Formative Feedback Initiating Reflective Practice

Authors:

Willy Sher, Faculty of Engineering and Built Environment, University of Newcastle, Australia, 2308willy.sher@newcastle.edu.au
Anthony Williams, Faculty of Engineering and Built Environment, University of Newcastle, Australia, 2308, tony.williams@newcastle.edu.au

Abstract *— The introduction of teamwork into the learning experiences of students provides an extra dimension to their learning. The context of working collaboratively in a team is very difficult and challenging for students experiencing this for the first time. When combining the new teamwork activity with the further dimension of reflective practice, which also is a desirable graduate attribute, which develops the skill in looking at their decision making and considering the implications of these decisions on the outcomes of their projects. Through combining the acquisition these professional attributes in the one subject a new learning environment is introduced. The new learning environment creates the need to support students in engaging in new activities and in developing complex skills.*
This paper describes an initiative developed to support students when collaborating in team activities. It also describes an approach developed to support students in reflecting on their contribution to such activities. The teamwork initiative was introduced into the Construction Management Program at the University of Newcastle, Australia. Managers of construction projects require well-developed skills in team management in the workplace, they also require the skills to reflect on the effectiveness of their practice.
Students require a framework whereby they can consider not only their own development but also the contribution of the other participants of their team. The assessment process developed for this construction subject focuses on the student's ability to contribute to a team whilst at the same time evaluating their personal contribution and that of their peer's.
At the conclusion of the course students are encouraged to document their achievement using a web based reflective journal. The journal provides students with a means of documenting their achievement as well as supporting their claims.

Index Terms *—Assessment Practices, Reflective Practice, Team Work.*

THE CONSTRUCTION PROFESSION AND THE IMPORTANCE OF THE CORE SKILLS OF TEAMWORK

In recent years, across the tertiary sector, there has been an increasing focus on enhancement of professional programs through the enrichment of the curriculum with a range of professional attributes. This situation is demonstrated through Federal Government initiatives including the optional graduate skills testing program. This momentum for defining graduate competencies or attributes has also moved into the domain of the accrediting bodies or institutes. The accrediting agencies, as primary stakeholders, wish to ensure that their future members possess and demonstrate the characteristics of their profession. The professional building body, The Australian Institute of Building, [1] was among those bodies that publish attributes or competencies and then measure degree programs against these. These attributes are defined in the Competency Standards of the AIB, standards which include:

- Participating in formal meetings and contribute to effective outcomes of those meetings
- Preparing, interpreting and presenting information for others to comprehend at all levels
- Organising work-teams for specific tasks
- Applying leadership skills to achieve specific tasks
- Executing follow-up activities to ensure that designated tasks have been successfully undertaken

The diversity of attributes now included in professional programs has added to the degree of complexity for the delivery of such programs, and this is readily noticeable in the assessment of student performance in the acquisition of the attributes. The need to embed these attributes into curricula frameworks has emerged in response to a range of developments which include:

- The incorporation of a diverse range of technologies and a variety of applications of these technologies.
- An emphasis on the development of creativity and adaptability skills.

- Collaborative work in the problem solving process.

This paper describes the imbedding of these into the curriculum, specifically, the professional competencies associated with team membership and collaboration. It outlines the assessment processes implemented, in the Building Construction Management Program at the University of Newcastle, to provide students with both formative and summative assessment of their capacities as team members and supporting reflective practice of their capabilities. As a result of the implementation and evaluation of this initiative, proposed changes for subsequent iterations have been undertaken.

THE ISSUE OF COLLABORATION

Collaboration in the context of construction management education has been problematic given the reliance on equipment and product outcomes. Despite the problems associated with the introduction of collaborative methodologies, these have the potential to broaden students' experiences. The benefits to be achieved by including collaboration strategies include:

- a student centred approach [2]
- an increase in the level of participation and collaboration [3]
- the development of writing and documentation skills [4]
- deeper cognitive processing gained though the interaction of team members [5]

Notwithstanding these benefits, the complexities of merging such strategies into curricula remain largely unexplored in the construction discipline.

