

Developments in Technology Education:

Implications for Programme Planning

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Technological Literacy

Functional

Liberatory
or
Critical

Essence Statement
Technology 2007

- Tech Practice
- Technological Knowledge
- Nature of Technology

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Technological Practice

The *technological practice* strand focuses on students **undertaking practice** and **examining the practice of others**. Technological outcomes will range from **conceptual designs, working models, prototypes, final outcome in situ** or **multi-unit production**. Where appropriate, outcomes will be **developed in collaboration with wider stakeholders**.

Aspects of technological practice include:

- identifying and investigating issues, existing knowledge and solutions
- generating ideas, developing briefs, organising and managing resources and time
- carrying out ongoing informed and critical evaluations
- developing and communicating outcomes.

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Technological Knowledge

The *technological knowledge* strand focuses on students developing an understanding of **artefacts, systems and environments**. Such **understanding should not be limited to that which is gained through undertaking technological practice**.

Technological knowledge includes understanding of:

- resources, their part in enabling the success of a technological outcome and their current and long-term availability and viability
- the way things work individually and together as part of an overall outcome
- appropriate ethics, legal requirements, protocols, and the needs of and potential impacts on stakeholders and the site of the development and outcome location.

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Nature of Technology

The *nature of technology* strand focuses on students developing an **understanding of the characteristics of technology as a field of human endeavour.**

The *nature of technology* includes understanding:

- historical and contemporary technological developments in terms of social, intellectual, technical, and environmental impacts and implications
- the ways in which individual and group's beliefs, values, and ethics can constrain or promote technological development
- the nature of technological knowledge
- the integration and transformation of knowledge in technological development.

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Implications for Programmes Technology 2007

- The aim of technology is to develop technologically literate students
- A technologically literate student should be able to:
 - undertake technological practice;
 - develop understandings of technological knowledge; and
 - critique technological achievements and issues.

To develop technological literacy that is '*critical*' students need to explore and undertake:

- technological practice;
- develop understandings of technological knowledge; and
- develop understandings of technological achievements and issues **from a wider perspective than their own technological practice.**

Learning versus Experiencing

What's the difference?

How can you tell the difference?

What are the teachers responsibilities?

Programme Design

In designing technology programmes teachers need to consider:

- what students already know can do
- students past learning experiences
 - learning contexts
 - technologies used to support learning
- resources available to support student learning
- teacher's own expertise

Units Design

Technology 2007

- Technology units within a programme may be:
 - situated within a strand; or
 - a variety of combinations of strands e.g. (tech. practice and tech knowledge or nature of technology and tech knowledge etc).

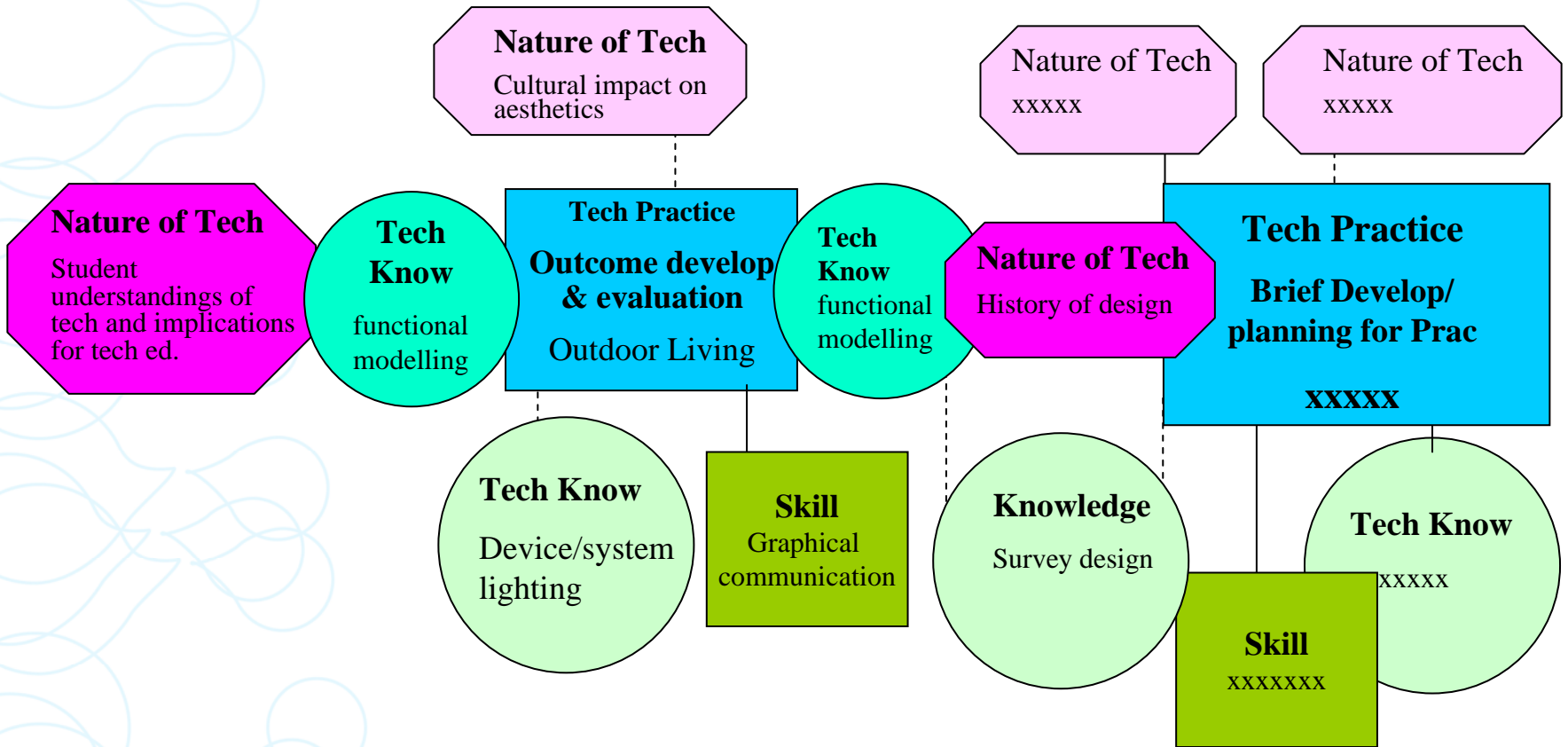
Programme Design

Technology 2007

- Technology programmes MUST:
 - include all 3 strands
 - range of technological contexts
 - progression focused not JUST another experience

Development of student technological literacy

Technology Programme



Resources

- GIF – Technology Beacon Practice
 - Case Studies
 - Examples of student outcomes
 - Teachers planning – what enabled students to achieve their outcomes

Resources cont.

- Techlink (techlink.org.nz)
 - Case studies
 - Teachers planning
 - Student outcomes
 - Profiles of technologists practice
 - Career profiles on technologists
 - Research articles

Resources cont.

- Futureintech (futureintech.org.nz)
 - Profiles of Ambassadors (practicing technologists)
 - Career profiles

Resources cont.

- Learning Media
 - Connected (years 3 - 8)
 - Applications (years 9 - 11)
- NCEA
 - MoE exemplars for Achievement Standards

What else would be useful to you ??????