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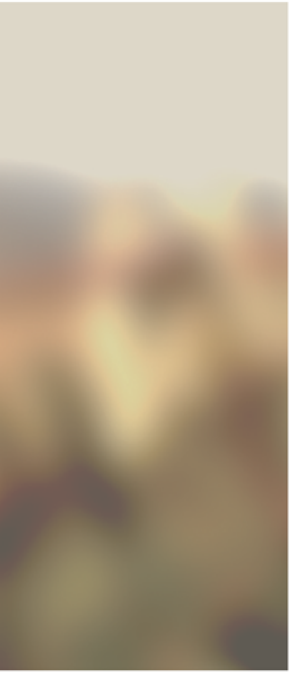

EMERGING LEADERS PROGRAM

HANDS ON TECHNOLOGY (HOT) PROJECT

Cathleen Jackson
Head of Design & Technology

Truth
Compassion
Wisdom

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OUR ORGANISATION

Radford College is an independent Anglican co-educational college, which caters for students from pre-kindergarten trough to Year 12. Presently, 1600 students are enrolled in the college, however student numbers will increase to 2000 in coming years.

In the Secondary School, the structure consists of 10 faculty areas which oversee the implementation of the Australian Curriculum.

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DESIGN AND TECHNOLOGY DEPARTMENT

Radford College restructured the existing subject department configuration and created a new Design and Technology department in 2017. Design and Technology incorporates Food Technology, Graphics & Design, Information Technology, Textiles Technology and Wood Technology.

This created an opportunity to focus attention on the unique nature of the Technologies curriculum and reaffirm its position within the school academic structure.

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INTRODUCTION OF THE AUSTRALIAN CURRICULUM; TECHNOLOGIES

Radford College underwent School Registration in 2015, which included rewriting course documents under the Australian Curriculum framework.

All D&T courses were reviewed at the end of 2016 and this identified the need to rethink how the Year 8 courses were taught across the department.

The Hands on Technology (HOT) Project was launched.

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ORGANISATIONAL CHANGE

Reduced number of lessons per cycle for Year 8 Rotations (Term unit) from 7 to 6 due to the introduction of Digital Technology into the Year 8 Subject Rotation in 2017.

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WHAT HAPPENED NEXT?

- Teachers were not involved in the decision to reduce the number of lessons per cycle and not given advanced notice of this change.
- Teachers continued to deliver the same content but in less time, causing increased stress for teachers and students.
- Concerns about student numbers in elective classes in Year 9-10 and senior courses.
- Concerns about the quality of teaching and learning in these classes due to the reduced timetable allocation.

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SOMETHING HAD TO CHANGE!

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SWOT ANALYSIS OF THE DESIGN & TECHNOLOGY DEPARTMENT

Where are we now?

Qualitative information; D&T staff responses, HOD observations, DARC & DOTL observations, curriculum reviews, strategic planning meetings.

Quantitative information; student numbers, courses offered, Student Satisfaction survey, analysis of learning outcomes currently covered in year 8 courses.

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1. Reviewed the current course documents and identified the learning outcomes which were assessed across each subject area. Results shared at Faculty meeting.
2. Year 8 Student Satisfaction survey to identify students views on current courses. Overview of results shared at Faculty meeting.
3. Research into STEM curriculum ideas, ideas presented at Faculty meetings, including involvement from Tech Coach to showcase ICT tools.
4. Discussed ideas with individual staff members and at team meetings and invited them to present ideas on projects.
5. Strategic planning meetings with staff members.
6. Discussion paper written and presented to DARC and DOTL for consideration.

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CHANGE INITIATIVE

A proposal was presented to D&T staff to modify the Year 8 courses to create an integrated course which using STEM concepts to deliver the learning outcomes as set out in the Australian Curriculum; Technologies framework.

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POTENTIAL IMPACT OF CHANGE

- Too much change
- Time needed to implement change
- Approval from DARC & DOTL
- Positive effect on students' learning outcomes
- Maintain or increase student interest in D&T courses
- Staff engagement with the change process
- Innovative approach to teaching D&T
- Staff willing to share subject skills and knowledge
- Technologies subject will become 'too popular'!

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PLAN FOR CHANGE

OBJECTIVES;

1. To create a challenging and innovative integrated Year 8 Design Technology course which encouraged students to use their creative and thinking skills to develop practical solutions to real problems, by using a range of technologies.
2. Inspire students to continue the study of Technology courses and explore pathways for future study or career options.
3. Encourage students to apply their creative and thinking skills to enrich their learning experience in other situations.

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SUCCESS MEASURES;

1. Positive feedback from students on their learning experience in Year 8 Design Technology.
2. Increased student enrolment numbers in Design and Technology courses including senior courses.
3. Evidence of applied learning in other Design & Technology classes through the completed of integrated projects.

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TIME LINE;

1. Review of curriculum documents, and identify possible areas for improvement has been completed.
2. Development of integrated project ideas, develop skills in ICT applications, purchase of specialised equipment (currently underway)
3. Implementation of new integrated projects in 2018.
4. Review of new projects at the end of Term 1, 2, 3. 2018. Review of student enrolment in elective classes.

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ISSUES AND PROBLEMS;

- Staff resistance to changing previous curriculum and assessment tasks
- Time to rewrite curriculum documents and assessment tasks
- Plans to introduce an Integrated project across all Year 8 (Civics and Citizenship)
- Proposal paper on STEM program was presented to DARC and DOTL however STEM has been introduced in Year 7 SOSE program
- Plans to change the rotation structure from term-based units to trimester-based

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STRATEGIES;

- Develop one integrated project between two subject areas only to demonstrate how it can be successfully done.
- Invite only interested staff to participate in the project
- Lead by example……develop a project for Food Technology in conjunction with Wood Technology
- Gradually complete curriculum review process, starting with a careful review of existing course documents, Australian Curriculum framework resources, develop consistent grade descriptors across the subject areas.
- Purchase necessary tools to implement innovative teaching programs (eg; laser cutter, cnc router, 3D printers)

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- Conduct an ICT tools and skills audit and implement a plan to provide PL for staff to become proficient in the use of new tools and ICT applications
- Conduct PL workshop sessions in faculty meetings to practice ICT skills and associated tools.
- Subject teachers are asked to identify ICT tools that relate to specific subject content. (eg; textiles)
- Involvement in the working group to discuss timetables changes to trimester units
- Provide detailed proposals to DARC and DOTL for alternatives.
- Promote successes within the department, school or community
- Apply to DOTL for release time to work on project and review curriculum

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IMPLEMENTATION

1. Implementation of this project is expected to begin in 2018.

2. Workshop planning will take place at the end of 2017, to develop project ideas, prototypes and begin developing learning activities and assessment tasks.

3. Review of Term 1 results and feedback from staff.

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EVALUATION REPORT

This is yet to be completed, though key challenges have been idenitifed above.

Improvements to this process include;
- seek more advice and ideas from existing schools who run similar programs
- Start earlier and maintain momentum with the idea.
- Start small!

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THANK YOU

CATHY JACKSON
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