Documented research provides a level of understanding of the protocols followed within teams when members interact face to face. Broome and Chen [6] and Galegher's [7] have examined team design and problem solving in the technological context in the industrial domain [8]. Embedding activities with supporting assessment frameworks has not had a long history and requires further development and evaluation. The hesitancy to implement the curriculum strategy has been due to concerns about equity and the ability to discriminate between the students' performance in the team context. A question over rewarding a non-performing team member who achieves a good outcome has always been a concern.

THE ROLE OF ASSESSMENT

Assessment of students' work is a fundamental and pervasive element of teaching and learning, and a potentially powerful means of driving their continuous improvement. Assessment is a complex, multi-faceted process, having the *primary* purpose of motivating, directing and enhancing student learning.

Depending on the circumstances, assessment also serves other purposes, including:

- helping to ensure that educational standards, for internal and external requirements, are appropriate and maintained;
- determining whether course objectives have been achieved;
- allowing certification that program requirements have been completed;
- providing feedback for the improvement of teaching to teachers and teaching units;
- identifying high achievers against preset standards; and
- identifying students in need of additional support.

When it is conceived, designed and implemented well, it achieves all these purposes. It then provides students with a rich learning resource and information about their progress in attaining the attributes targeted by the course. Learning is an interactive process involving learners and teachers, but more importantly, with other people and/or resources. Learning effects changes in understanding and capability by developing knowledge, skills and attitudes appropriate to learners' motivating interests and circumstances. Assessment should be a potent stimulus and guide to learning. It is a *systematic* process which provides directions to what should be learned, and gathers evidence for students, teachers and others to know what has been learned.

CONSIDERATIONS FOR ASSESSING TEAMS

Team assessment may be used for a variety of purposes, for example: as a process for teaching interactive working techniques, for enhancing students' understanding of course content, for improving access to scarce resources and as a method of collective assessment. To ensure the outcomes of team assessments are equitable and credible, one or more of the following mechanisms for allocating marks for team assessment are recommended:

Shared Team Mark - The team submits one assessment item and where it is impossible to make a distinction between the efforts of individuals, all team members receive the same mark. Having submitted a single assessment item, a proportion of the mark is allocated to this item, which is equally shared by all team members. A proportion of the mark is also allocated for an individual's team planning papers or an individual paper analysing the team process.

Team Contracts - A team assessment item may have a number of distinct components, and in this instance team members develop a contract between themselves specifying the component for which they are responsible. Marks may be awarded for each separate component or for the project as a whole with the team allocating, within the confines of the overall mark, individual marks on the basis of each members' contribution.

Peer Assessment of Contributions - Criteria are established for the key competencies students are expected to demonstrate within a team assessment item. The assessment item is marked in terms of these criteria and then, within the confines of that mark, team members are asked to determine the relative contributions of each member and allocate marks to individuals. Evaluation of the team process, via discussions between teaching staff and students, ensues on:

- the distribution of work among team members,
- the way members of the team interacted
- the use of resources

Individual Marks - Team-based activities may be set as assessment items for which each member of the team submits an individual assessment item, and receives separate and different marks. To assess an individual's contributions to a team assessment, marks may also be assigned on the basis of a viva or a set of examination questions undertaken by the student on the content and process associated with the completed team assessment item.

Unsatisfactory Performance of team members is a difficulty that frequently needs to be addressed. Table 1 illustrates a procedure for managing unsatisfactory performance that has been used in various forms in construction education. It draws on current industrial relations practices, and so servers not only to address unsatisfactory performance per se, but introduces students to procedures they are likely to encounter in the workplace.

- Where a student (A) is of the view that the contribution of another student (B) is unsatisfactory, A informs the lecturer in writing about: the nature of the circumstances causing dissatisfaction; how these circumstances prevent the team from producing the deliverables required of them; the nature of the improvement required of B; and a reasonable time within which reasonable improvement can be expected.
- The lecturer then inform B of A's dissatisfaction – but make no reference to A by name.
- B may then respond to the allegations made by A – directly to the lecturer, or B may acknowledge A's dissatisfaction and work to achieve the improvements required by the date specified.
- If B's new contribution is found to be satisfactory by the majority of the remaining team members, B is allowed to remain as part of the team.
- If B's contribution is found NOT to be satisfactory by the majority of the remaining team members, the mark B receives for the work in question will be reduced by a percentage determined by the lecturer (who is informed by the remaining team members).
- If B's contributions are found to be unsatisfactory on a second occasion, B is required to leave the team. S/he is then required to complete work to be determined by the lecturer, and the mark for this work is capped.

