Secondary Student Achievement PLD

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National Newsletter: Technology

Information and resources for middle leaders in secondary schools | Term 3 2016

Kia ora koutou, greetings to you all.

In this issue we cover:

- Latest technology news- online submission (this page) and The NZ curriculum to include digital technology (side bar this page).
- National workshops, screencasts, resources and key dates (sidebar page 1).
- Scholarship in technology (page 2).
- Volume of assessment (pages 3-4).
- Health and safety workshops (sidebar page 4).
- Resources and where to find them (page 5).

Ngā mihi nui
Malcolm and Cheryl, National Co-ordinators – Technology

Latest news

2016 online submission for externally assessed technology standards

As part of the NZQA Digital Assessment Transformation Project, NZQA is piloting an **option** for online submission of technology standards.

What would change?

- The online submission option will be an alternative to a submission that is couriered to NZQA.
- Schools will be able to upload a report as a digital file to NZQA. These files will be provided to markers for assessment. NZQA will closely monitor the process to ensure that there is no risk to candidates' submissions.
- Marking of digital submissions will have the same assessment process and quality control as reports submitted on paper or CD/DVD.

What else do you need to know?

- You can choose not to submit digitally.
- The submission process involving folders and couriers will continue in parallel to the digital submission.
- You can choose to submit digitally one or more standards. A full list will be sent to schools early in term 3.
- You can choose to submit digitally some submissions for a standard while submitting the remainder in a paper form.
- The submission process involves drag and drop.
- The submission process will open prior to the paper based submission date and will close on 1 November at 3.00 pm.
- While each school has one account, the number of teachers with access to the account is governed by the school.
- A help line will be available.
- The Assessment Specifications for 2016 govern this submission process with some additions.
- Further information will be sent to schools early in term 3.

Resources and news items

NZ curriculum to include digital technology

Digital technology is to be formally integrated into The New Zealand Curriculum and Te Marautanga o Aotearoa, Education Minister Hekia Parata announced on July 5 at the NZTech Advance Education Technology Summit in Auckland.

From now until the end of 2017, the Government will consult with stakeholders, design new curriculum content, and develop achievement objectives across the whole learner pathway. It will be fully integrated into the New Zealand Curriculum and Te Marautanga o Aotearoa in 2018.

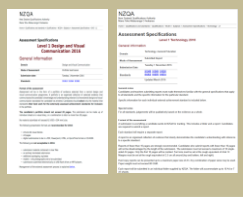
National technology workshops

The workshop resources can be found here on our Technology PLD wikis and channels. Refer to Page 4 for the links to the PLD wikis or on this YouTube channel: https://www.youtube.com/user/CherylNZ

Technology marker applications closing date

Just a reminder that applications for 2016 marking panels for Technology close on 19 August.

External submissions for assessment in DVC and Technology NCEA and Scholarship are due Tuesday 1 November 2016. Remember to check the specifications!



Scholarship

Scholarship in the context of all subjects has some key features that need to be addressed before looking at the discipline specific special notes. These higher order thinking skills should be part of students' learning experiences as they progress through to the senior school. Scholarships in technology and DVC require students to demonstrate the following competencies as described in the generic Scholarship performance descriptors.

The student will demonstrate aspects of high level:

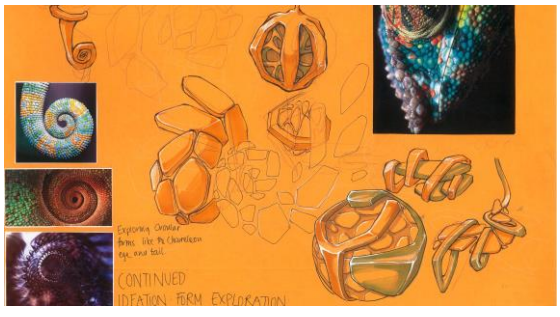
- Analysis and critical thinking.
- Integration, synthesis, and application of highly developed knowledge, skills, and understanding to complex situations.
- Logical development, precision and clarity of ideas.

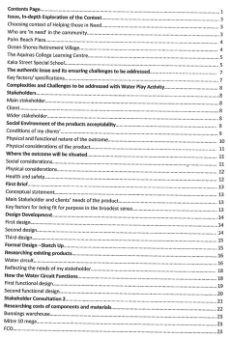
For Outstanding Performance, in addition to the requirements for Scholarship, the student will also demonstrate, in a sustained manner, aspects of:

- Perception and insight.
- Sophisticated integration and abstraction.
- Independent reflection and extrapolation.
- Convincing communication.

