Pushing 'billy carts'

CRINA VIRGONA

WORKPLACE LEARNING INITIATIVES

This 'story from the field' describes the experiences of working with the Mayer key competencies or the new Australian Chamber of Commerce and Industry/Business Council of Australia employability skills and attributes. It is one of a series published on the National Centre for Vocational Education Research (NCVER) website at <http://www.ncver.edu.au/generic.htm>. These stories are designed to help advise and foster better teaching practice.

Context

The Tickcart Project[1] was part of an accredited certificate II program that was conducted in 1998 at a vehicle manufacturing plant with shop floor employees. In brief, trainees were divided into competitive teams in order to manufacture billy carts as a means of simulating the actual design, development and building processes conducted in the workplace. The teams worked within constraints that paralleled those faced by the real engineers and support personnel producing cars for the company. They were required to meet the specifications on time and within budget and to present the documentation that demonstrated their accountability. They were required to source their own materials and to replicate three billy carts to incorporate mass production methods. However this was not just a quirky action-packed off-the-shelf program taken from a book like, say, the starship simulation. The project was designed around the specific needs of the vehicle building company, its people and its processes.

This was a company that operated on 'silo' principles—each department managed itself as autonomously as possible, fighting for their own needs against those of others. Although it was only a small company, many of the staff did not know each other and the gulf between the shop floor and the management staff was deep and wide and rarely traversed. There was 'them' and 'us' on both sides and 'they' were unsupportive, did not understand 'our' needs nor were 'they' interested in 'us', 'they' were difficult to talk to and 'they' got a far easier deal than 'us'.

The initial training needs analysis we conducted with the shop floor employees showed variable levels of language and literacy skills and considerable frustration around the lack of autonomy to contribute to solving problems. A set of relationships was in place that positioned the shop floor people as somewhat childlike, unable to take responsibility or to make a serious contribution in solving production problems. They were given little opportunity to manage themselves or their projects. They were not included in decision-making discussions and had little idea about the workplace priorities beyond the orders and targets given them. They were alienated from the activities of the rest of the organisation and did not know how products were designed, developed and sourced before they reached the shop floor.

[1] The Tickcart Project was an ANTA award winning project providing a model of 'best practice' in educational effectiveness for enterprise-based training. It has been extensively documented (Virgona, et al. 1998). This retrospective case study specifically addresses the generic skills aspects of the project.

What did we want to do?

From a generic skills point of view it was not a rich learning environment and the culture of the shop floor degenerated at times into pettiness and childish feuds. It was a culture that was sustained within the bubbles of isolation that separated operators from the other staff.

While we needed to bear in mind that no training program on its own would cure these ills, we agreed to work in conjunction with management to address these issues while giving employees experiences that would assist them in developing some of the generic skills from which they had been insulated.

How did we try to do it?

We designed a program that worked outside the limitations of the shop floor to give workers an experience of the other side of the dividing gulf. We contrived a project that would require them to translate the company's aspirations into action. And the billy cart project came to life. The Tickcart teams would emulate the competitive environment of the market place and be subject to the rigorous design principles and the financial and supplier constraints that replicated the real world manufacturing processes.

To complete the tasks learners would have to speak to employees in all areas of the workplace. This, we believed, would not only give them an understanding of the company as a business but would also assist in building bridges between departments. It would expose the shop floor operators to the knowledge associated with organising the work at the factory and assist them to translate it into a new context of building billy carts. The challenge of planning and organising work to meet deadlines was new for them within the commercial environment. The teams needed to reach agreements on designs, materials and processes and to organise and coordinate the labour within the given time frame. Beyond this, the project would capture their capacity for innovation and assist them to marry their ideas within the confines of the systems that organised work at the company. We created an imperative for learners to communicate with a range of staff as a primary resource in order to solve problems. We also spread leadership roles within the project. Each team had a leader but it also had a 'quality manager', a 'financial manager', a 'design engineer' and a 'manufacturing engineer'.

There were opportunities for each of these key players to be spokespersons for their groups, particularly on 'Judgement Day' which was the subject of the video.[2] On this day, each team was required to present their information to executive staff of the company who would assess and compare their achievements. Workplace leaders would decide the value of the achievements of the teams because, in practice, their judgements are the benchmark of what is required in the workplace and in what measure. They are the arbiters of competence. Within this aspect of the program, we applied industry models of competency-based assessment. In the competitive world of industry there are winners and losers and it was this aspect of industry that we sought to capture.

What did we achieve?

The program provided a very rich learning environment that could be cross referenced back to the units of competence for the vehicle industry certificate but in many ways it also challenged traditional conceptions of the accredited training. It emphasised:

[2] The 14 minute video of the Tickcart Project, produced as part of the ANTA Best Practice Project, is available from Workplace Learning Initiatives.

