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DEVELOPING TEAMWORK SKILLS INSIDE AND OUTSIDE THE CLASSROOM

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ABSTRACT

In many professional and managerial areas interpersonal and teamwork skills are essential competencies which help deliver effectiveness in practice. Yet many tertiary programs fail to give extensive training in these skills. One program which gives such emphasis is the postgraduate project management course conducted at the Queensland University of Technology. This article indicates the balance given in training both to the academic requirements and to the development of "the reflective practitioner" approach in the project management learning context. Reference is made in particular to the program of in-class experiential and self-development exercises and to the off-campus wilderness and action-adventure camps developed as part of the route to building interpersonal and teamwork skills and attitudes. Much of the success of the program has been due to the cross-School and cross-disciplinary contribution and expertise from the host School of Construction Management and from the School of Social Science, in a program which recognises the relevance of knowledge and process skills from construction, project and general management and from managerial and organisational psychology.
DEVELOPING TEAMWORK SKILLS INSIDE AND OUTSIDE THE CLASSROOM

In many professional and managerial areas interpersonal and teamwork skills are recognised as essential competencies integral to success at work (Baker, 1992; Burgoyne & Stuart, 1978; Gallo, 1989; Gonczi, Hager & Oliver, 1990; Gow, 1993; Hearn, Charalambous & Smith, 1991; Howard & Bray, 1989; Whetten & Cameron, 1991). In project management in particular teamwork skills are essential if performance outcomes are to be enhanced. Therefore training programs, one would think, would naturally incorporate these elements as significant components of course requirements. This seems to require no elaboration. Yet often neither employers nor tertiary training institutions give attention to the development of these skills or they delay the training one, two or three years until the main academic and theoretical "foundations" are presented, following essentially a "scientist-then practitioner" approach to the delivery of training instead of one which links both theoretical and practical aspects throughout the academic and professional training course experience.

Sprague and Greenwell (1992) correctly ask the question: "are employees in project management trained to work in project teams?". From their surveys and experiences they conclude that formal training in project and team management skills is not extensive in the US. Its importance, on the other hand, was underlined by the majority of the respondents to their surveys, with 14 of 15 managers and 16 of 17 non-managers (technical staff) in the industry indicating that additional project management training was "very important" or "important". Of this training the people elements were rated just as highly in importance as further training in technical, computer and knowledge areas important in the industry (Sprague & Greenwell, 1992: pp. 24-25).

The Queensland University of Technology in Brisbane Australia, emphasises practical links with industry and community as part of its mission. This practical,
real-world emphasis, is reflected in many of its programs which combine both theoretical knowledge and skills acquisition. The postgraduate project management courses have been tailored accordingly. QUT has also been involved in delivering community education and refresher programs which have concentrated on the people side of professional practice including in management (cf; Barnett, 1987; Hicks, 1987a, 1987b; Leicester, 1991; Leicester & Hicks, 1992). This paper will concentrate on how we have gone about the teaching of teamwork skills within QUT's Postgraduate Diploma and the more recent Masters degree programs in project management.

Project management may be seen as involving essentially the management of people and of teams. Technical and material resources must also be handled through people with relevant expertise in the knowledge or materials and equipment areas. The current emphasis of the QUT Postgraduate Diploma in Project Management ensures that the people element is given high profile. This approach was first introduced at the inception of the course in 1985 when "Managerial Psychology" was made a core of the program. The use of non-Faculty and cross-disciplinary expertise was built into the program. One of the authors, then from the School of Management, Faculty of Business (now from the School of Social Science), was invited to lead the Managerial Psychology unit and a strong experiential learning approach was approved and adopted from the beginning (Hicks, 1990). In 1988, the second of the authors was appointed as Senior Lecturer and Course Coordinator for the Project Management area in the Faculty (of Built Environment and Engineering). Subsequently the applied teamwork and people skills elements have been increased to include outdoor leadership training. Currently (1994-5), more than 40 percent of the total time commitment involved in this professional diploma course is associated with experiential learning and fieldwork approaches aimed at developing self awareness and improving personal and interpersonal-teamwork skills. The subjects or units involved in the human skills areas are now entitled "Project Management", "Current Issues" and "Field Trip".
The program has set aside between one-third and one-half of the first year (of the two-year part-time program), for study in and attention to "individual, project and team development skills". A similar amount of time commitment is involved in the second year of the course. It is clear therefore, that the current thrusts of these QUT programs are very much on people and team orientation.

