

## NICDA Report

### Negotiated Role

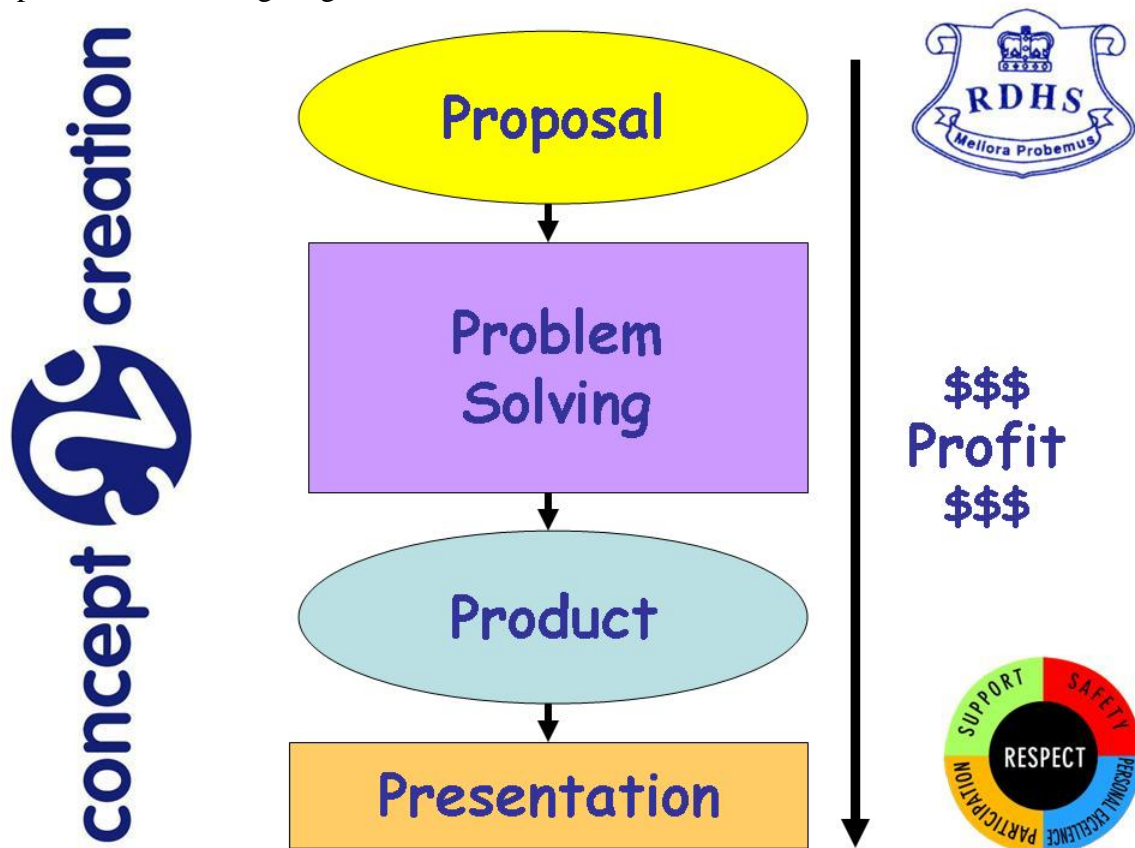
1. Document RDHS curriculum
2. Liaise with BAE Systems Engineers and other teachers on the BAE Systems SWAT Project
3. Visit other schools and provide support

note: a 4<sup>th</sup> role was to begin documenting other schools curricula but the be came a too big a task

### Outcomes

1. RDHS Curriculum

The process of documenting the C2C Curriculum within a school is difficult as it is a dynamic and fluid process. The main premise to which the RDHS C2C program is based upon is the following diagram:



This idea was generated to help the teachers and students understand how to complete the process of creating a C2C project.

- Proposal – this stage is about the students developing ideas, proposing projects, forming groups and developing the project ideas for prototyping.

