ST. TERESA’S PRIMARY SCHOOL

Ravenshoe

Technology Curriculum Plan
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COMMUNITY PROFILE

In establishing the Technology plan at St Teresa’s School, the input of all the staff was considered and valued. St Teresa’s Sequence and Scope Document has been formulated as a result of collaboration with staff. St Teresa’s has been involved in the Closing the Gap project and staff have been involved in continual professional development.

St Teresa’s School was opened in 1950. It was staffed by the Sisters of Mercy until 1978. Now it is staffed entirely by lay teachers. It has 130 students from prep to year 7. The school consists of 6 classrooms, an office area, library, a tuck-shop, a playing field, an adventure playground and a sports court.

Ravenshoe is a farming community producing beef, dairy, corn, peanuts, avocados and vegetables. It has a timber mill which now only produces plywood, after a history of timber cutting for many years. This large industry was lost after world heritage decisions were made around 1990.

Ravenshoe is a rural community in a remote location. Because of changes in the timber industry and other factors, employment opportunities have become more limited. Travel out of town is common for permanent employment. For the most part, any activities in which children participate after school require transportation to surrounding towns.

Priority Country Area Program (PCAP) has funded the school for many academic and social emotional programs which would otherwise be unavailable to the school. This funding is anticipated to continue until 2012.

St Teresa’s recognizes the role of parents in the education process of the child and desires a high correlation between home and school values. The goal of the school is to work with parents to develop each child academically, emotionally, socially, physically and spiritually.

It is our goal to create an atmosphere inspired by love, a concern for one another and a relationship with God. We are fortunate that our small numbers promote the achievement of this goal.
LEARNING AREA RATIONALE

Technology is an integral part of the modern world; dramatic and rapid change in this area is a basic fact of life. For personal, social, environmental and economic reasons, young people must be well equipped to be active participants in our technological society.

Why do we need to teach Technology?

To achieve this aim, staff believe that:

- Technology can enhance our existence in the world and the quality of our participation in society.
- Since it is valuable to us individually and collectively, it should be an integral part of the general education of every young person.
- All students are capable of learning technology ideas and skills that underpin a wide range of everyday uses and can benefit from doing so.
- An understanding of technology is necessary for students in order to gain a sense of themselves and the world around them so that they can function effectively in a technologically advanced society.
- Awareness of technological processes will enhance problem solving abilities that will be critical for future global issues.
- Technology skills will allow students to make informed decisions about products.
- The intrinsic curiosity and simple wonder of technology inquiry should be experienced by all students so they may appreciate the passion, commitment, sacrifice, excitement, uncertainty and enlightenment of inventions from the past and the contribution they have made to present living along with present endeavours to solve global issues.

The key messages and understandings of technology is that it needs to be relevant through life contexts and application in order to prepare students for life-long learning.
How does Technology fit the Diocesan Learning Framework?
The learning framework is reflected in how we teach technology at St Teresa’s in the following ways:

- Technology should hold meaning and be founded in real life problems
- Inquiry based active learning investigations in which learners design, make and appraise to develop their understanding and knowledge of technology.
- All students are unique and each brings individual strengths and talents to the learning process
- Classroom environments should be supportive, stimulating and aim to inspire all students to achieve their personal best.
- Technology should allow learners to become creative, reflective thinkers.
- Technology should be engaging, collaborative - leading to reflection and appraisal
- Technology develops knowledge, values and skills to serve local and global communities.

Ref: Diocese of Cairns Learning Framework 2007
The curriculum core documents for Technology are the QCAR Essential Learning and School Based Skills Matrix and QSA Technology Sequence & Scope.

Term overviews of each year level of the scope and sequence are electronically stored on the St Teresa’s Staff server. These core documents are intended to be a starting point and used as a planning device across the range of technological levels.

The following broad learning outcomes summarise the knowledge, skills and understanding, values and attitudes essential for all students to succeed in and beyond their schooling. These broad learning outcomes indicate that students will demonstrate their learning over time in relation to:

- knowledge and understanding
- investigating and designing
- producing
- evaluating
- reflecting

The content strands are broken into:

- Technology as a Human Endeavour
- Information, materials and systems (resources)

The Technology learning area focuses on knowledge and understanding, and the ways of working such as investigating, communicating and reflecting. The Technology Essential Learning assists by developing the understanding and skills needed to explore, test and explain technological concepts through active participation.