**Lecturing, Experiential Learning and Practical Sessions vis-a-vis Internships**

The value of experiential and action learning approaches to teaching and learning has long been recognised by its adherents and proponents and is considered for many areas of learning to be a better and more effective teaching approach than is traditional lecturing (eg; Hicks, 1990; Johnson & Johnson, 1994 and earlier texts; Kolb, 1982; Revans, 1982). Our program involves a mix of lecturing (to give structure to the units), extensive reading (see partial list of readings and references towards the end of this paper), experiential learning exercises, practical skills development and awareness sessions and two 2-4 day off-campus workshops and adventure leadership camps (cf; Leicester & Hicks, 1992).

Internships are not incorporated in our overall program though a number of accredited project management programs use them, especially in the United States. Internships involve perhaps a six-twelve months placement "at work" where learning on-the-job in the real-life setting can occur. They can be placed at any stage of a program but usually come at the end. Internships, as described by Bobrowski and Kumar (1992), are an excellent way for learning at first hand the experiences involved in day-to-day project management, "on site". We are supportive of the internship approach to training but internships are not suitable at this stage in Queensland for our post-graduate course. These are a number of reasons why we prefer the route we have chosen.
First, the economic climate in Brisbane and Australia has not been conducive to stability of employment in the wider project management industry and companies have felt they could not handle the "extra burden" implied by having a "trainee" on board, as is required in the internship or extensive practicum approach.

Second, and also related to the economic climate in part, we have found that our students are highly mobile. From surveys carried out each year over the past four years we have found that 50 to 95 percent of the graduate students from any one cohort have changed their work positions at least once during the two-year period of their study as they moved generally to more project oriented employment. This mobility is a factor which makes the concept of internships a difficult one to follow through as part of requirement for university tertiary training in this area.

Third, many of our students are not in project teams initially or even in a project oriented organisation, though they will move towards such employment as their training progresses.

Finally, and for our course development purposes, most importantly, it has been our observation that a number of the essential understandings and skills required in project and team management do not readily develop from such internships on their own. As Bobrowski and Kumar (1992: p. 30) themselves indicate, their internees had to rely "more heavily on interpersonal skills, budgeting, negotiating..." than on engineering-technical skills. That is, in the workplace environment of the internship, interpersonal and teamwork skills are essential if effective management is to result and yet these are the skills that may not yet have been developed.

This comment is consistent with Posner's (1987) findings. Posner found that the most common "real life" problems in project management arose from inadequate resourcing and planning, unrealistic deadlines, unclear goals, poor communication, lack of commitment of team members, poor skills in handling conflict and poor skills in handling changed goals and resource allocations. All of these or nearly all
can be seen to involve people orientations and skills in teamwork, including personal skills in handling change.

It is the ability to be able to handle these various situations which seems to be part of the essence of what project management is about. Hence we have given special attention to these areas in our courses. We believe that the project management units in our program build skills that are relevant to the complex workplace the students will face (or already face). Many of our students are studying part-time and are already working as project managers, engineers, architects, development managers or in other positions in management and the professions in Queensland (cf; Barnett, 1987).

Interestingly over the last four years the authors have watched the employment profile of the course membership change and widen. Roughly half of the more than 70 annual course enrolments in 1993 and 1994 were from professional areas other than construction and construction related industries. There has also been a marked increase in the numbers of local, national and international students applying to be considered for the program. This change has gone hand in hand with deliberate policies to retain and expand the experiential and applied learning climate of the program and to extend the emphasis of the course more in keeping with broad project management skills across a variety of professional fields.

Accordingly, in order to cater for the mobility of our students and in order to have control over the outcomes of our programs, we have developed an internal-external training model which requires our students to undertake "on-campus" classes including experiential exercises but also "off-campus" team development experiences aimed at developing self-awareness, other-awareness, personal and interpersonal skills and increased ability to work with others.

Our training model has arisen from reflection over time and a desire to go beyond the "lecture method" while not being able to make effective use of the "internship".
We have found valuable insight from the experiential learning literature, from adventure-based learning and counselling models, and from action learning and action research principles (see, for example, Leicester & Hicks, 1992). Examples of the kinds of experiential and practical exercises and simulations are given towards the end of this paper and one or two other major exercises are referred to in the course outlines which follow in the next section. This section outlines the process through which students pass as they complete the Post Graduate Diploma in Project Management.

**The Two-year Part-time Program**

After winning a place in the program and completing enrolment, students must meet certain set requirements for the course. Prior to the start of formal lectures there is a *Compulsory Weekend "Off-campus"* (involving some 20 hours). During this weekend an introduction to project management, to the experiential learning approach and to team building occurs.

