NEGOTIATED CONTRACT LEARNING

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ABSTRACT

Negotiated contract learning is a well-established pedagogical tool. Variations may be found in all educational levels from primary schools (e.g. Individualised Educational Programs) through to tertiary programmes. It is commonly used within New Zealand Bachelor of Information Technology programmes to structure student led projects. The positive experiences with the student project has led us to trial Negotiated Contract Learning as an option for an academic paper.

While the formal development and approval process was reasonably straightforward, the implementation has proved a challenging, yet rewarding activity. The learning contracts that students wished to negotiate have varied from pure research to skill development. Challenges that we have faced (are facing) include the identification and negotiation of course topic, identification and supply of resources; and the supervision of a course that is student directed. In doing so we are confronted with questions that force us to consider the very nature of tertiary education and aspects of a degree programme that we have previously considered self-evident.

1 INTRODUCTION

The first semester of 2003 saw some fresh fields added to the Otago Polytechnic B.InfoTech programme in the form of two papers, one each at second and third year, simply called "Special Topic". The course descriptors for these papers were rather broad and required the students to "negotiate objectives, learning plan, assessment criteria and timeframe with a supervising lecturer and Head of School" (Otago Polytechnic 2002 p84). This paper describes the background and initial iteration of the "special topics".

2. BACKGROUND CONTEXT

These papers arose from two experiences, the student project, and a dispensation for an individual student to undertake an individual study for a paper.

The final year student project is one of the core aspects of this degree, and many computer science degrees worldwide (Fincher & Petre 1998). Student's work as a group to obtain a client with a need, develop a solution for that need and to document the process. This process is essentially dynamic with outcomes negotiated between the student and the client and the student and their supervisor.

The other background experience occurred during 2001 when a student requested permission to enrol in a paper that was no longer offered (Garrett 2002, Smith 2002). He wished to study Cobol which would be used in his current employment and for his final year project. The lecturer who used to teach Cobol was sympathetic and undertook to run the paper with a reduced contact time. The conclusion reached by both the student and the school was that this was a "valuable experience for all concerned, and an affirmation that the flexible approach can work at this level" (Smith 2002).

As a result of the positive experiences with both the project and this student's self-directed learning it was proposed to allow students the opportunity to engage in study beyond the papers that are currently offered. The special topic papers were developed and approved. The intention was that students would be engaged in an established structured course of study with a large degree of self-directed learning.

3. THE PRACTICE

The implementation of the papers was not as structured as we would have wished. Students enrolled in the paper with the understanding that they would design their own course of study. From the wording of the paper descriptor this was a perfectly understandable belief.

All students who became enrolled in the paper were successful in finding staff that were interested in the field that the students wished to study. The staff and students then set about designing the course in a way that would meet the requirements for the paper and the degree. Nine students were involved during the first semester. In most cases the students worked in pairs on each topic. The exception was a research project carried out by an individual student.

Two primary methods were followed in the design of the individualised course. One student was interested in multicultural aspects of computer interface design. This interest was met by a formal scientific research design to investigate the influence that the directionality of a person's native written language has on their performance on various tasks using an interface with objects placed in various arrangements (Aslam & Hadan 2003)

Most other students negotiated with an academic staff member to develop a course of study that is more typical of a traditional paper in regards to learning objectives, assessment criteria and time frames.

4. NEGOTIATED CONTRACT LEARNING

The practice of a lecturer and student negotiating the content and course requirements is well represented in the educational literature. Knowles is often regarded as an early proponent of learning contracts (e.g. Knowles 1975) but aspects of this may be found in the early modern educational theorists such as Dewey (e.g Dewey 1916, Dewey 1938). An umbrella term for a variety of similar approaches is "Self-Directed Learning" or SDL (Brockett & Hiemstra 1991). Initially we adopted this phrase to describe our approach to the special-topics, but this became problematic. There is no one definition of SDL that would describe our procedures, and some definitions that are completely contradictory. Kerka suggests that a single definition of SDL is inappropriate as it includes a wide variety of approaches (Kerka 1999).

A subset of the Self-Directed Learning paradigm is "Negotiated Contract Learning" (NCL). This approach is reasonably well defined in the educational literature and typically involves negotiating four components (Anderson, *et al* 1996):

- ♦ Learning objectives;
- ♦ Learning strategies and resources;
- ♦ Evidence of accomplishment;
- ♦ Criteria and means for evaluating evidence, including any time requirements.

The single most important aspect of these components is that they are negotiated between the learner and the supervising lecturer. This allows for an important degree of self-direction and "ownership" of the course by the student. The negotiation occurs between two parties, the course is not solely designed by the student. The supervising lecturer has a vital role in ensuring that the academic quality of the course of study is appropriate for the level at which the course is taken.