The following assessable elements summarise the knowledge, skills and understanding, values and attitudes essential for all students to succeed in and beyond their schooling.

- Acquisition of skills and knowledge so they can confidently and competently engage with daily life
- Development of knowledge and skills for a range of real life applications including employment, further study and interest activities
- ability to use appropriate vocabulary and symbols and to interpret and communicate in a variety of ways and contexts
- Understanding and appreciation of the nature of thinking, the processes and implications of change in a social and cultural context
- Use of technology appropriately and effectively to support learning
- Understanding of cultural and historical influences – local, national & global
We believe that through teaching and learning in technology teachers will:

- recognise the individual differences of students and accordingly provide them with learning experiences which further develop their technological understandings and skills
- guarantee that all students will experience a representative sampling of the various content areas which constitute this Key Learning Area
- allow students to explore how human needs can be met through the designing and making process
- equip students with the skills necessary for selecting and using a wide range of tools, equipment and materials when investigating, designing and constructing
- ensure students have the skills to access and manipulate information which is most appropriate for their purpose
- enable students to pose problems and reach appropriate solutions
- enable students to develop values and attitudes that provide them with the ability to critically assess the world around them.
Technology provides considerable opportunity for students to explore, understand and appreciate the wider world through the integration of across curriculum perspectives. The following statements about across curriculum content indicate ways in which the following areas are embedded into all programs P - 7 whilst ensuring that subject integrity is maintained.

Educational and societal issues, that cross all curriculum boundaries and which need to be considered at each stage of the teaching cycle, by the current program will be addressed in line with the Diocesan Defining Features as seen on myclasses – www.stteresas.qld.edu.au/myclasses.

CATHOLIC ETHOS

At St Teresa’s School, Gospel Values underpin all learning and teaching and make a major contribution to the curriculum. This Christ-centred, community-based ethos exists in all areas of school life and is an integral part of curriculum planning and implementation. In the Technology learning area this ethos:

- Encourages students to develop a sense of wonder at the magnificence of creation
- As stewards of the Earth to value the role Mankind plays in resource preservation
- Value the contributions of all students and develop an awareness of one’s uniqueness
- To critically reflect on information and allow gospel and moral values to provide wisdom of choice as part of the discussion and decision making process
- To engage students in problem solving so they become a future generation that possesses passion, courage, wisdom and hope.

INDIGENOUS PERSPECTIVES

The Aboriginal education and Torres Strait Islander education perspective in Technology will:

- Recognise that Technology learners bring knowledge, strengths, talents and needs to the learning process
- Value and utilize the past and present contributions of Aboriginal and Torres Islander’s in Technology knowledge and understandings
- Promote the incorporation of all indigenous students’ backgrounds and experiences into Technology activities
- Ensure that content, resources, methodology and learning and teaching practices enhance cultural identity in a multicultural society
- Identify and challenge, in a supportive school environment, assumptions about stereotypes
SUSTAINABILITY EDUCATION
Sustainability education seeks to develop understanding of the environment and positive attitudes towards the Earth and the life it supports. The curriculum should provide all students with access to current information about technological advancements and the impact their designs have on the environment. Through education we aim to promote a responsible attitude towards stewardship of the natural gifts around us. Appraisal and discussion should always include the impact on the environment, economy and society. Technology activities should ensure that designed products foster local, national or global issues of sustainability.

SOCIAL EMOTIONAL LEARNING
At St Teresa’s School all Key Learning Areas have a Social Emotional Learning dimension which incorporates the following:

- Personal development skills.
- Social Skills – Confidence, Getting Along
- Self Management Skills – Resilience, Persistence, Organisation
- Citizenship Skills

INCLUSIVE EDUCATION
This perspective will be evident in Technology when:

- Stereotypical assumptions are identified and challenged in students, teachers, curriculum documents/practices and mathematical texts and resources
- The needs and interests of all students are reflected and valued in what is taught and how it is taught
- All students develop an appreciation and respect for each other
- All students have proper access to the classroom, space, teacher time and equipment
- Provides for different rates of learning - a differentiated curriculum
- Provides a range of teaching strategies to cater for different learning styles
- Builds on the talents of every student
- Plans and uses appropriate intervention strategies
- Plans and uses meaningful assessment
- Ensures a balanced Technology program in context

