Communication – The weft in the loom of inter-disciplinary studies.

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ABSTRACT

Boyer’s (1990) scholarship of integration advocates making connections across disciplines, and placing the specialities in larger contexts. Schon (1995) adds that ‘in the swampy lowlands (of the real world), problems are messy and confusing and incapable of technical solution’. This paper describes an innovative approach to teaching communication that is integrated with other disciplines and is focussed on the messiness of real world scenarios.

UNITEC’s new Diploma in Applied technology includes three generic courses- Communication and Customer Services, Critical Thinking and Problem Solving, and Health Safety and Professional Ethics, delivered as an integrated block.

This approach gives primacy to learning that is student-centred, authentic, integrated, problem focussed, project based and collaborative. It requires a change in mindsets for both teacher and student, as it is a radical deviation from traditional methods of delivery. In their own words, students begin by feeling ‘lost in space’, but end up ‘learning to think’, ‘seeing how different things are linked’ and ‘learning about the real world’.

2 Introduction

In February 2001 the first diploma class commenced with 21 students in the automotive and marine majors. On day one the three lecturers taking the first three generic courses together engaged with the class and explained that the courses were an integrated block, and that the students were to organise themselves into groups and set up an integrated project through which they would produce evidence of achievement of the requirements of the three courses.

The students were presented with the learning outcomes of the three courses. The communications outcomes are very typical:

1. Identify the benefits of good communication skills for Trades people including the communication process, verbal and non verbal communication, barriers to communication listening skills and trade specific jargon.

2. Demonstrate effective written communication skills for Trades people including note-taking, business correspondence, short reports, quotes, invoices, statements, orders.

3. Communicate effectively across cultural boundaries including strategies for communicating in a culturally diverse workplace.

4. Investigate and develop a range of customer service strategies.
Right from the start the students were exposed to the core content of the three courses, but the three lecturers acted principally as facilitators by providing tools to use in practice exercises, by directing students to information sources and by offering non-directive suggestions.

A fourth cohort of students has now embarked on the diploma and our approach to the three courses remains basically unchanged. The students come from 3 disciplines automotive, marine and building.

3 Problem-solving

Group problem-solving has staked a claim on higher education curricula on the basis that ‘the workplace of the 21st century requires professionals who not only have an extensive store of knowledge, but who also know how to keep that knowledge up to date, apply it to solve problems, and function as part of a team’ (Hmelo and Evenson, 2000, p.1).

Group problem-solving takes various forms, but typically it goes through eight stages: 1. encountering a problem “cold”; 2. the group interacting with each other to explore their existing knowledge as it relates to the problem; 3. forming and testing hypotheses about the underlying mechanisms that might account for the problem; 4. identifying further learning needs for making progress with the problem; 5. undertaking self-study between group meetings to satisfy the identified learning needs; 6. returning to the group to integrate the newly gained knowledge and apply it to the problem; 7. repeating steps 3 to 6 as necessary; 8. reflecting on the process and on the content that has been learnt.’ (Schwartz, Mennin and Webb, 2001)

Clearly, then, problem solving and communication, are two dimensions of capability to wrap around knowledge and performance in any discipline. As our students construct knowledge (in this case of health and safety, sustainability and professional ethics) and develop communication skills, in a third parallel course they are introduced to various processes for managing problems and thinking critically, to left and right brain thinking (through Buzan’s notion of linear and radiant thinking and de Bono’s concept of rock and water logic), and to tools such as mind mapping, brainstorming, visualising solutions to problems, argument structuring, and developing detective stories.

They are also encouraged to see how problem solving relates not only to the health and safety course but also to their technical courses. For example, mid-way through the semester they are given all day to solve a problem such as this one given to the students majoring in marine technology.

‘Your Americas Cup syndicate has two boats. One is old but the other is ‘state of the art’. However, in one race something in the water hit the good yacht, and the rudder came out and caused serious water problems in the core. In the drama that followed, the yacht hit a spectator boat with the loss of four spectators’ lives. This accident was possibly the fault of your skipper and crew.

‘The races are to go ahead as scheduled. Major repairs have to be done to the yacht. At the same time your syndicate has to deal with a major investigation into the crash as well as media
attention. At the best of times your team is stretched, but now you have to deal simultaneously with two crises.

'You have until 4pm to prepare a group case to present to the organising Committee that your boat will be fully repaired and your crew will act in a safe manner in all circumstances.'

As the students work through their project towards the end-of-semester presentation of evidence of the achievement of the courses' outcomes, they are encouraged to see everything they do as a problem to be managed.

4 Communication

Communication has traditionally been taught in a prescriptive style. Most often theory that is presented by the teacher in a lecture, is then applied in a tutorial through case studies, role-plays, questions and answers, written reports on selected topics and simulated situations devised and assessed by the teacher. The students have little say in the learning activities. The teacher prescribes, the students acquiesce. There is no time for consideration of students' varied learning styles. The learning activities present little challenge and excitement, to motivate every student from every discipline. The creativity of the individual, the desire for self-expression is stifled. "The natural desire for social interaction, especially with one's peers" (Bligh 2000) is disregarded. Learning becomes uninspiring and tedious. Marking and grading is laboriously undertaken by the teacher and anxiously anticipated by the student.

