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National Newsletter: Technology

Information and resources for middle leaders in secondary schools | Term 4 2014

Kia ora, Tālofa lava, Mālō e lelei, Kia orana, Bula vanaka, Fakaalofa lahi atu, Talofa ni, greetings to you all.

In this issue we cover:

- Technological experiences
- Preparation for externals
- End of year review and planning for 2015
- NCEA issues we are noticing in schools.

Ngā mihinui
Malcolm and Cheryl
National Co-ordinators - Technology

The importance of technological experiences

In technology students need interactive experiences in keeping with the technological communities of practice which are currently informing and developing our future. Through technology education, students have the opportunity to develop a broad technological literacy and to experience and explore a wide range of technologies in a variety of contexts that will enable them to participate as informed participants in an ever-changing world. (*Teaching and Learning Guides* <http://seniorsecondary.tki.org.nz/Technology>)

Technological experiences that enrich student learning include:

- undertaking technological practice to develop a technological outcome(s)
- demonstrating understandings of concepts underpinning technological knowledge
- demonstrating understandings of the nature of technology.

Technological experiences in action could include a range of activities and learning opportunities in the classroom and beyond. These include such things as:

- undertaking technological practice to develop authentic technological outcomes
- generating new knowledge and acquiring a range of skills and procedures
- innovation, adaptation and integration of knowledge, skills and competencies
- developing and critiquing case studies to inform understanding
- exploring technological issues – ethics, social acceptance, technical feasibility
- undertaking observations and interacting with practicing technologists.

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Preparation for externals

Some final checking at this time of the year is essential before student work is submitted. The following questions are from the checklist which we used in the workshops relating to technological products 1.6- 3.6.

Step 1: Authenticate the work

1. **Does the student's report reflect the specific context of the course** I taught at the appropriate level of the Technology Learning area of the New Zealand Curriculum?
2. If not, how do I know the report is the student's work?
3. Is the student work in the student's words?
4. If not, how do I know the report is the student's work?
5. Why would a marker believe this is the work of a student?
6. Does the student's report have significant differences to the work of other students in the submission from my students?
7. If not, what indicates that the work is the student's work?
8. Has the student used supplied answers to fill in gaps in a template?
9. If so, when you ignore these supplied answers, is there **clearly sufficient evidence** to demonstrate understanding?
10. Has the student copied and pasted information without modification into the report.
11. If so, when you ignore the copied information is there **clearly sufficient evidence** to demonstrate understanding?
12. Has the student copied and pasted information with minimal modification e.g. substituting words?
13. If so, when you ignore the copied information is there **clearly sufficient evidence** to demonstrate understanding?

Step 2: Analyse the report contents

In the student work, can you find the place(s) where the student: *demonstrates their understanding of the required concepts of the standard for example by:*

- **describing**
- **explaining**
- **discussing** the concepts outlined in the criteria of the standard.

As each section is found in the report ask yourself:

- A. Is there **clearly** sufficient evidence at the required curriculum level in the report?
- B. Is the evidence clear so that a marker who does not know the candidate will recognise it?

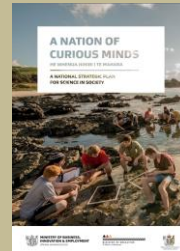
It is essential that teachers interact with the student and their work in a formative assessment process to ensure accuracy and authenticity of the work to be submitted and this should be an ongoing process that begins early in the process. The best way to manage this is to embed the learning experiences in the programme of learning as it progresses from the beginning of the year.

There is a new circular on the web. It is: **Assessment Matters**

[Authenticity declarations for external assessment in NCEA and New Zealand Scholarship Music, Design and Visual Communication, Technology, Dance, Drama, Visual Arts and Education for Sustainability](#)

What's new?

Science in Society Plan

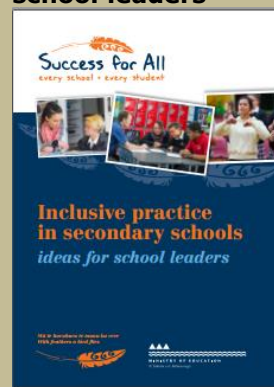


[A nation of curious minds – He Whenua Hihiri i te Mahara](#)

The Science in Society project is one of a number of Government initiatives recognising the importance of science to New Zealand's future. The long-term objective is to encourage and enable better engagement with science and technology across all sectors of New Zealand society.