INFORMATION COMMUNICATION TECHNOLOGY
ICT is defined as “technologies used for accessing, gathering, manipulating, presenting or communicating information”. Through the integral use of ICT across all key learning areas students should develop processes and skills designed to transform learning, enhance students’ future economic and social participation and their ability to access infrastructure, equipment and services delivered using ICT.
Through the teaching of Technology students will experience opportunities to develop their ICT literacy through:

- Finding and locating Information – researching
- Storing information – saving and retrieving information for reuse.
- Working with information – organising, summarising, editing information.
- Creating information – Adapting, reframing, using tables, graphs, databases.
- Communicating Information – using power points, graphics, presenting information in different formats.
- Using ICT responsibly – understanding the capacity ICT has to impact on individuals and society, and the consequent responsibility to use and communicate information legally and ethically.

While the Australian technology curriculum will not mandate particular technologies it will be important to recognise in the curriculum the possibilities that digital technologies provide for helping students understand information. Some of the technologies available include: internet-based inquiry resources, digital images, computer simulations, probe ware tools for science investigations and on-line data for scientific analysis. Use of digital technologies can help to engage and maintain the interest of students provided that the context of their use is relevant and interesting.

INFORMATION LITERACY

Technology offers its own specific ‘ways of working’ and hence its own practices around dealing with the designing, making and appraising of products. At St Joseph’s we provide opportunities for students to develop these skills through the provision of open-ended projects. This inquiry based approach engages students in actively investigating aspects of design and is sequential in that it builds upon their prior knowledge of design principles. The Technology processes of Design, Make and Appraise should be evident in teacher’s planning.

Critical Literacy

There is a need for linking learning in technology with learning literacy skills. All learning places a high priority on accurate communication. The language and literacy demands of the Australian curriculum will be supported by and in turn will reinforce learning of literacy skills. Students will need to be able to describe designs and interpret drawings, read and give instructions, explain ideas to others, write reports and participate in group discussions.
LITERACY AND NUMERACY

In the Technology key learning area, students will use generic literacy skills in focused genre to:

- Read, listen to, view and exchange information about the contributions, impacts and consequences of mathematical developments.
- Interpret, critically appraise and communicate information in different forms
- Estimate, count, collect, collate, graph, map and critique data and statistics.

Literacy and Numeracy in Technology involves students using existing knowledge and skills in a Technology context.
SEQUENCE AND SCOPE

The QSA Technology document is intended to guide teachers in their programming, enabling a continuum of development through years 1 -7. Prep teachers will source the Early Years Guidelines. These documents provide specific focus for content and expectations for each year level. They also provide focus for ongoing planning, programming and assessment. The classroom teacher will be responsible for the teaching of Technology.

The QSA Essential Learnings and Scope and Sequence documents provide evidence based indicators of progress and support planning within and across year levels for Technology. The indicators of progress at Year 3, 5 7 junctures highlight critical understandings required by students in order to progress through the standards.

In considering time allocations for Technology it must be remembered there is integration where possible with other KLAS.

The QSA Essential Learnings will assist teachers to:

- Deepen understanding of the Technology domain
- Enhance teaching skills to enable purposeful teaching
- Identify the range of student learning levels within their Technology classes
- Monitor individual student progress towards achievement of the Queensland Essential Learning Standards in Technology

Additional Reference - Essential Learning (Technology)
LEARNING AND TEACHING EXPERIENCES

Learning in Technology involves the consideration of the individual learning style, the needs of all students and the creation of a learning environment that assist students to achieve the intended curriculum.

