces and integrates formal education, induction, continuous on-the-job
learning, recurrent off-the-job learning and personal development'. By pointing to the
importance of continuous on-the-job learning in skill formation, Ford is endorsing a wider
notion of learning in the workplace than applied in the previous industrial era. According to
this thinking, training, as widely understood in the building and construction industry, is fast
becoming an outmoded concept. It should be noted also that Ford's characterisation of the
changing workplace is not merely a theoretical one, but is grounded in diverse experiences
of workplace reform and organisational transformation (see, e.g., Field & Ford 1995).

So a richer notion of workplace learning is needed for the building and construction industry
as it enters the post-industrial era. What this means is that the ongoing learning required by
changing approaches to OHS&R and the environment goes beyond mere induction training
courses to a culture that values continuous on-the-job learning, supplemented by learning
from other relevant sources. Although current policy directions in the building and
construction industry are broadly supportive of this kind of learning, in practice significant
structural features of the industry work against it.

Current strategies for advancing OHS&R in the building and construction industry include:
training, enforcement, communication and consultation across the industry, and research
(Hager, Garrick and Crowley 2000b). But our research project has identified a number of
difficulties and contradictions, particularly in relation to the training and enforcement
strategies. As has been indicated, training expenditure is low in comparison to other
industries, with an emphasis on off-job training. The needed integration of off-job training
with on-job learning is unlikely if left to chance. It is even less likely given the poor English
comprehension of many subbies, though compulsory training sessions are almost always in
English.

So, what are the implications for training of the rise of soft skills in the building and
construction industry? If training is to encourage the development of workers' soft skills, it
needs to be more interactive. This means a lesser role for classroom-based training and
new roles for trainers and instructors. Also, there needs to be less emphasis on pre-
packaged training, which has major implications for government authorities such as ANTA. It
means more emphasis on on-site mentors and coaches. Our interviews have revealed dissatisfaction with generic training packages, particularly in areas such as safety training where the site-specific aspects are crucial. It is also the site-specific aspects that make on-the-job learning an attractive option.

The current enforcement strategy for advancing OHS&R in the building and construction industry also has clear limitations. Our research found that it sometimes creates gaps between what companies say they are doing and what is really happening on the ground. Some examples are:

- having an impeccable paper trail vs the reality being something else.
- working hours signs for the benefit of inspectors vs. the workers knowing what the real working hours are.

While depending on enforcement to change behaviour may be a sound first step, by itself it is insufficient to change attitudes. Without more than enforcement, you are left, at best, with people 'doing the right thing for the wrong reasons'. This will not be a permanent change as the fear of sanctions wears off. Enforcement or coercion do not in themselves remove the main sources of resistance to change. A 'change of heart or mind' by the workers is necessary to achieve that outcome.

Some of these problems can be traced to the 'mixed messages' that subbies frequently receive in the industry. Although everybody knows OHS&R is important, the industry culture is very much ruled by the 'bottom line'. According to our research data, this still encourages, for example, unrealistic tenders that leave out real OHS&R (and/or environmental protection) costs in order to remain competitive. The subbie whose tender is successful then needs to somehow address OHS&R (and/or environmental protection) once they have the job. This situation leads to corner cutting and fake paper trails as described above. One interviewee observed that construction companies will take the lowest quote expecting that the subbie will go broke, requiring them to get someone else to finish the contracted work.

In circumstances such as these, it is unrealistic to imagine that subbies can achieve the holistic skill formation recommended by Ford, or even adopt the approaches to OHS&R and the environment that are supposed to be mandatory for the industry. Their overall learning from training and practical experience will be at best variable, with bad practices more likely to be reinforced and repeated than good ones. This is not to say that subbies will lack soft skills. The more successful of them will no doubt deploy a range of such skills to survive despite changes in the industry.

Conclusion

The construction industry is in a state of change. It is no longer the industry it used to be, and it is in the process of redefining itself. The NSW government has undertaken a leadership role in order to control and direct the vision it has for the industry. The changes being introduced include reforms to the way work has traditionally been done, and there is some resistance to this change. The changes depend in part on workers deploying a range of soft skills and a capacity to learn continuously from workplace practice. While there is evidence of progress in these changes in parts of the building and construction industry, this paper has pointed out a series of ongoing difficulties in the crucial areas of the industry involving subcontractors.
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