In this alternative approach, a variety of delivery methods are used to match individual learning styles. "If students differ in the methods by which they learn best, and teachers should adapt their methods to maximise their effectiveness it is reasonable to think that teachers should use a variety of methods to cater to the differences between students." (Bligh 2000) This is easier said than done in the average classroom, as it is difficult for the teacher to gauge the specific students' style. The absence of traditional, formal training creates a friendly, co-operative atmosphere that boosts student confidence to learn quickly, effectively and enjoyably. Power is shifted from teacher to student. Positive transfer of learning takes place between student and peers and the teacher becomes a facilitator. The "deep" approach as opposed to the "surface" approach is emphasized. New knowledge is organised and rearranged in the context of the students' previous knowledge. The students exercise their imagination and relate new ideas to their personal experience. Reflective practice begins to take root.

This approach enables the teacher to use strategies to guide and facilitate the groups to meet the learning outcomes. The need for specific knowledge is created in the student. Wherever this knowledge is lacking, the student first tries to seek it within the group. If this fails the student seeks support from the other groups. While this interaction takes place, the observant teacher recognises this need for specific knowledge and provides it as required. This does not mean the delivery is unstructured. It is a complex yet flexible framework through which the teaching-learning process is enhanced. All the material for the above is prepared by the lecturer in advance to be used as the student demand arises. More material may have to be prepared if required.

The Group Project approach requires the students to explore various possibilities and devise means of achieving the learning outcomes. They are given 2 weeks to meet, plan and pool ideas
in their own time and come up with a proposal on how they are to meet the learning outcomes of all 3 courses as well as incorporate the content of their specialist discipline. This proposal is then presented by each group to the class and teachers for approval. This is very similar to Shor's "Blank Syllabus" (Shor) In the interim, while work on the project proposals is underway, the communication class content covers the benefits of Group Dynamics and Team work and the negativity of Group think. The students express the need to learn the various formats of a proposal. The communication lecturer provides this information in consultation with the other 2 lecturers.

Initially some students are baffled. They are so accustomed to the traditional method of teacher knows best concept. However with group interaction they begin to see the light and are reassured. Thus this project approach, from the proposal stage highly motivates the students as they realise they have to take ownership of their own learning. It is an exciting prospect for them to move from individual competitiveness to cooperative learning, based on reality and built on the diverse experiences within their groups. Learning now calls for an active mental response, moving from “information input” to “information processing”. (Bligh 2000) The cultural diversity within the group itself develops a sensitivity and awareness for cross cultural and intercultural communication. It is interesting to watch the interaction and support they provide each other and in so doing enhance their understanding of communicating experiences with other cultures within their groups.

Assessment takes a holistic view of communication outcomes in the context of the student discipline be it Marine, Automotive or Building. A project presentation synthesising the outcomes of all three courses serves as an evaluation. Constraints of time and place are not imposed. One marine group held the presentation at the naval base in Davenport. Another planned to present at a building site but had to replace it with a video recording of the site as OSH suddenly banned visitors on building sites, following a spate of accidents in the Auckland area. Application changes from an abstract vacuum to an active implementation of ideas in a realistic, meaningful way. A portfolio of skills records all written communication undertaken by the group from the proposal stage and includes all related correspondence including agenda and minutes of meetings and interview scripts. Question time after the presentation confirms evaluation. A debate follows which further assesses the learning outcomes such as persuasive techniques and oral communication. Peer assessment also serves as a valid assessment tool.

The Communication process is an interaction that pervades all disciplines and cannot be taught in isolation. A project-based approach therefore gives relevance and authenticity to the communication learning outcomes.

Communication is an art, the common thread that runs through and links all disciplines, the weft in the loom with which every discipline is held together. It is a weaving together of knowledge discovery, integration, application and transmission (Boyer, 1990) Teaching of communication is thus built around Earnest Boyer’s (1996) scholarship of engagement and is characterised as a holistic, integrated, interdisciplinary and collaborative approach among diverse participants. (Marullo & Edwards, 2000) It equips the student with the communication tools to face the realities of the present and challenges of the future.
5 Conclusion

Originally we wanted to present sections 3 and 4 of our paper in two columns. However, the conference organisers have decreed there shall be ‘no tabulation or special formatting’.

We have developed a model that works well but we realise that technical demands often conspire against innovation. Timetabling often gets in the way, and a solution might be to integrate the three courses into one and for this to be delivered by one person. The problem would be that collaboration would no longer be modelled. Indeed, the greatest challenge is, maybe, finding three lecturers who can communicate and solve problems together.

References


Shor, I., *When Students have power*. 