TABLE 1: PROCEDURES FOR ADDRESSING UNSATISFACTORY PERFORMANCE

THE ASSESSMENT PROCESS

This section describes the outcomes from implementing a multiple perspective approach to assessing teams in a first year course. Assessment was conducted by students themselves, their peers and their lecturers. These processes were performed twice during course. Each student assessed themselves and the other students within their team on defined criteria (see Table 2). The five key skills associated with team participation were assessed. The methodology developed to support students in the evaluation of both their own and their peers was informed by the methodologies proposed by Habshaw [9] involving:

- Detailed instruction and discussion of the process prior to implementation.
- Process should be trialled before full implementation.
- The topic chosen for study should be new to all students in the team as to remove any notion of advantage.
- There should be no free choice for individuals allowed within the topic, the outcomes should be specific.

This process involved the evidence of each skill being ranked from 1 to 5, as demonstrated in the evaluation sheet below (see Table 2).

Please fill in the following assessment sheet using the key below:

- 1 never
- 2 rarely
- 3 sometimes
- 4 most of the time
- 5 always fulfils task completely

For the person under consideration circle the number that is most appropriate:

	Never				**Always**
Participation in team meetings/discussion.	1	2	3	4	5
Degree of preparation for team meetings/discussions	1	2	3	4	5
Fulfils responsibilities allocated at team meetings	1	2	3	4	5
Communicates well with the team	1	2	3	4	5
Makes a positive contribution to team dynamics	1	2	3	4	5

1. **Participation in team meetings/discussion:** Ideally a student should participate in and contribute to team discussions. The contributions should reflect a familiarity with the issues at hand and be thoughtful and constructive.
2. **Degree of preparation for team meetings/discussions:** Ideally a student should have prepared for the team discussion by reading around the area for discussion in addition to their allotted task. They should be keeping abreast of where the team is in terms of discussion and direction.
3. **Fulfils responsibilities allocated at team meetings:** Ideally a student should responsibly fulfil any tasks assigned at team meetings and report on this activity at the next team meeting or date assigned by the team.
4. **Communicates well with the team:** Ideally a student should communicate their thoughts and ideas in a clear concise scientific manner. Communication can also take the form of diagrams small presentations handouts use of the white board or other aids.
5. **Makes a positive contribution to the team dynamics:** Ideally a student should contribute to the harmony of the team. They should encourage an atmosphere of intelligent discussion where all points of view are heard. They should not dominate the discussions or be argumentative; nor should they overly sidetrack the team by injecting issues not directly relevant to the task in hand.

TABLE 2: SELF AND PEER ASSESSMENT FRAMEWORK

SETTING UP THE TEAM WORK ENVIRONMENT.

Team working skill does not develop simply with the formation of student teams and performing team assignments. Team work learning environments require a well designed, managed and evaluated process and implementation. The assessment methodology employed to measure team work effectiveness was piloted in an integrated problem based learning module in the first year Construction Management Program. The assignment was real life problem, drawn from an industry context. Students were involved with no other course work during this time and could devote all their attention to this project. The project demanded industry standards and skills to be employed by the students in developing their solution to the problem. Students worked in teams of four to complete the task. Prior to beginning the students were given instruction on the industry standards and practices relating to the task. Two peer assessment ratings (see Table 2) were required from each student one in the middle and the other at the end of the course. Meeting logs were maintained, these documented the activities and decisions made by the team. The team log was submitted at the end of the course and provided evidence and validation of the students' performance of tasks as well as documentary proof of the methodology applied by the team. The assessment of the log also provided a basis for student feedback about the activity. These assessment components were used to evaluate the process component of the assessment activity.