[Here is the link to the Ministry of Business, Innovation and Employment about the Science in Society Project.](#)

Inclusive practice in secondary schools: ideas for school leaders



<http://www.minedu.govt.nz/~media/MinEdu/Files/EducationSectors/SpecialEducation/Publications/Resources/InclusivePracticeSecondarySchoolsForSchoolLeaders.pdf>

The purpose of this resource is to give secondary school leaders ideas for discussing inclusive practice in your schools.

It is intended to start the discussion and help school leaders reflect on what is working well and what may need to improve.

End of year review and planning for 2015

As the end of year approaches now is an important time to be reviewing 2014 and making plans for 2015.

Data

Good quality data and evidence is a fundamental part of any inquiry and review process. Whilst some of the data related to externally assessed standards will not be available yet, what does your data from internally assessed standards and junior assessment tell you about your programmes? Is now a good time to consider getting some 'student voice'? What do the students think of your programmes and the teaching going on in your department?

Setting goals for 2015

What are your department goals for 2015? Do your goals reflect your school goals and the government goal of getting 85% of all 18 year olds to pass NCEA level 2 (or equivalent) by 2017? Have you considered goals for your Māori students and Pasifika students that are in line with the targets in Ka Hikitia and the Pasifika Education Plan?

<http://www.minedu.govt.nz/theMinistry/PolicyandStrategy/KaHikitia.aspx>
<http://www.minedu.govt.nz/NZEducation/EducationPolicies/PasifikaEducation/PasifikaEducationPlan2013.aspx>

Coherent programme planning

Have you developed a coherent technology programme from year 9 to 13? Is your programme based on sound teaching and learning rather than just being assessment driven? Have you considered the requirements at year 13 and backmapped from there to determine what needs to happen in the lower levels? Have you kept relevant pathways open for students in the design of your programme? What are the implications of your decisions considering such things as course or certificate endorsement, Vocational Pathways Award, University Entrance, and access to scholarship?

Literacy

Does your Year 11 programme include at least one standard that counts towards NCEA literacy? If not, could you change it so it does? In relation to your level 3 programme have you included standards that count for UE literacy (reading or writing or both)? What technology specific literacy support are you providing your students in such things as report writing and vocabulary?

For lists of approved literacy standards for NCEA literacy and UE literacy refer to the NZQA literacy and numeracy page at

<http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/literacy-and-numeracy/>

Junior programme planning

The 2014 national technology workshop had a session looking at reviewing and revising your junior technology programme. The end of the year is a great time to review and revise your programme for the next year. Refer to the resources from that workshop available on our wikis:

Team Solutions wiki at

<http://technologynz.wikispaces.com/2014+National+Technology+Workshop>

Southern wiki (Te Tapuae o Rehua) at

<http://southern-technology.wikispaces.com/2014+National+Workshop+series>

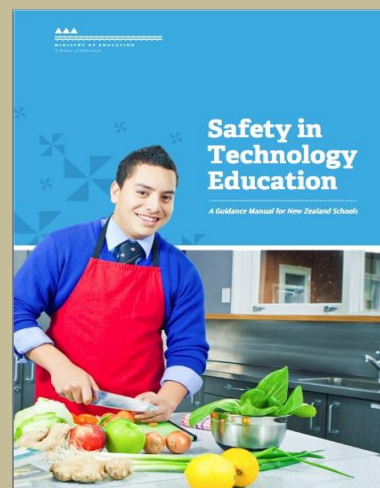
Safety planning and documentation

As part of the end of year review and planning it could be a good time to review the safety planning and documentation in your department. Use Appendix 1 from 'Safety in Technology Education: A Guidance Manual for New Zealand Schools' which is a 'Template for safety planning in technology education'. This should be completed for each unit in technology at your school. This follows a risk management approach of identifying and assessing potential risks with the equipment and materials being used in particular units and specifying how these risks will be managed in terms of elimination, isolation, or minimisation. Appendix 2: 'Completing the safety planning template – notes and examples' will be a useful resource when completing the template in Appendix 1.

Latest resources

Safety planning manual

Have you got a copy of the new safety guidance manual yet? 'Safety in Technology Education: A Guidance Manual for New Zealand Schools'. Available from technology.tki.org.nz/Curriculum-support/Safety-in-Technology-Education



Vocational Pathways

Have you looked at the latest material for education providers on the Vocational Pathways website? Notice that resources are now available for the newly created Creative Industries pathway, and other resources have been updated.