Students individually and collaboratively plan and conduct meaningful activities and through inquiry in Technology and develop solutions to questions, issues and problems. Students develop and use their existing understandings of technological concepts and processes to identify Technology in a range of real-life situations. Students use ICT as an integral component of their learning to inquire, create and communicate within a variety of contexts. Learning and Teaching of Technology include:

- Teacher modeling and demonstrations
- Drawing on students existing experiences and understandings
- Utilising real life situations
- Students representing concepts as drawings and illustrations
- Opportunities to manipulate concrete materials, equipment, instruments and technologies
- The use of a variety of mediums for recording data, including charts, exercise books, textbooks and ICT
- Problem solving tasks
- Forming hypotheses
- Taking full advantage of incidental learning opportunities
- The use of open-ended questions and tasks to promote higher order thinking
- Working individually or in teams to facilitate learning

The classroom environment is structured to ensure that:

- Focused teaching groups enable staff and students to support students’ learning at the point of need
- Active learning is promoted
- Concrete materials are provided at all levels of schooling to support and enhance learning
- Emphasis is placed on the teaching and learning processes and strategies to problem solve rather than just achieving the right answer
- Risk taking and exploratory thinking is encouraged and promoted
- Concepts and skills are taught explicitly through a problem solving and inquiry approach

In addition where possible there is integration with other KLAs.

In planning the units of work teachers are required to use the St Teresa’s Planning Proforma found on the server. Unit plans are developed using the QSA Technology Essential Learnings.
When planning Technology, teachers are required to complete the following:

1. Detailed Weekly Overview which is attached to the Unit Overview (Appendix 1)
2. Assessment Task Sheets (Appendix 2)
3. Criteria Assessment Sheets (Appendix 3)
4. QSA Technology Scope & Sequence (Appendix 4)

Planning Timelines

- Teachers hand in their planning by week 3 of each term.
- Planning documents are digitally stored on the school server
- The Principal/Curriculum Person in week 6 of each term reviews these planning documents.
RESOURCES

Teacher planning

QSA Essential Learnings (Technology)

Queensland Yrs 1 – 10 Technology Syllabus

Cairns Diocese Learning Framework
Assessment is the process of gathering and interpreting information about student progress for a variety of purposes. Assessment criteria and types of assessment tasks are all crucial to measuring student achievement. Before an assessment task can be constructed, it is important to identify suitable criteria for making judgments about students. Assessment criteria are the standards by which student work is judged or appraised.

The Technology unit identifies a number of learning activities that can be used to gather information about the nature and the extent of student learning. As these activities form an integral part of the teaching and learning sequence, the alignment of the assessment with the curriculum expectations should be ensured. The assessment task should also be recognised by the learners as being both relevant and worthwhile.

Identified assessment tasks provide opportunities for students to demonstrate both Knowledge and Understanding and the Ways of Working. Both of these components must be incorporated into the assessment program for it to provide a valid measure of the valued student learning. The assessable elements and the descriptors of quality are used to link the DSS and Standards and assist teachers to make judgments about student achievement.

Learners need the opportunity to develop new skills, practise them, make errors and be corrected before we make judgments on their performance. Each term there will be a minimum of two assessable items utilising different modes of assessment. Each individual teacher is to record results of assessment. (Refer to St Teresa’s Agreed Practice for Assessment, Reporting and Record Keeping (P – 7))

**Assessment occurs in different ways:**

At St Teresa’s teachers have agreed to use a range of Quality Assessment Strategies to inform their teaching and learning practices. This may include but is not limited to:
### How and When We Use Assessment Strategies

There are three types of assessment, each distinguished by the types of questions it answers. With exception of very simple diagnostic tools, the same contexts, methods and tools can be used to collect data for each of the three types of assessment: diagnostic, formative and summative.

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<th>Assessment Strategies</th>
<th>Examples</th>
<th>Uses</th>
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<td>prediction</td>
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<td>explanation and demonstration to others</td>
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<td>Investigations and/or projects</td>
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<td>cloze</td>
<td>observation of students’ participation in a group activity</td>
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<td>labelling a diagram or model</td>
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<td>miscue analysis</td>
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<td>questions posed by students</td>
<td>self assessment</td>
<td>students’ oral and written reports</td>
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<tr>
<td>comprehension and interpretation exercises</td>
<td>observation of students during learning activities, including listening to students’ use of language</td>
<td>students’ plans for and records of their solutions of problems</td>
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**St Teresa’s Primary School**  
Ravenshoe
Diagnostic Assessment

Diagnostic assessment occurs at the beginning of the teaching/learning cycle. This type of assessment will provide the teacher with an understanding of the prior knowledge and skills a student brings to a unit, as well as the strengths and specific learning needs of an individual or groups of students in relation to the expectations that will be taught.