The product of the student's work was also assessed. A significant part of the assessment, as designated in the assessment component weighting, was based on presentation of a final team problem report and to a lesser extent, on student learning journals [10 & 11]. The team problem report provided evidence of critical thinking, problem evaluation and solution, research and evaluation of the literature.

SUPPORT OF REFLECTIVE PRACTICE: NURAPID

The University of Newcastle has implemented a web-based skills development and recording portfolio adapted from the RAPID (**R**ecording **A**chievement for **P**rofessional and **I**ndividual **D**evelopment) system developed at Loughborough University, UK [12]. NURAPID (Newcastle University RAPID) [13] enables registered users to record their achievements, and to audit and develop skills appropriate to their professional development. It has two main components: PACE and SPEED.

PACE acts as the 'record of achievement'. Here students maintain their personal details, a record of their achievements (including both qualifications and extra-curricular achievements), a summary of relevant work experiences and a 'personal statement' that they are encouraged to keep up to date. The data that the student maintains in PACE is downloadable to enable a Curriculum Vitae (CV) to be produced.

SPEED contains skills statements compatible with the professional competence requirements of the respective Professional Institution. These skills are divided into:

- Core skills (based on the University of Newcastle's graduate attributes),
- Discipline skills (based on discipline specific competence requirements).

Each skill is presented in the same format. Students are offered four statements of competence in each skill. These statements range from a fairly low level of competence (equivalent to UK National Vocational Qualification (NVQ) level 2) to a fairly high level of competence (equivalent to a threshold between NVQ levels 4 and 5). In addition to these four statements, students are also provided with an opportunity to record evidence to support the claims of competence they make.

Students are encouraged to audit a broad range of their skills to help them assess their strengths and weaknesses prior to engaging in the SPEED skill development process. This audit involves action planning, reviewing and reflecting upon activity undertaken and documenting evidence of competence gained. This process (represented in Table 3) mirrors that required for the completion of competence-based professional development programmes.

The nature of RAPID lends itself to longitudinal assessment. This presents challenges to lecturers in that most summative assessment relates to work completed in a single term or semester. RAPID may be used in such environments, but also offers unique opportunities for recording development over several semesters or years of a program. It is in this context that benefits of a 'culture –change' to lifelong learning are most likely to be fostered.

STAGES	ACTIVITIES INVOLVED
Survey	a) Skills Audit b) Identify skill development needs c) Search for skill development opportunities
Plan	a) Set skill development goals b) Identify appropriate tasks c) Produce action plan
Execute	a) Carry out development activities b) Monitor progress c) Revise activities, as required
Evaluate	a) Review outcomes of skills development process b) Evaluate effectiveness of the process c) Reflect upon learning experience
Document	a) Record development of skill competence b) Store evidence of skill competence

TABLE 3: THE **SPEED** SKILL AUDIT / DEVELOPMENT CYCLE

Exemplars, guidance, defined skills levels and their descriptors are provided to help support students with these activities. In particular, advice is provided on skills auditing, action planning, reviewing, evaluating, and reflecting upon actions taken and processes engaged in. The importance of documenting valid, current, authentic and sufficient evidence is highlighted.

Using NURAPID to develop 'team-working' skills

NURAPID was used as a framework for assessing students' teamworking skills. Tables 4-7 show selected sets of skills statements which students were required to engage with as part of a construction tender exercise. Students assessed their own

level of skills development against these statements. They needed to support their claim for competence at a given level (A, B, C, or D) by providing supporting evidence. Provision of this evidence was key to them being able to claim competence at that level (i.e. if students could not exhibit evidence appropriate to a particular level, they were deemed not to be competent at that level, and were advised to lay claim to competence at a lower level). Tutors assessed the validity of the evidence provided against criteria of *relevance*, *verifiability* and *currency* (see Table 8). However, the *relevancy* criterion was interpreted flexibily. Staff recognised that students' skills are not developed solely at University, and were willing to accept evidence of teamworking prowess from sources other that the academic course being delivered.