<http://youthguarantee.net.nz/vocational-pathways/education-providers-/>



The new Creative Industries pathway has recommended standards (and sector related standards) from several areas of the technology matrix including generic technology, design and visual communication, digital technologies, and construction and mechanical technologies.

NCEA issues we are noticing in schools

Exemplars for internally assessed standards

The trend with new exemplars published by NZQA is they are only one to two pages long. It is important to realize these are extracts from students evidence and do not represent all the evidence that a student submitted for a particular standard.

Contextualising assessment tasks and schedules

Some teachers are still using the assessment resources from TKI without any modification. The comment on the front page of these resources clearly states 'This resource should be modified to make the context relevant to students in their school environment and ensure that submitted evidence is authentic'.

Request for clarification of a standard

Departments may ask questions about standard interpretation at any time using the 'Request for clarification' form. See the February 2014 moderator's newsletter. The form is available at <http://www.nzqa.govt.nz/audience-pages/secondary-schools-and-teachers/forms/>

Authentic contexts versus hypothetical scenarios

For some of the specialist skills and knowledge standards it is acceptable to use a hypothetical scenario, however it is important to note that if using the technological practice standards students should create solutions for real needs and opportunities rather than for made up scenarios.

Refer to the July 2014 moderator's newsletter at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/technology/moderator-newsletters/july-2014/>

Fitness for practice in the broadest sense

One of the key step-ups to working at curriculum level 8 is the concept of 'Fitness for purpose in its broadest sense'. This topic was covered extensively in the term three 2013 national newsletter available on TKI at <http://nzcurriculum.tki.org.nz/Secondary-middle-leaders/Professional-learning-and-development/E-newsletters/Archived-newsletters-2013>
Refer to the webcast on 'Fitness for purpose in its broadest sense' available at <http://technologynz.wikispaces.com/Webcasts>

Importance of the clarification documents

These documents contain key clarifications related to the internally assessed standards. They are updated as necessary but teachers should get into the habit of checking at the start of each year as they are likely to be updated at the start of each year and more often if necessary. Refer to the relevant subject's resources page (Technology, DVC, or Digital).

External moderation

The external moderation process is about the moderator seeing how a teacher made a judgement and is not about the moderator marking the student work. Teachers are encouraged to annotate their assessment schedule and/or provide accompanying notes that help explain to a moderator how they made a particular judgement.

Exemplars for externally assessed standards

Exemplars for the externally assessed standards for generic technology and digital technologies are available as zip files at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/technology/external-exemplars/>
Exemplars for DVC are available on the DVC subject resources page with links for each level <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/graphics-dvc/levels/>

Where to find key resources

Links to key information

In the term three national technology newsletter we included a summary of where to find the key curriculum and assessment information related to technology. This summary is also available on our wikis:

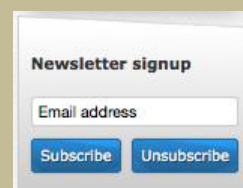
Team Solutions technology wiki
<http://technologynz.wikispaces.com/Key+links>

Southern technology wiki
<http://southern-technology.wikispaces.com/2014+Key+links+and+resources>


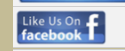
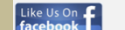
Four ways to keep up to date

One: Make sure you are on the email database of the technology facilitator for your region so you receive this newsletter and other communications directly. Contact details are on page one of this newsletter.

Two: Technology Online now publishes a newsletter twice a term with what's new on Technology Online. See the newsletter signup box on the home page at <http://technology.tki.org.nz/>

A screenshot of a newsletter signup form. It has a title 'Newsletter signup', an input field for 'Email address', and two buttons: 'Subscribe' and 'Unsubscribe'.

Three: NZQA has a Facebook page associated with each subject resources page as a means of keeping up to date when new material is added to that page. See the relevant subject resources pages at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/>

	Click here to view the NZQA Technology Facebook page
	Click here to view the NZQA Design & Visual Communication Facebook page
	Click here to view the NZQA Digital Technologies Facebook page

Four: Join at least one technology subject association.

TENZ <http://www.tenz.org.nz/>
NZGTTA <http://wp.nzgta.co.nz/>
HETTANZ <http://www.hettanz.org.nz/>
NZACDITT <http://nzacditt.org.nz/>