Some tips to remember

- Identify Scholarship potential early even prior to Year 13.
- Use contexts that will allow students to be engaged in authentic practice that extends their thinking and allows for elegance, originality, not a copy of another person's practice or outcome.
- Extend and challenge thinking by solving complex problems.
- **Scholarship in technology draws on the three strands of the technology curriculum where technological experiences include:**
  - Undertaking technological practice to develop a technological outcome(s) that is justified as fit for purpose in the broadest sense and shows elements of elegance and/or originality.
  - Demonstrating understandings of concepts underpinning Technological Knowledge.
  - Demonstrating understandings of the Nature of Technology.
- Explicitly teach students how to structure technical reports and reflections





Images from 2014 Top Scholars DVC (left) and technology reflective report (right).

- Scholarship in DVC draws on knowledge of design and visual communication to explore and develop design ideas through creative processes that integrate knowledge and skills, and are expressed visually, applying presentation techniques and principles.
- Remember to use the subject specific definitions in the DVC and technology performance standards and unpack these with your students so they are able to demonstrate these competencies in their work.

Scholarship webinar

If you missed the webinar on 'Technology Scholarship' or want to hear it again, you can find the recording and resources at

http://technology.tki.org.nz/Teacher-education/Technology-Online-webinar-Technology-scholarship

Key documents and resources for technology and DVC Scholarship can be found here:
http://www.nzqa.govt.nz/qualifications-standards/awards/new-zealand-scholarship/scholarship-subjects/scholarship-technology/

http://www.nzqa.govt.nz/qualifications-standards/awards/new-zealand-scholarship/scholarship-subjects/scholarship-graphics/

Design and Visual Communication outcome description
(Extract only - refer to full standard.)

Evidence should clearly demonstrate quality idea generation; idea refinement and resolution; visual communicating of design thinking; and the visual promotion of selected ideas. It should be noted that this is **in addition to** the communication and design skills required at Level 3.

Technology Scholarship Outcome description
(Extract only - refer to full standard.)

The student will use knowledge of technology to demonstrate synthesis, integration, justification, and critical reflection on technological experiences (refer to main article):

- Elegance refers to attributes such as ingenuity, simplicity, polish, and optimisation.
- Originality refers to attributes such as inventiveness, innovation, and elements of unconventionality.

Volume of evidence: how much is enough?

Can we as teachers help students by encouraging them to write less and achieve better quality for assessment purposes? The standards on the technology matrix can be broadly grouped into the following categories for this discussion, as each group of standards has different expectations around the evidence expected:

- Externally assessed knowledge standards.
- Internally assessed knowledge standards.
- Internally assessed skills standards (the implement standards).
- Internally assessed technological practice standards.
- DVC standards.

The externally assessed knowledge standards

Requirements are specified in the NZQA assessment specifications. For all standards except AS91371 (2.44) the maximum is 10 A4 pages (or 5 A3 pages). This is a maximum and not a target! The wording on the assessment specifications states, "Reports of fewer than 10 pages are strongly recommended." For AS91371 the maximum is 14 A4 pages. If audiovisual material is included (maximum 1.5 minutes) then the page limit reduces accordingly – refer to the specifications on the NZQA subject page at http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/technology/levels/

The internally assessed knowledge standards

Being internally assessed these standards are not covered by the assessment specifications. However, the 10 A4 pages that applies for the externals is still a useful guide for these standards as they are similar credit value and also similar in nature, being knowledge standards. So if your students are submitting more than this they are probably writing too much! Written evidence could be reduced using a clearly structured report format with succinct detail rather than a portfolio of all the learning undertaken. Remember, this is evidence of understanding - not a compilation of a year's work.

The internally assessed skills standards (commonly referred to as the implement standards)

These standards are largely practical. Any accompanying evidence could be as little as 1-2 pages, A3 in general, with relevant text and photographs inserted by the student and/or annotations from the teacher. Here is an example of what some teachers are using based on the standard criteria.