A	I can recognise which of my tasks are urgent[1], important[2], or routine[3].
B	I can distinguish between urgent/important tasks and routine tasks, and can prioritise accordingly[4]. I can keep a planner/diary to organise my tasks within a given time scale, which is both realistic and consistent with my commitments.
C	I can distinguish between urgent/important tasks and routine tasks, and can prioritise them effectively, taking into account any commitments and the demands of other people. I can maintain flexibility within my time planning to allow for re-scheduling of activities.
D	I can prioritise my tasks effectively using a planner/diary. I can organise my time in a manner which is consistent with my commitments. I can evaluate the effectiveness[5] of my planned use of time to maximise my efficiency in fulfilling my tasks and commitments.

Terminology

1. urgent: tasks that must be completed at once.
2. important: tasks that carry a high degree of significance, in terms of the activities that I am engaged in and my overall personal priorities and commitments.
3. routine: tasks which are conducted on a regular basis, but which are neither 'urgent' nor 'important' (as defined previously).
4. prioritise accordingly: allocate time to ensure that important tasks are completed (on time), and that most tasks do not become urgent.
5. evaluate the effectiveness: assess whether my time management allows me to complete all tasks that I set myself.

TABLE 4: MANAGING TIME EFFECTIVELY

A	I can contribute to the planning of activities within a team[1], identifying where I can contribute and confirming my own and others responsibilities.
B	I can plan activities, and identify targets in consultation with others within a team[1], providing information[2] relevant to delegation of responsibilities, and confirming responsibilities and working arrangements[3].
C	I can take a lead role in planning activities and identifying targets in consultation with others within a team[1], providing information relevant to delegation of responsibilities, and confirming responsibilities and working arrangements.
D	I can take on a leadership role in planning activities and identifying targets within a team[1], and consult with others to ensure these activities meet the required aims. I can, in consultation with the team, assign all responsibilities and working arrangements and confirm these with all parties. I am able to monitor and evaluate[4] this process and judge the effectiveness of the approaches taken.

Terminology

1. team: people with whom I am familiar, or those not known to myself, with the emphasis being that at higher statement levels I will be able to undertake the activity with larger, more unfamiliar teams.
2. providing information: about previous responsibilities that influence what I prefer to do in the team, suggest alternative ways in which I can help, and help identify ways in which I could work effectively with others.
3. working arrangements: time-scales for activities, where work will occur, and features of working situations (health & safety, equipment, personnel, materials, legal requirements etc).
4. monitor and evaluate: identify factors that influence an individual's ability to plan effectively with others, analyse approaches taken by the team and identify possible alternative approaches to improve the process, judge the effectiveness of the choices made from feedback on progress and achievement of targets.

TABLE 5: PLANNING ACTIVITIES WITH OTHERS

A	I can make a valid contribution[1] to a discussion/meeting within a small, familiar team on a straightforward[2] issue or subject.
B	I can make a valid and effective contribution[3] to a discussion/meeting within a familiar team, small or large, on a specific issue or subject.
C	I can make a valid and effective contribution to a discussion/meeting within a familiar or unfamiliar team setting on more difficult matters[4].
D	I can make a valid and effective contribution, as well as play a leading role in a discussion/meeting within a familiar or unfamiliar team setting on complex and difficult matters, which other participants recognise as constructive[5] and providing clarity[6].

Terminology

1. valid contribution: contribution that is factually correct, supported by some evidence, and is relevant to the subject under discussion and includes listening and responding appropriately to the input of others.
2. straightforward: subjects that are not contentious or do not have many issues involved.
3. effective contribution: contribution that helps determine the course of action resulting from discussion, or help change perceptions and attitudes of others involved in discussion.
4. more difficult matters: subjects that are controversial and complex, involving a number of issues and a variety of opinions etc.
5. constructive: helpful in reaching a conclusion.
6. providing clarity: enabling others to see or appreciate something that was not previously obvious, simplifying a complex thought or idea to allow others to understand.

