

Achievement Standard

Subject Reference	Digital Technologies 2.41				
Title	Implement advanced procedures to produce a specified digital information outcome with dynamically linked data				
Level	2	Credits	6	Assessment	Internal
Subfield	Technology				
Domain	Digital Technologies				
Status	Registered	Status date	17 November 2011		
Planned review date	31 December 2014	Date version published	17 November 2011		

This achievement standard involves implementing advanced procedures to produce a specified digital information outcome with dynamically linked data.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Implement advanced procedures to produce a specified digital information outcome with dynamically linked data. 	<ul style="list-style-type: none"> Skilfully implement advanced procedures to produce a specified digital information outcome with dynamically linked data. 	<ul style="list-style-type: none"> Efficiently implement advanced procedures to produce a specified digital information outcome with dynamically linked data.

Explanatory Notes

- This achievement standard is derived from the Level 7 achievement objectives from the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education, 2010 at <http://seniorsecondary.tki.org.nz>.

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.

Further information can be found at <http://www.techlink.org.nz>.

- Implement advanced procedures to produce a specified digital information outcome with dynamically linked data* involves:

- designing and creating a database with field types that meet data requirements
- using tools of the software to integrate data from a database and at least one other software application using dynamic linking
- applying design elements and/or formatting techniques as suited to the outcome
- applying data integrity and testing procedures to ensure the outcome meets the specifications
- following legal, ethical and moral responsibilities as required for the outcome.

Skilfully implement advanced procedures to produce a specified digital information outcome with dynamically linked data involves:

- showing accuracy with the techniques, the application of design elements and procedures
- showing independence with regard to decision making in the application of techniques, design elements and procedures.

Efficiently implement advanced procedures to produce a specified digital information outcome with dynamically linked data involves:

- undertaking techniques and procedures in a manner that economises the use of resources in the outcome's production and its use (eg timely fashion, optimises the specific features of tools and the application of dynamically linked data).

- 3 *Specified digital information outcome with dynamically linked data* refers to a digital information outcome and its relevant specifications. The specifications must be of sufficient rigour to allow the student to meet the standard. The specifications need to be agreed prior to the outcome being made. They may be teacher-given or developed in negotiation with the student.
- 4 All digital information outcomes must be student-developed. The digital information outcome must demonstrate advanced procedures in a database and dynamically link data between a database and at least one additional application. Students must also demonstrate advanced procedures in the additional application/s. For example:
- a word processed document that includes linked data from one or more database tables or queries
 - a spreadsheet document that contains linked data from one or more database tables or queries
 - a web page that links to a database to display content or populate the database
 - PDF forms which link to a database to display content or populate the database.
- 5 *Advanced procedures* are those that require the student to use advanced features of software. Advanced procedures to be demonstrated in database software will include a selection from:
- linking related tables in a database, using keys
 - sorting on one field with a secondary sort on another field
 - creating multiple criteria queries, using logical, mathematical and/or wildcard operators
 - customising reports and forms
 - setting validation rules to restrict what users can enter in a given field (such as expressions, operators).
- 6 The *advanced procedures* to be demonstrated in the additional application/s will be dependent on the nature of the software. For example, if linking to word processing

software, advanced procedures could be: applying custom styles, table of contents, section breaks, footnote and endnotes, multilevel bullets and numbering, object linking and embedding, creating templates, or use of reviewing tools. If linking to spreadsheet software, advanced procedures could be: using advanced formulae and functions (count-if, logical operators, go seek), advanced sort/filter, advanced printing/page setup features, managing multiple worksheets, or statistical graphs.

- 7 Tools within the software application allow the user to perform tasks which may include but are not limited to: custom formatting, advanced calculations, data querying and sorting, and linking data between documents (eg Object Linking and Embedding - OLE).
 - 8 Legal and ethical issues refer to the social implications of the outcome within an organisation and the wider community. Issues could include but are not limited to: licensing, creative commons, copyright, attribution, digital ownership, privacy, access to information, method of publication, and implication of the longevity of digital content on the internet.
 - 9 Data integrity procedures may include but are not limited to: checking for the relevance, accuracy, and reliability of the information (eg formulae auditing, proof reading, and spell checking).
 - 10 For resources relating to legal, ethical and moral responsibilities, refer to the Techlink website at <http://www.techlink.org.nz/IP/links.htm>.
 - 11 Conditions of Assessment related to this achievement standard can be found at <http://www.tki.org.nz/e/community/ncea/conditions-assessment.php>.
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Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233