Helping Hands

Technology, Level 4

The Learning Context:

In this unit students are challenged to identify and explore a local community organisation with the intention of carrying out a project that would bring benefits to the people using that facility. Students may undertake a small enterprise such as recycling toys and games for the local Plunket rooms or planting hanging baskets at the community hall. Or they may pursue a larger project such as paving a small area, or planting a new garden. They may also consider fun fundraising to purchase new team uniforms for the athletics club or raise enough revenue to buy a bench seat for the town playground, etc. Students will practice being social entrepreneurs.

Students will understand and use planning processes, including accessing stakeholders' feedback and exploring the range of resources that best suit their project. They will also consider future consequences of their enterprising actions for their community.

The students will research costings to support their recommendations. They will consider a range of techniques to 'model' their project, for example, scale 3-D models, computer simulations, perspective landscape drawings, etc.

This unit of work is split into 3 stages: The first stage involves students brainstorming project ideas and researching their feasibility. During the second stage students will be drawing plans, making a scale model, etc. The third stage of the unit requires students to share their project ideas with others, including their community organisation, make it happen and evaluate their achievements.

Students will work to a timeline.

Approximately 16 lessons – dependent on size of project

Achievement Objectives:

TECHNOLOGY CURRICULUM:
Planning for practice -
Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.
Brief Development - Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation.
Outcome development and evaluation
Investigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity.
Technological modelling
Understand how different forms of functional modelling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological outcomes.

Technology Learning Outcomes:

Students will be able to:

1. Identify and undertake research to support a range of project ideas that they have.
2. Display and communicate their project ideas.
3. Evaluate their achievements against shared success criteria.
4. Make connections between existing facilities/equipment, etc and potential facilities/equipment to be generated through their enterprise.

Enterprising Attributes:

- Generating, identifying and assessing opportunities.
- Collecting, organising and analysing information.
- Generating and using creative ideas and processes.
- Working with others and in teams
- Negotiating and influencing.
- Communicating and receiving ideas and information.
- Planning and organizing.
- Monitoring and evaluating.

Teachers to observe and collect evidence of these enterprising attributes in action.

Resource Requirements:

- Local community organisations.
- Visitor from local community organisation/s.
- Resources to support modelling of project.
- Resources to make project happen – if taken this far.
- Planning journal.
- Decision Grid.

Teaching and Learning Sequence

NB: Teachers are encouraged to gauge the prior knowledge of their students before implementing each unit so that they can provide personalised and meaningful learning opportunities. The teaching and learning sequence provided in each unit is to be viewed as a guide only. Teachers will need to adapt this sequence to meet the needs of their students, school and community.

The future focus issues of citizenship, sustainability and enterprise can be explored during this unit. In being enterprising by identifying a community opportunity, designing and providing it, students are engaging in social entrepreneurship. They are also helping to sustain their community. The students' project brings benefits to their benefactor organisation. Through their enterprise, students are encouraged to value community and personal participation for the common good. They are also encouraged to achieve personal excellence by aiming high and by persevering when faced with difficulties.

The numbered activities listed below are learning steps rather than lessons. Teachers may choose to combine two or three learning steps into one lesson. Alternatively, they may spread one learning step out over several lessons. This will be largely dependent on students' prior knowledge and their subsequent learning needs.

Getting Started: Explain to students that they have the opportunity to make a positive contribution to their community through their own enterprise. • Students will identify a local community organisation and brainstorm ideas for a project that will bring benefits to those people using that organisation. • In groups, students will work through the design and planning phases and make presentations to other class members and stakeholders • From the range of feedback given, the class will decide which project they would like to action, and then make it happen.	**LINKS TO BES** **Best Evidence Synthesis** ***5. Quality teachers allow students to solve problems and link learning to real life experiences.***
Researching, Planning and Designing: 1. Students brainstorm a range of community organisations they know about in their community. These could be organisations they use, e.g. sports clubs, scouts, youth group, etc, or organisations that their caregivers or grandparents use, e.g.: parents centre, walking club, toy library, etc. Students discuss the services each provides to their community and which organisation they think best needs their help. Students also discuss projects they have been involved in in their community, or have seen others do to support local community organisations. Students may wish to access more information about each organisation through the Internet, or through their own personal contacts. Generating, identifying and assessing opportunities. 2. In groups, students further investigate one or two organisations. They organise to meet with a representative to discuss and research the range of project opportunities open to them. They may ask about past and future small projects that have/would support people using this facility, and why this organisation exists and how funding is sourced. Students record their findings, particularly those that inform them about possible ideas to pursue for this project. Students record their questions asked and the information they have gathered in the planning journal. Collecting, organising and analysing information. Community and participation (Learning Outcome 1)	***3. Quality teachers recognise and build on students' prior knowledge.*** ***2. Quality teachers create a caring, inclusive and cohesive learning community encouraging learners to work as a community.***

3. Students generate shared success criteria for their project after considering the:
    a. enterprising attributes they will be applying.
    b. needs of their community organisation.
    c. demonstration of technological practice. Excellence

    The record of the success criteria is posted on the wall for all students to reflect on during the learning.