TABLE 6: TAKING PART IN DISCUSSIONS MEETINGS

A	I can complete my allocated work activities to meet my responsibilities, using set working methods[1].
B	I can organise and complete my allocated work activities according to accepted working methods and can describe the progress[2] that has been made towards achieving targets.
C	I can organise and complete my allocated work activities, using acceptable working methods and providing information on the progress that has been made towards achieving targets. I can seek feedback from others on my own progress and can review my progress towards targets.
D	I can organise and complete my allocated work activities, proposing and using acceptable working methods. I can provide progress reports and can seek feedback from others and can monitor and evaluate[3] the entire process, suggesting ways of improving the process of working with others.

Terminology

1. working methods: using appropriate means to complete a task, in ways that are safe for yourself and others.
2. describe the progress: this includes identifying problems as well as positive aspects in your work activities, how you have worked with others and suggesting further activities that can to be undertaken.
3. monitor and evaluate: gather information on the progress to meeting of targets, recognise factors that impact on collaborative working, analyse what different approaches could be used to improve collaborative work and suggest ways of improving performance.

TABLE 7: WORKING TOWARDS IDENTIFIED TARGETS

Students in Australia are generally unfamiliar with the use of learning portfolios, and explicit self assessment of 'soft' core skills. Recognising this, the assessment scheme used (and shown in Table 8) was designed to reward students for objective and well articulated self assessment. Previous experience has shown that students invariably claimed higher levels of competence that they were able to support with robust evidence. We argue that assessing 'process' skills in this manner is more meaningful than rewarding students for over-stated skills (represented by levels A to D in Tables 4 to 7).

0 – 25%	26 – 49%	50 – 67%	68 – 84%	85 – 100%
Garbled explanation of how selected criterion has been met.	Limited explanation of how selected criterion has been met.	Good, clear explanation of how selected criterion has been met.	Articulate explanation of how selected criterion has been met.	Highly articulate explanation of how selected criterion has been met.
No examples provided.	All examples provided from course experience	Some variety of examples provided	Good variety of examples provided	Varied and interesting examples provided
Few components of selected criterion addressed.	Limited components of selected criterion addressed.	Most components of selected criterion addressed.	All components of selected criterion addressed.	All components of selected criterion addressed in detail.
No evidence provided	Limited evidence provided that is current	Adequate evidence provided that is current	Ample evidence provided that is current	Extensive evidence provided that is current
	Limited evidence provided that is relevant	Adequate evidence provided that is relevant	Ample evidence provided that is current relevant	Extensive evidence provided that is relevant
	Limited evidence provided that is verifiable	Adequate evidence provided that is verifiable	Ample evidence provided that is current verifiable	Extensive evidence provided that is verifiable
	Some indication of location of evidence	Adequate indication of location of evidence	Ample indication of location of evidence	Explicit indication of location of evidence

TABLE 8: ASSESSMENT SCHEME FOR TEAMWORKING SKILLS

EVALUATION OF STUDENTS VIEWS OF NURAPID

A baseline questionnaire was developed in conjunction with Newcastle University Survey and Evaluation Services and has been delivered to the first and final year cohorts of the Cnstruction Management program. This provides baseline data on which future comparisons may be made. The questionnaire elicits undergraduate student views on core skills, skills development, mechanisms for promoting skills development and recording of accomplishments. A complementary survey has also been administered to teaching staff [14].

The data obtained will provide a baseline of student and staff perceptions before they engage with NURAPID, and will also provide an eventual comparison between different cohorts of students (e.g. current final years with no experience of NURAPID compared to students who graduate having had opportunities to use the system throughout their academic careers). In addition they will underpin further development of the system, and will provide University management at NU with evidence of the efficacy of the system.

The surveys provided a great deal of information concerning the students understanding of the professional skills and the importance of their development whilst studying at University. Both student cohorts, when responding to the survey question relating to the importance of The University's Core Skills, rated them as very high. A total of 90% of the cohorts surveyed stating that they were important or extremely important. Of interest was the high percentage, 80%, of the first year cohort, who knew of the skill profile and knew what the skills were. The student's acknowledged the importance of relating their learning to professional attributes.