The weekend culminates in a half-day outdoor team building exercise which takes the form of a Central Management Exercise. The "Central Management Team" has a particular complex problem to solve; it has resources to allocate and particular expertise to offer. There are also several resource or project teams associated with the Central Management Team; these resource teams have specific problems and tasks of their own (for example, working together to get their team members from one place to another across, through, over, under or around certain obstacles) but also have materials essential to the central problem resolution.

The overall objective is to solve the central management problem. To do this the resource teams must also solve their own problems and contribute the required resources or materials to the central problem resolution. All of the problems and their resolution revolve around outdoor, physical adventure style activities which are however, "gentle" in their impacts. More "rugged" activities are retained for the
Given that these group members have only met for the first time some fifteen hours previously, they face an interesting challenge in working together and developing effective communication patterns in order to solve the problems. Of especial interest has been the ways in which the resource teams develop their relationships with the Central Management Team (and vice-versa).

At the conclusion of the exercise (as with the earlier experiential exercises) reflection on the processes used, problems faced and different ways of handling the various situations occurs. This is in line with our philosophy aimed at developing the reflective practitioner (cf: Schon, 1987), and consistent with the experiential and action learning or action research models (Johnson & Johnson, 1994; Kolb, 1984; Revans, 1982; Sutton, 1989; Zuber-Skerritt, 1990).

The weekend provides an introduction to project/team management and to experiential learning; it builds networks quickly, thus facilitating the learning experiences in the formal classes which follow; and a teamwork spirit and morale develops that helps build good relationships in class- all aspects modelling what we are striving to develop in the students for their own project management employment.

Following the preliminary weekend the "formal" course work commences, as now described.

**Semester 1: Subject content:** Project Management- 28 hours.

Typical management and organization behaviour information is included in this semester- while there is lecturing to give context to the program students are expected to access and learn the relevant information from their own reading as in any academic program. An extensive reading requirement is
central to this semester. Experiential and team approaches are used to consolidate this reading and to build self-awareness and enable practice of essential skills. Emphasis is on self-understanding related to interactions.

A project report or case study has to be presented requiring analysis of the processes occurring in an identified and agreed organisational problem, preferably in the current work setting of the individual (the authors are also building a set of Australian case studies from the student reports over the years). In 1994 we also made special use of the semester-long case study based on The Challenger Disaster (Maier, 1993), with its emphasis on numerous issues and problems faced in professional and managerial practice. The readings and video series associated with the Challenger have contributed significantly to discussions, and the case study is being used again in 1995.

**Semester 2: Subject content:** Project Management- 28 hours

Continuation of organization behaviour content occurs: with attention to more complex issues including power issues and influence at work. Emphasis is also given to group understanding related to performance outcomes and building on the Semester 1 interpersonal skills and self-awareness development.

**Semester 2: Fieldwork- Four-day Adventure Learning Program:** - 40 hours

This program is under canvass and is a wilderness experience; it is conducted off-campus with use of outside experts in outward-bound, adventure and action learning. Part of the experience requires participants to take responsibility for organising and managing all the camp activities and chores (except of course for the programmed leadership-adventure exercise activities). They must also take responsibility for their own learning via the
structured team exercises and projects.

In 1992, 1993 and 1994 the groups have comprised 50 to 70 individuals (some 90% being male with ages ranging from 25 to 45 years and covering more than 20 different nationalities). Learning to work and live closely together for four days, including reflecting on the events that occur, is an important self-development and bonding experience in its own right. A project assignment is required on personal growth and learnings and on applications of learnings from the Adventure Camp to daily work life. An outline of the Adventure Camp experience is given in Leicester and Hicks (1992), with lists of the various exercises which include rope climbing, bridge and river crossings, and other problem solving exercises of different kinds.

**Semesters 3 & 4 (Year 2): Further subject content:** 84 hours

These semesters emphasise people-personnel aspects including team-member selection and related issues, team development problems and how they might be resolved or reduced, the art of the reflective practitioner, negotiation skills, presentation skills, and further case studies and simulations.

Responses from all participants are required, involving completion of questionnaires on on-campus and off-campus experiences and their value, and how the program might be improved. These personal comments and evaluations are completed well after the subject has been assessed (usually the next year) allowing retrospection and reflection some months at least removed from the major team building experiences off-campus.

Our course can, with respect to academic content, be seen to have much in common with other tertiary courses in management- especially with attention to traditional management literature which is required reading. Thus organisational behaviour and management texts, such as those by Avery & Baker (1990), Belbin...
(1981), Howard & Bray (1989), Kerzner (1992), Luthans (1992), McCarthy & Stone (1986), McCormick & Ilgen (1985), Palmer (1988) and Vecchio, Hearn & Southey (1992) are among those cited for general reference. Students are expected to be aware also of texts such as the following on personal group and managerial skills: Forsyth (1993), Johnson & Johnson (1994), Whetten & Cameron (1991). Work by Peters and his colleagues, and by Covey, Kanter, Toffler, de Bono, Handy and Demming are also expected reading. A number of Australian-oriented texts is of course essential to allow for cultural and organisational differences, including aspects such as size of company, the economy, labour relations and legal requirements.