Standard Criteria	Student evidence Attach the Digital media Outcome and any screenshots, photographic or video evidence to support as required	Supporting Teacher Comment (As Required)
applying a set of techniques to create an outcome that meets specifications Techniques may include for example: *Note these are not given in the standard and are indicative only - add any others you wish* **Web Design:** Use of web authoring software, Standards and Conventions, Naming, Folders ,Code Commenting **Print** ~~media~~ **Text** and image frames, Typography, Linking Data, Inserting and formatting images, Grouping of elements **Motion Graphics :** One timeline , Titles, Editing, Image insertion, Merging Videos **Image Manipulation:** Crop, Resample, Resize. Recolouring, Simple pixel Selects, Logo Creation, Vector graphics, Conversion between file types	**Give at least one example of how you demonstrated The use of at least one basic technique or tool in each of the media types you have used** [insert media types as appropriate to the outcome] eg. Web Design Print Media Motion Graphics Image Manipulation	
using the appropriate features of digital media software to edit and integrate digital media types to create an outcome	**Give the names of at least 2 digital media software's used** **What are the media types being integrated**	
applying formatting techniques and design elements as appropriate to the media type and requirement of the outcome	**Give one example of a formatting technique and a design element have you used**	
applying data integrity and testing procedures to ensure the outcome meets the specifications Tests may include but are not limited to – relevance, accuracy, and reliability of the outcome to ensure it functions as intended.	**Describe briefly at least 2 tests you did to ensure your project met the specifications**	
following legal, ethical and moral responsibilities as appropriate to the outcome.	**describe briefly how you ensured that you have followed the legal ethical and moral responsibilities**	
Merit showing independence and accuracy in the execution of the techniques and tests. Excellence undertaking techniques and tests in a manner that economises time, effort and materials.	*Teacher Comments for Merit and Excellence Grade(Accuracy, independence, efficiency, if needed)*	

DRAFT

A health and safety update from the Ministry of Education

The Health and Safety at Work Act is now in force and has created much discussion in schools over the last year.

'Safety in Technology: A Guidance Manual for Schools'

The New Zealand Association of Science Educators (NZASE) has been contracted by the Ministry of Education to review and update both 'Safety in Technology: A Guidance Manual for Schools' and the 'Science Code of Practice'. Colin North from NZASE is producing this update in full consultation with a range of representatives from technology associations. Colin is in the reviewing stage of this resource following input from the technology sector and is expecting to send a refreshed copy back to the Ministry of Education for review by the end of August.

Further revisions

The draft Health and Safety at Work (Hazardous Substances) Regulations 2016 were up for consultation until February 2016.

The regulations are now being written by Ministry of Business, Innovation and Employment. These are unlikely to be completed in the near future so NZASE are refreshing 'Safety in Technology: A Guidance Manual for Schools' using the new Health and Safety at Work Act and draft Health and Safety at Work (Hazardous Substances) Regulations 2016. When the regulations are published the manual will be reviewed and amended as necessary.

For more information

Refer to the Ministry of Education resources at: http://www.education.govt.nz/ministry-of-education/specific-initiatives/health-and-safety/

Volume of evidence: how much is enough? (continued)

The internally assessed technological practice standards
Quality and not quantity is key. These standards generally require students to use evidence from research, stakeholder feedback and functional modelling, trialling and testing to inform, evaluate and/or justify design decisions. Therefore, how the analysis of this information supports students' design thinking is assessed and should form the core part in the assessment submission. Repeated and/or extra tasks such as surveys, questionnaires, unrelated research, unconnected tests and trials should be avoided.

DVC standards
Visual design thinking, not essays. While these standards are not covered by the assessment specifications, the volume of pages submitted for internally assessed standards is dependent on the student's ability to express and narrate his/her ideas on a page (i.e. tell a story) for the purpose of creating a resolved design outcome. It is important to isolate meaningless research pages (at the beginning of student submissions) unless they are used to inform design thinking. The integration of focused research throughout the process of design thinking enables deeper, more meaningful design decision making and can improve the quality of a refined solution as well as reduce the number of pages submitted.

Who said evidence has to be written anyway?
The Conditions of Assessment (updated January 2016) clearly state there is a range of ways of collecting evidence. Evidence may take on different formats, for example videos of student activities such as evaluations, interviews with stakeholders; detailed checklists of observed tasks; annotated photographs; transcripts of oral explanations; or audio-visual recordings. See the Conditions of Assessment for each level accessible from http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards/Technology by choosing the required level and then using the link in the top right to download the Conditions of Assessment for that level.

Understanding the implications for schools of the Health and Safety at Work Act 2015

Workshops coming…
NZASE has been working closely with both the Ministry of Education and the Ministry of Business, Innovation and Employment to plan for the new regulations and support teachers during their implementation.

Registration information and other details will be advised via the Ministry's School Leaders' Bulletin. Please diary and prioritise the date of your nearest workshop. Venue and registration information will follow shortly. All workshops run from 9.30am until 12.30pm.

