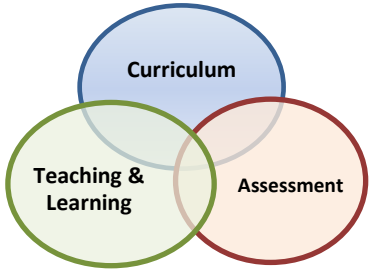
Technology Curriculum Level Seven



Curriculum: Level 7

Students will :

- Understand the role and nature of evidence and reasoning when managing risk through technological modeling.

Teaching and Learning in relation to literacy and language demands in writing:

Students need to use writing to explain concepts, processes, theories and actions in relation to curriculum requirements and tasks. They need to express increasingly sophisticated ideas and information, incorporate specialized vocabulary, and structure their responses according to purpose and audience.

Assessment task:

Achievement Standard 91358 Demonstrate understanding of how technological modeling supports risk management

Example from 2012 external assessment:

Demonstrate how technological modelling supports risk management

Level 2 Achievement Standard 91358 Demonstrate understanding of how technological modeling supports risk management (External)

The following is an example of a written response at Curriculum Level 7 that demonstrates the literacy and language skills students require.

<table>
<tr>
<td>Structure
The entire report is not shown here, however the writer has structured the response in an acceptable report format that includes an introduction, headings, sub-headings and a conclusion.
The report follows a logical process describing the steps taken in the project and explaining how and why decisions were made. Viewing and analyzing samples of report writing in Technology can support students to identify the key features that they need to include in their own writing.
Some links are made between paragraphs, creating a coherent response e.g. the final sentence of one paragraph linking to the first sentence of the next (Sarah's team realising that the wind would be a problem…Realising this also got them…)</td>
<td rowspan="2">Exemplar of student work (Extracts only)
(From Sarah Burren's project 'Junior')
The drawings helped to convey Sarah's vision across to her team and her stakeholders. It also provided a way for her stakeholders to give constructive feedback and their ideas on how to improve on the designs. This supported risk management because another member of her team might have spotted a flaw in the design that she had not. For example; the engineer may have noticed that if the head was going to be that size then they would have to make it out of an extremely light material or have something else to off balance its weight. If they had not noticed that point and made the head out of a heavy material the marionette would have been top heavy and could have toppled over when in use and hurt people in the crowd. Also, this modelling was very visual and enabled everyone involved to get a clear picture in their minds of Junior. Creating a story around the idea of Junior encouraged stakeholders to use their imagination and "buy" into her idea. This type of evidence is reliable and accurate…

<u>The Maquettes</u>
Sarah got Phil Gregory and his team, who make unconventional props and rigs for films, to start construction on Junior in mid-2011. To start they transferred some of Alan's drawings onto transparencies and used an OHP (overhead projector) to project the image onto a wall and adjusted it so that Junior was five metres high. "This modelling really had its uses because it made me aware that this was serious, and things had to be just right." – Phil Gregory. This technique supported risk management because it helped Sarah and her team to visualise the marionette's size and proportions and also helped them to think of further practical and aesthetic modifications. Some decisions that were made as a result of this modelling were that Junior could be a bit squarer and that his feet</td>
<td>Audience and Purpose

Text form, language use and structure are appropriate for audience and purpose – writing a report to explain how technological modelling supports risk management.
Links are made to the purpose of the task throughout the response (provided…constructive feedback/ …enabled everyone involved to get a clear picture…/…allowed decisions to be made on the sizes of materials…)
The writer has adapted the material supplied in the case study to suit a different purpose and a specific audience.</td>
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<td>Ideas and Information

The information provided is relevant to the task. The writer explains why different forms of modeling were selected at different stages of the project.
Supporting detail is integrated into the response, through the use of examples, pictures and quotations (Creating a story…encouraged stakeholders to use their imagination…)</td>
<td>Language

Relevant subject –specific vocabulary has been used in relation to the task (risk management, modelling, specifications).
Rhetorical questions strengthen the connection with the reader, develop coherence, and match the task of considering why particular decisions have been made (…but would it have been practical?).</td>
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The writer has adapted and used the information supplied in the case study to meet the specific requirements of the task.	*would need to be anchored due to Sarah's team realising that the wind would be a problem.* *Realising this also got them to start thinking about what materials they would make his feet out of in order to anchor him. Concrete is a heavy material so they could have chosen to use that; but would it have been that practical? Sarah and her team chose not to use concrete because it would have been too heavy for Junior...*	**Accuracy** Generally accurate writing in terms of grammar, punctuation and spelling assists in creating a clear explanation.