

Achievement Standard

Subject Reference Technology 1.1

Title Develop an outcome through technological practice to address a given brief

Level 1 **Credits** 6 **Assessment** Internal

Subfield Technology

Domain Technology - General Education

Status Registered **Status date** 18 December 2007

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This achievement standard involves the development of an outcome through informed planning to address a given brief.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> • Outline key stages and their resources in the development of an outcome. • Develop an outcome guided by planning, with evidence showing how essential requirements of the given brief are addressed. 	<ul style="list-style-type: none"> • Review and refine key stages and the allocation of their resources in the development of an outcome. • Develop an outcome that is informed by planning. Present evidence that shows how the requirements of the given brief are addressed. 	<ul style="list-style-type: none"> • Develop an outcome that is informed by ongoing planning and re-evaluation. Present evidence that shows how the requirements of the given brief are addressed, and how any interactions between factors are resolved in making key decisions.

Explanatory Notes

- 1 This achievement standard is derived from *Technology in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1995, Level 6, and *Hangarau i roto i te Marautanga o Aotearoa*, Te Tahuhu o te Matauranga, 1999.
- 2 Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Learning Media, Ministry of Education, 1998; and The Health and Safety in Employment Act 1992.
- 3 Further details of definitions listed below can be found at <http://www.tki.org.nz/ncea>.
- 4 An *outcome* is developed through undertaking technological practice for a specific purpose. This requires students to consider such things as:
 - ongoing consideration of stakeholder opinions, brief refinement, research, idea design and development, ongoing planning, outcome development and evaluation
 - environmental factors that may impinge on its development, including where the outcome will be finally located.To develop an *outcome*, students will need to develop and apply knowledge and skills that are specific to the context in which the outcome is developed.
- 5 An outcome must be presented using one of the following:
 - working model
 - prototype
 - finished product example.
- 6 *Planning* is used to inform the technological practice undertaken to develop an outcome. Planning must reflect the dynamic and evolving nature of this development, incorporating ongoing evaluation and subsequent modifications/refinement of both the practice and the outcome. Its form therefore will be dependent on the nature of the technological practice being undertaken and could change significantly during a project.

During development work, ongoing planning should be undertaken and changes made to allow the remaining time and resources to be used to achieve the desired technological outcome.

Planning sets out how key resources (which may include, but are not limited to, time, expertise, materials and finance) will be used efficiently during the development of a technological outcome. It establishes key milestones (intermediate project accomplishment points that are usually also key decision points), and states how each resource is *used* to achieve each milestone stage. It also establishes how consultation with stakeholders will be carried out to ensure that all constraints and requirements are met.

Evidence of planning needs to be demonstrated throughout the student's entire technological practice. Planning tools may include plans of action, Gantt charts, flow charts, block sequence diagrams, journal notes.

- 7 A *given brief* is one presented to the students. The given brief may require refinement during the undertaking of technological practice to allow an outcome that is fit for purpose to be developed.

A *brief* is a clear description of both the desirable outcomes sought and the constraints to be met by a successful outcome. A brief commences with a conceptual statement of the need, issues or opportunity being addressed, but also contains the detailed specifications against which the success or otherwise of the outcome can be tested. Ideally, the brief is fully researched and defined in advance of development of the outcome, but often, as the development work proceeds, the knowledge and understanding of the technologist improves and therefore *refinements* (usually improvements) are made to the brief and its specifications.

- 8 *Develop* includes all aspects of technological practice. Develop may include such things as: interactions with key stakeholders, brief refinement, research, idea design and development, ongoing planning, outcome development, evaluation. This encompasses the three interrelated strands of *Technology in the New Zealand Curriculum*.

Quality Assurance

- 1 Providers and Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0226