Where we believe we are making a contribution to training of current and future project managers is in the experiential, action and wilderness type learning programs and exercises which are an essential part of the diploma and masters degree studies. Most of our students have commented strongly and positively on the programs, as we have indicated elsewhere (Hicks, 1990; Hicks & Leicester, 1993; Leicester & Hicks, 1992, 1993). The program’s benefits lie in the increased awareness of self, of improved personal and interpersonal skills (negotiation, conflict management, presentation skills, teamwork orientation) and the development of networks from among the teams that have formed during the course itself.

To give a flavour of what we “do” in the program, the kinds of experiential exercises and practical sessions we use are shown in the following comments or lists. These exercises either are often used or are used from time to time as appropriate in the view of the “facilitators” (Hicks, 1990, indicates support for an approach to learning-teaching which sees the “teacher” as part information-giver and resource person, part facilitator and part counsellor).

Experiential exercises have included those aimed at identifying the impacts on group performance of collaboration rather than individualism (though effectiveness depends on the circumstances). Thus exercises on estimating the numbers of “paper clips”, or “squares”, or negotiating for questions to be included in the final
examination or communicating card-hands or more complex instructions via several people are included ostensibly in some cases to challenge individual competition but also to show the problems of communication and information exchange which exist. Also the exercises may be used generally to indicate group superiority over individual effort as per the theory and research (at least for a number of special circumstances, which are nevertheless often repeated in the work environment).

Exercises such as these are also used to demonstrate the differences between different styles of decision making and their effects on the groups (from decisions made by "the boss" or "the expert" to those made by "representative committees" or by "the whole group" via "consensus"). Johnson & Johnson (1994 and earlier texts) have provided many guides to exercises that we have found useful- as have Kolb, Pfeiffer & Jones and many other authors. We and our colleagues have also developed our own exercises aimed at meeting special needs. These have included a Card-Power exercise aimed at giving practice in negotiation skills and also developing awareness of influence and power at work (cf; Hicks, 1994), exercises on "Being Lost on Sirius" modelled in part on other "crash landing or shipwreck exercises" (Smith, 1989, in Hicks, 1990) and "Competing for Scarce Resources" (including one class-room exercise developed on the spur of the moment to indicate relevance of theory when a student won a senior post interstate and had withdrawn from class but offered for sale a scarce text- the text achieved a 15 percent markup on the original full shop price. The "exercise" was debriefed as usual in class-outlining observations of one's own and other's behaviour and reactions and drawing conclusions).

Outdoor exercises and simulations like the experiential exercises also are used to develop self-awareness, awareness of others, awareness of group affects and effects, understanding of contextual and environmental issues and of processes involved in striving to manage situations. Outdoor exercises have included: *team games* where each member's input is significant to the overall team result and where cooperation skills are involved; *simulations* such as "dangerous" river, bridge and other crossings again involving attention on the whole group and a variety of *land, rope and other*
exercises (See Leicester & Hicks, 1992 for an outline of some of these approaches).

Personal awareness exercises have included questionnaires on work preferences, values, personal style, leadership and management attitudes and discussion including research references on the relationship of different styles and approaches to group interactions. Hicks (1993) has reported on the values and preferences of general management including MBA students and of project management students in Queensland. This information and the information available from relevant questionnaire manuals or discussion guides, are used as input in lecturing and discussion work in class.

Examples of practical skills sessions and exercises include lectures in and then applications by the students of skills required in presentations (one or more group and individual presentations will be required in the program and evidence of application of principles is expected), committee preparation and handling (outlines are given of appropriate approaches, and students may use the principles in the conduct of some of their class work and/or in their day-to-day office and project work where relevant) and listening skills (receiving and sending messages effectively, demonstrating effective feedback responses and so on). Texts by Johnson and Johnson (1994) and Whetten and Cameron (1991) are among those that provide a number of exercises we have found relevant.

In our experience, using experiential and action learning, action research, adventure and wilderness experiences and/or related approaches has proven to be successful. The fusing of these approaches with a relatively structured overall study and lecturing style (but with emphasis on experiential and action or self learning) has been effective in developing the interpersonal and teamwork orientations central to the people skills needed in management generally, but especially in project management.
REFERENCES