- the context as the determiner of the nature and quality of target skills (the identity of the company and constraints set the reference points and bench marks)
- generic skills and key competencies as the 'glue' that would achieve the tasks (e.g. setting agreements within the team, organising tasks, negotiating for materials, seeking information from the company professionals, problem-solving with the group, maintaining commitment, dealing with frustration, to name a few)
- collaborative assessment (the company was interested in group achievements rather than those of individuals and in this environment, as in real production life, the divisions blur between group and individual)
- company priorities as goal setters rather than national and industry standards (the customer interests decided what skills were relevant and how they would be applied).

The generic skills addressed in the program could be named as follows:

- managing work priorities
- planning to meet targets
- researching options
- negotiating with the team to make decisions
- working cooperatively in a team environment
- exercising judgement in keeping with company goals
- learning to learn
- recognising and meeting systems requirements
- exercising leadership
- dealing with conflict
- identifying and presenting problems/issues coherently
- exercising initiative in seeking opportunities
- communicating with a range of cultures—ethnic and hierarchical
- resolving incomplete information
- presenting information in a public forum
- innovation

However the naming of skills cannot be fixed. In an innovative and experiential program such as this the skill outcomes are responsive to the circumstances and many are somewhat unpredictable. The list needs to be fluid as new skills emerge and opportunities open for further generic skills development.

Broadly these skills fit into the following general areas:

- autonomy
- systems knowledge and application
- problem-solving
- communication
- team skills
- managing others

The way these skills applied in this project was particular to the company and the environment we created. Changes in design would result in exposing and developing different skills. As in real work life, different generic skills are called upon depending on work roles, work activity, work organisation and the nature of the business.

Within the project we did not assess or monitor the development of most of these skills, but we could have. We could have assisted learners to draw a profile of these skills by encouraging reflection and monitoring. We could have conducted regular reviews where the group and individuals could have indicated their skills experience and assessed their progress. Trainers and team leaders could have taken on more explicit coaching roles giving feedback explicitly on generic skills and contributing towards the accumulation of portfolio evidence of growth in each domain. Discussing the problem of what skills belong to the team and what belongs to the individual would have generated fruitful 'meta-learning'. Such discussions would have helped us to address the ambiguities which are an inevitable dilemma of workplace programs. Team planning, team decisions and problem-solving, team tasks or even innovation are not the achievement of an individual despite the constructs of the vocational education and training (VET) system.

Hints for success

There are a number of messages here for workplace managers and trainers. The first is that generic skills can only be developed as far as the context allows. The second is that the skills are developed in a cohesive, holistic and group environment. It is difficult to imagine how any one of the skills in the list could be developed atomistically. They are less the possession of the individual than the group, more the product of workplace priority and expectation than developed by individuals in isolation. Furthermore they are called out by particular circumstances and when they change, other skills are called upon. Our shop floor employees demonstrated remarkable skills in rising to the challenge of the billy cart project but once they returned to their regular employment environment, many of their skills receded into their previous dormant state. Managers found it hard to maintain their application within the established production practices of the factory.

So, you might ask, did it transform the workforce? The answer is both yes and no. It did some extraordinary things that sustained. To this day, shop floor employees feel free to approach office and management staff to share information and seek explanations. The door separating the shop floor and the office swings both ways. Due to the support of management, office staff and professionals involve the shop floor more effectively in problem-solving and in speaking to customers. Suppliers speak to the shop floor when it is necessary to work out a production problem. The shop floor employees are more assertive and, as a result of the program, some employees had the opportunity to develop and demonstrate skills that were not previously evident. Organisational skills, leadership and communication skills were noted and some employees were promoted when opportunities arose. While the company attempted to assist employees to work more autonomously, the rigidity of the workplace structure prevailed and the culture of resistance persisted. While it reduced the gaps in the hierarchy it did not dispel the hierarchy. There is a lot more work to be done on the relationships within the organisation but the identity of shop floor employees shifted. They had a new reading of the company's aspirations and positioned themselves alongside it. Nonetheless their capacity to express their new won skills was still severely limited particularly in areas of innovation, work organisation and the management of priorities.

Want to know more?

Opening Doors—Enterprise Based Training in Action is an innovative and unusual training program that reflects a company's specific needs, skills and processes, used as a demonstration of best practice in educational effectiveness. The project components include a professional development kit featuring resources for a full day workshop, a videocasette and the Tickcart Project case study—the focus of the training program.

Virgona, C, Marshall, N, Sefton, R, Waterhouse, P 1998, *Opening Doors—Enterprise Based Training in Action: The Tickcart Project*, prepared as part of Demonstrating Best Practice in VET Project 1997, Workplace Learning Initiatives Pty Ltd, Melbourne. See also the Workplace Learning Initiative website <http://www.wli.com.au/>.

Contact details:

Dr Crina Virgona, Workplace Learning Initiatives

Phone: (03) 9486 8600
Fax: (03) 9486 8611
Email: <Crina@wli.com.au>