Formative Assessment

Formative assessment is an ongoing collection of information that occurs throughout the day/unit/term that enables teachers to track, support and guide students' continuous progress and improvement towards achievement of the expectations. It is this ongoing assessment that determines what the student knows and is able to do and can apply, and points to the next steps for teaching and learning.

Summative Assessment

Summative assessment occurs at the end of a period of learning and provides students with opportunities to demonstrate their achievement of the important/enduring learning addressed during that period of time. It is used in combination with data from formative assessment.

Reporting on Student Achievement:

Reporting communicates information that has been obtained from a variety of assessment processes and involves a professional judgment on behalf of the teacher. On-Track reporting software is utilised by St Teresa’s to formally report on student achievement in terms 2 and 4. In addition, interviews are used to provide feedback to parents and students in terms 1 and 3. These processes are supplemented by informal feedback on an as needs basis.

Teachers maintain an assessment schedule in their term program to highlight the timing of significant assessment tasks. Assessment task sheets provide a detailed summary of the assessment task criteria. Rubrics are an integral component of major assessment tasks at St Teresa’s. It is preferred that rubrics utilise A – E standard descriptors. Student achievement in assessment tasks is maintained in teacher programs as assessment results. Reporting from Year 1 to 3 requires teachers to make judgments of standards based on a five point scale of very high, high, sound, developing and needs attention. Reporting from Years 4 -7 requires teachers to make judgments of standards based on a five point scale of A to E with A being the highest and E being the lowest. A hard copy of student reports is archived on the school premises until the student reaches the age of 25 years.

Student portfolios further supplement the reporting process at St Teresa’s. Student portfolios typically contain samples of student work and major assessment tasks selected from Semester 1 and Semester 2 in all KLAs. Student portfolios are representative of student achievement throughout the school year. The portfolio is provided for parent observation at the end of Semester 1 and at the end of the school year.
St Teresa’s values Consistency of Teacher Judgment professional development every year. Opportunities are provided for a forum for St Teresa’s teachers to compare student work samples with teachers from other schools within the Tablelands cluster in order to achieve consistency in grading student work samples.

Reporting in the Preparatory year of school is through formal three-way conferencing and a student portfolio, which includes the Early Learning Record. The Early Learning Record (ELR) documents judgments made about a child’s learning is each early learning area. The ELR uses 4 phases to describe learning progress:

- Becoming Aware
- Exploring
- Making Connections
- Applying

Teachers consider the range of evidence gathered throughout the year in the individual portfolio, to build an overall picture of a child’s learning and development, and make judgments about the phases in which a child may be operating. The ELR is usually completed twice a year to monitor the child’s overall progress.

The ELR gives:

- Prep teachers a picture of a child’s learning and helps them plan for the child’s strengths and weaknesses
- A focus for communication with parents or carers about a child’s learning and development
- Year 1 teachers an overall picture of a child’s learning and development so that they can plan for a smooth transition from the preparatory year-to-year 1.

Students with special needs receive an end of semester report as well as an individualised record of student achievement if required. Meetings are held with the Learning Support teacher as well as the class teacher on a regular basis to review Individual Education Programs. Parents of students who are engaged in individualised education programs receive regular feedback and support from the classroom and learning support teachers.
EVALUATION

Evaluating is the process of making judgments about the effectiveness of teaching programs, procedures and resources. Evaluation occurs in a number of forms at St Teresa’s School. The process of evaluating the Technology program is as follows:

- Evaluating units of work and updating to reflect any changes. This includes the context, learning sequences, resources, assessment tasks and assessment criteria.
- Teachers will be required to have the Technology Unit Overview available by the end of week 3 of each term.

The Principal evaluates the teachers’ planning at the beginning of each term. The Principal provides feedback to the teachers using the Unit Planning Proforma. Teachers reflect and evaluate their unit plans at the end of each unit. Recommended modifications are made to improve each unit. Resources will be added to the central filing system with units of work. Recommendations regarding the purchasing of appropriate equipment and books will be collated.

REFERENCE

QSA Documents
APPENDIX A – D