- Problem Solving – this stage is about the students working through the process a developing a prototype of the product for testing. The is the main stage and most drawn out.
- Product – this is what the students are aiming for
- Presentation – This is the trade display at the RDHS Showcase and the C2C expo.
- Profit – the extrinsic motivator. A company would not develop something if there was nothing in it for them.

There are 3 documents produced associated with this section. The proposed 2009 RDHS C2C Year 10 Program, the 2008 Review and an overview of the C2C program at RDHS from year 9 to year 11.

## 2. Liaise with BAE Systems Engineers and other teachers on the BAE Systems SWAT Project

I had been involved in the development of the BAE SWAT Project before the NICDA program was developed. I had applied for some funding through the SCIMAS Premier Industry Award (PIA) program for some additional funding to help in facilitating this role.

Phase 1 – meetings were held with BAE Systems Engineers in developing an appropriate task document. It was based on the open ended UAV challenge (previous version to the challenged now used) with a strong emphasis on the students using a systems engineering approach.

The advantage of the open end ness of the project is to allow a wide variety of teachers and students to be involved from a variety of subjects. It is not expected that any one group of students complete the SWAT project in one year.

Phase 2 – Get some training in systems engineering. I attended the 3 day BAE Systems introduction to Systems Engineering that is run for Engineers within BAE Systems. This course enabled me to understand the process of systems engineering and how it can relate to the educational environment of student projects.

Recommendation: We negotiate to send a teacher along to the training each time it runs. Cost 3 TRT days.

Phase 3 – Student induction day. This was a great day and set the program for the students. All the students from the various schools gained a basic understanding of what systems engineering was and how to use various tools to complete the SWAT project.

Recommendation: A similar day be held in 2009 and beyond. As a side not a day like this for the UAV and holdens project would be good as well (systems approach)

Phase 4 – coordinate the BAE Mentors and schools. This was more difficult than it seemed. First BAE Systems needed to setup a messaging system within BAE (by email) then each of the schools where given these generic emails that were forwarded within

BAE systems. This system worked well within BAE but had problems when we on the outside tried to email. The issue was not identified til later on as the emails did not bounce and many teacher got fed up with trying to contact BAE and their mentors as they thought they were getting no reply. The fault was found mid term 3 and contact was made between most schools and their BAE mentors.

To help with the communication a meeting was held at BAE Systems with the mentors and teachers. After this meeting the BAE Mentors and teachers did start to communicate.

Recommendation: A meeting between teachers and various mentor held earlier in the year where they can discuss plan of attack. This is important for teachers without a clear direction of what they are going to do.

Phase 5 – Coordinate the BAE Expo Day. This was just liaising with the BAE Expo organizes and the NAMIG team to help plan for the day.

The expo was a great success, with staff and students interacting. The 5 students from RDHS found it to be an eye opening day and enjoyed being asked questions by the graduate engineers in attendance. The venue was perfect and could hold more students and teams.

Recommendation: this day happens again.

A pictorial report was created for the PIA and presented at the end of 2008. It was warmly received by those in attendance. If we are to have people involved in the PIA we need to send an industry (NAMIG or industry partner) to the awards ceremony.

### 3. Visiting other schools and providing support

Over the semester I visited 3 school and provided support: Freemont-Elizabeth HS, Valley View SS and Temple CC. Many other schools were included in discussions at the C2C teachers meeting and ideas shared. Many of the documents contained in this report have been handed out at these meetings as well as being provided on the C2C website.

This area of the NICDA program was not widely completed due to time constraints and access issues. It would be better for each school to publish its own engagement protocol in lines with the Valley View SS CD or the document produced for part 1 here.

Conclusion:

The NICDA program is an important aspect of the NAMIG C2C sweet of programs. It gives teachers an opportunity to develop an understanding of the NAMIG structure and how their school fits in.

An improvement to the NICDA program would be to define the outcomes that the teacher is being held to. The scope of my project at the beginning was too large and with natural attrition and renegotiation a more obtainable project was developed.

As an aside to the NICDA the following document was produced to better describe NAMIG (it will need to be updated to reflect current changes in the curriculum)