4. Students finalise the organisation they will work with and the project they want to take through to the designing and planning stages. A decision grid will assist students finalise their decision on which project to run with. It will help them to identify the range of criteria that is important to this decision and to make a more informed choice. For the criteria students may consider: Do they have the skills to design and implement this project safely, or have access to people who can help them? Do they have access to the resources to carry through this project? Is the project affordable for them to potentially fundraise the costs that would be incurred? Will it be valued by the people using the community organisation? Do they personally like the project? Can they meet legal requirements? etc. Innovation, inquiry, and curiosity

    The teacher provides feedback to the students about their decision making processes. The decision grid is included in the group's planning folder. (Learning Outcome 2). Collecting, organising and analysing information.

8. Quality teachers provide students with effective, positive, responsive and appropriately frequent feedback on task engagement.

5. The teacher introduces a time line, with finished dates clearly signalled. Students brainstorm the steps to progress and finish this project, and record tentative dates for actioning steps. Planning and organizing.

6. With teacher guidance (by modelling), students consider the skills and attributes they have and the roles that this project requires of their group. Students match themselves to roles in their group and record their responsibilities and job descriptions. They record their decisions in the planning journal. Working with others and in teams.

2. Quality teachers teach students how to work collaboratively.

7. Students brainstorm potential designs and make lists of the resources they will need to undertake their project. After deciding on a design, students will record how and where they could access each resource listed. Students will record the quantity and estimated cost of each resource. Does the more detailed information now collected still support the decision made at Step 3? (LO2) Generating and using creative ideas and processes. Planning and organizing. Innovation, inquiry, and curiosity

2. Quality teachers facilitate active learning in the classroom.

Creating:

8. Students finalise their design brief and consider how they will 'model' their project, for example, scale 3-D model, computer simulation, perspective landscape drawing, etc. Students take photos/video of their group working on their design brief and models.

Sharing and Evaluating:

9. Groups present their project to the class and a representative from their community organisation. The group invite questions and feedback about their project. Communicating and receiving ideas and information.

10. Groups consider refinements to the projects.

11. Students revisit shared success criteria and evaluate each project. (Learning Outcome 3)

12. Students decide on a 'class project' they would support to bring through to fruition. Negotiating and influencing.

13. Class discuss reflective questions and record key learning outcomes. Monitoring and evaluating.

Creating:

14. Revisit class project and make plans to complete this project.

Reflective Questions:

Exploring new knowledge and skills

- What are the critical steps I needed to go through to make this project happen? Can I draw these steps in a flow diagram? Where else could I apply this process/learning?
- How will this project meet the needs of this organisation and what changes will I create by actioning this project? (Learning Outcome 4)
- Would I do anything differently next time?
- What did our class and community organisation think of our group's project?
- What evidence can I/we present to demonstrate our understanding of technological practice?

Exploring what it is to be innovative and enterprising

- What step/s were you doing when you were using each of the Enterprising Attributes?
- How could you improve on using the Enterprising Attribute/s for next another time?
- Can you transfer this learning (application of Enterprising Attributes) to your other topics?

Exploring further future focus issues

- How do community organisations gain funds in which to operate?
- How does community enterprise and entrepreneurship help these organisations?
- What are the range of activities you could do to help your chosen community organisation in the future?
- What values are people displaying when they work for their community in this way?

The teacher may wish to record student responses to these questions as evidence of learning.

10. Quality teachers use the results of their assessment to guide their future teaching.

Possible Assessment Activities (Teacher):

Teacher could evaluate the project's technological modelling demonstrated in step 8.

Teacher could monitor students' progress during the unit by looking at the students' group planning books to monitor their technological thinking and practice.

Handy Hint:

- Students could continue to support a local community organisation or another after this project has been completed. This illustrates how such classroom projects can become sustainable, benefiting their community beyond this learning.

Decision Grid

Choices / Criteria					
Total					