During meetings held by staff in preparation for the course, it was decided that the first, and only prescribed item for all students, would be to create the learning objectives. By "learning objectives" we were implying, but should have stipulated, the other components mentioned by Anderson et al (1999). These learning objectives would require approval from both the Head of School and the B.InfoTech Programme Manager before a student could embark on the negotiated course.

5. CASE STUDY: NETWORK SECURITY

Two students enrolled in the third year special topic with an intention to "learn about network security". It became clear that they were ill-prepared to create specific learning objectives as they were very unclear about what aspects were included in "security". They expressed an interest in industry certifications in the security field.

We latched onto the certification option as it reflected our initial intention of allowing students to undertake an existing course in a self-directed fashion. Our expectation was that a certification programme could be identified with existing learning objectives and assessment criteria. We reserved the option to require extra assignments (such as a literature review). We believed that in this way we could meet both our student's immediate learning needs and our academic requirements.

The students reviewed the certification programmes available, concluding that each was too trivial, too difficult (some required proof of employment in the

security field) or too expensive (<I>all</I> were too expensive!). However, after reviewing the syllabi for numerous certification programs the students' awareness of the field was heightened to the point that they could begin discussing learning objectives.

The concept of "Learning Objective" was introduced to the students who were then asked to return with four specific learning objectives. They were given a form for each objective with the headings:

♦ General Aim (What do you want to achieve?)

♦ Specific Objective (A single sentence that is Specific, Measurable, Attainable , Relevant and Time Limited)

♦ Activities (How will you achieve the objective? What resources will you need?)

♦ Achievement Target (How will you show you have met the objective?)

♦ Achievement Date

The students returned with four objectives that we regarded as quite suitable. Actually, we were quite impressed and regarded the learning objectives as showing quite an advance in the students' knowledge of the field over previous interviews.

The supervising lecturer discussed an additional objective that he wished to be included in the list. The students were quite happy to take this on board. The lecturer then rephrased each form into short statements. These were shown to another lecturer with a strong interest in the field. Final agreement was sought and received from the students. These "agreed learning objectives" were then presented to the Programme Manager and the Head of School, both of whom agreed that the learning objectives were satisfactory for a paper at this level.

From this point the students met weekly with the lecturer to discuss progress, and any other issue that might arise. At key points the students submitted written assignments or demonstrated a practical implementation.

The assessment requirements were not adequately identified early in the course. The supervising lecturer graded written assignments. The implementation and practical requirements were less tidy. As the course progressed we developed a staff and self-appraisal approach that produced a negotiated grade. It is recognised that the lecturer had considerably power in these negotiations; we do not suggest that all parties had a completely democratic part in the discussions.

The product of selected assignments were given to another lecturer for moderation, in all cases the moderating lecturer concurred with the grade that had

been assigned. These students are currently completing the final aspects of their negotiated course. The work to date has been reasonable, with most tasks and assignments being graded around the "B" - "A-" level.

6. REFLECTIONS ON A FIRST ITERATION OF THE SPECIAL TOPICS

All preparation had been undertaken with the understanding that students would be working with existing structured courses which were not currently being offered in a formal setting. The students had to convince the staff of the course that they were proposing to negotiate. The staff that were "won over" were then required to quickly adapt to a course design for which they were ill-prepared. Most staff approached the course by negotiating a course in a similar fashion to that described above. In future we intend to model our approach on the methodology described in Anderson *et al.* (1996)

It was expected that the students would be required to be dedicated and motivated. They would be working in relative isolation. Students were actively discouraged from enrolling in this paper. This has proven to be an accurate assumption. We intend to continue discouraging most students from special topics. The requirements have also been altered so that a student is required to have completed at least half of the second year before enrolling in either special topic.

The staff workload is a major issue. While each group only met once a week, this approach would not scale well if the entire student body undertook such papers. It is evident that the cost on a per-student basis is high. However other returns do exist for the school, some examples are:

♦ potential course development - the students work may contribute to the development of a new paper or be included to enhance an existing paper

♦ assistance with a lecturer's research programme

♦ professional development as the supervising lecturer learns the topic alongside the student

One of the more interesting and beneficial side-effects occurred when considering the appropriateness of the learning objectives to the level of the paper. Staff were forced to consider factors that differentiate a course of study in the third year from the second year. With many traditional papers the third year simply builds on the work in the second year, the progression is self-evident. Staff supervising the third-year special

topics found themselves continually asking questions such as "in what way is this learning outcome leading to a greater degree of critical analysis than would be expected in the second year". These reflections spilled over into considerations of ways of improving the traditional papers that are on offer.

Further work is being undertaken to develop the processes and procedures surrounding the special topic. The development of staff is progressing by peer consultation and discussion. It is important that all staff involved in the special topics are consistent in outcomes and course development. We are cautious that the individualised study must be able to be shown to be as "legitimate" (by any definition) as study undertaken within formal classes. We believe that this can be achieved with positive results for the school, the staff and, most importantly, the students.

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