The NURAPID system's value to the students was also evaluated in the survey. The survey included three questions concerning the value of the system. These questions asked what value students saw in a system that allowsed them to:

- compare their skills to those required by professionals in their discipline
- record their progress and achievements
- plan to improve their skills

The results of the survey were very supportive of the system which supported their professional development. The results are documented in Figures 1-3.

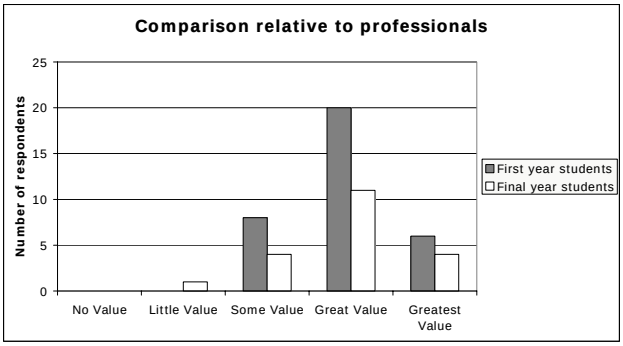

FIGURE 1: IMPORTANCE OF COMPARING PERFORMANCE TO PROFESSIONAL STANDARDS

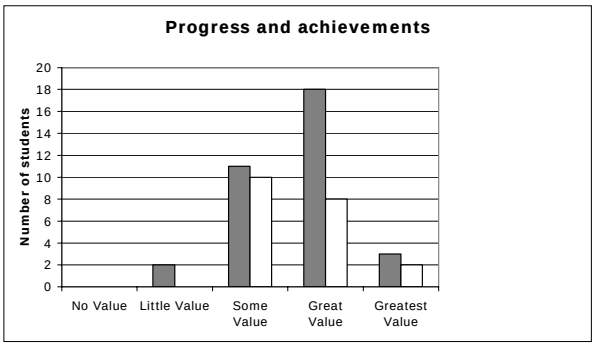

FIGURE 2: THE IMPORTANCE OF RECORDING THEIR ACHIEVEMENTS.

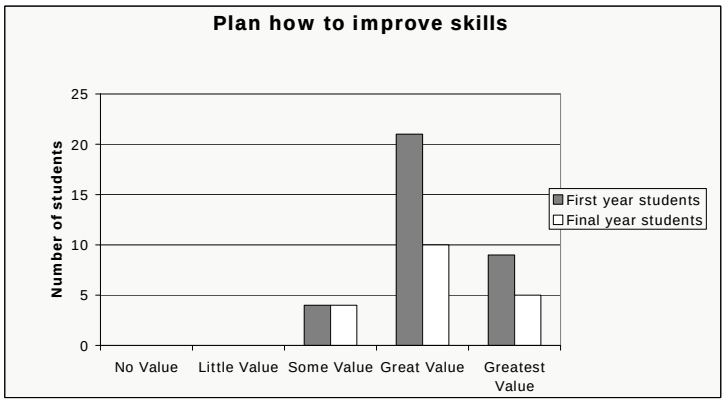

FIGURE 3: DID THE SYSTEM HELP PLANNING LEARNING

As indicated in the results of the survey, students appreciated the role NURAPID would provide in their appreciation of and documentation of their professional attributes. Since the survey the system has been utilised, in the Construction Management Program, in the support of students' reflective practice. The students are able to reflect on their practice in terms of professional attribute definitions.

CONCLUSION

Through the initiative of linking the team assessment strategies and the provision of support for reflective learning through NURAPID the students are achieving a greater understanding of the standards of professional practice. The evaluations conducted thus far indicate that students are appreciating the benefits of having a support system for the process of reflective practice. What is evident is that students still have difficulty in contextualising their team activity into the industry setting.

As subsiquent courses are developed, more time will be devoted to instructing the students on the processes and practices associated with the activity of teamwork. The potential for supporting students in understanding their application of the teamwork process through the videoing of some of their team sessions and using this to support their reflection is being considered.

The problem of bringing real world context into team activities will remain despite the actions described above. This teaching environment provides the opportunity for curriculum designers to develop strategies to support students in the acquisition of professional competencies outside the professional environment.

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