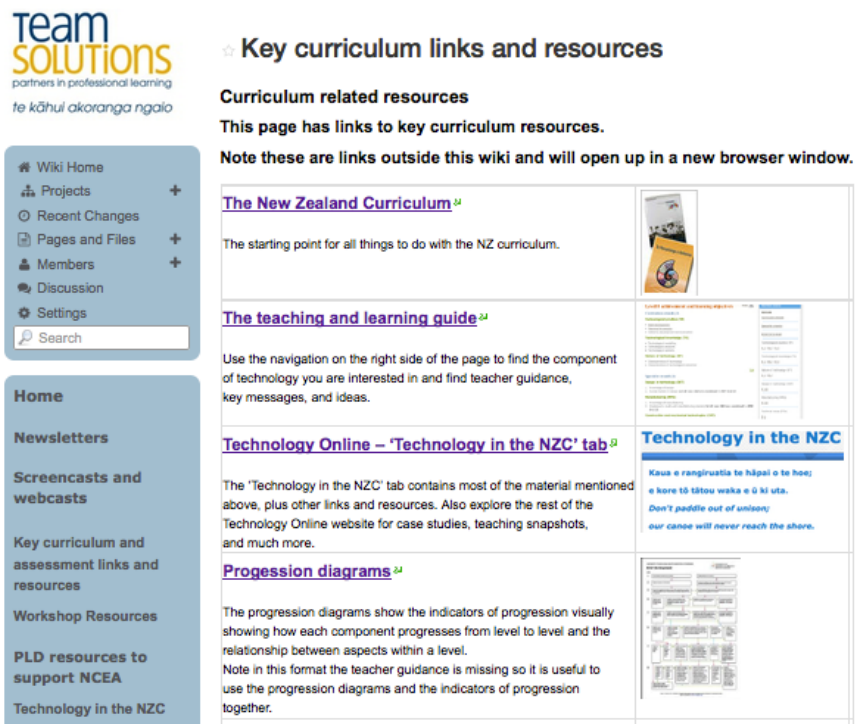
Whangarei	Friday 5 August
Auckland (North Shore)	Saturday 6 August
Auckland (Central)	Friday 12 August
Auckland (South)	Saturday 13 August
Hamilton	Friday 19 August
Tauranga	Saturday 20 August
New Plymouth	Friday 26 August
Palmerston North	Saturday 27 August
Napier	Friday 2 September
Wellington	Saturday 3 September
Invercargill	Friday 9 September
Dunedin	Saturday 10 September
Nelson	Thursday 15 September
Greymouth	Friday 16 September
Christchurch	Saturday 17 September

Finding resources

Two of the most common questions we get as technology facilitators are: "Where do I find key information?" and "Why isn't the information all easy to find in one place?" On our PLD wikis we have attempted to respond to this by having a 'one stop shop' with links taking you directly to the key resources. The pages include links to key curriculum resources, key resources for internal assessment, key resources for external assessment, and other relevant resources.

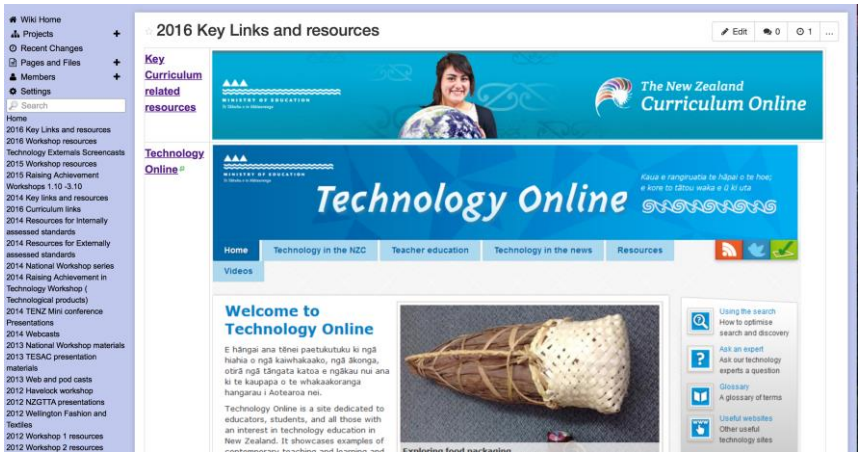
Summary on the Team Solutions technology wiki

At the link below you can find a summary of key curriculum and assessment resources with links taking you directly to those resources.
http://technologynz.wikispaces.com/Key+links



Summary on the Southern Technology wiki

The same information is also available on the Southern Technology wiki at http://southern-technology.wikispaces.com/2016+Key+Links+and+resources



Both these wikis also have a wide range of other material including workshop resources and other material used in technology PLD.

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Technology PLD wikis

Southern Technology Wiki
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Team Solutions Technology Wiki
technologynz.wikispaces.com/