2024 NCEA Assessment Report

Subject:	Digital Technologies
Level:	1
Achievement standard(s):	92006, 92007

General commentary

Standards 92006 (examination) and 92007 (submitted on the NZQA official report paper) were in their first year of release in 2024.

Report on individual achievement standard(s)

Achievement standard 92006: Demonstrate understanding of usability in human-computer interfaces

Assessment

The full set of grades were awarded, including some solid Excellence-level responses, demonstrating that candidates understood the usability heuristics or mātāpono Māori and could discuss and apply them fully.

Commentary

Some heuristics were applied broadly, resulting in varied but valid responses, while others were used vaguely, highlighting gaps in understanding.

Most candidates had clearly studied an interface in preparation, although some re-used interfaces mentioned elsewhere in the exam or defaulted to generic examples like "food- ordering websites". Some candidates referenced the NZQA assessment interface they used for the exam itself. Others talked about interfaces that they have designed themselves in their coursework. The step up from Achievement to Merit required candidates to explain how their interface applied usability principles to improve usability. Many candidates stopped short of this, simply identifying heuristics without explaining how their application allowed their interface to achieve its purpose.

In part D, most candidates chose Scenario B (reserving laptops in the library), but some responses addressed unrelated tasks, such as book borrowing. A few interpreted the task as designing a whole system, including features like GPS tracking, which was beyond the intended scope. Very few candidates chose Scenario A (Mātauranga Māori), and of those who did, it was often answered poorly.

Candidates made good use of the videos to engage critically with the material and make meaningful contrasts and comparisons. Some candidates identified similarities and differences between interfaces, but did not identify which usability principles were related to these. Candidates who suggested only one improvement were unable to gain higher scores, as the question was asking for multiple examples.

Grade awarding

Candidates who were awarded **Achievement** commonly:

- knew a range of usability principles, and they could identify them correctly and describe them, also giving examples of how usability principles were implemented
- gave weak, broad explanations for 'accessibility' and 'why usability principles are important'
- were unable to evaluate the effectiveness of usability principles in any detail, or discuss how usability principles aid users.

Candidates who were awarded **Achievement with Merit** commonly:

- could describe at least two usability principles for their chosen interface and explain how the principles were implemented effectively with reference to the user experience
- could state how an interface would be designed to include at least two usability principles, how the usability principles would be implemented specifically, and how this aided the user.

Candidates who were awarded **Achievement with Excellence** commonly:

- were able to identify common (at least two) usability principles in the videos and clearly compared and made judgements about the video interfaces, specifically which interface used heuristics better, and how
- suggested multiple improvements and linked those to the heuristics, clearly stating how the improvements would be implemented.

Candidates who were awarded **Not Achieved** commonly:

- did not know usability principles well
- confused usability principles with one another
- did not even mention usability principles at all in their paper, and instead wrote generic descriptions of the interface's performance.

Achievement standard 92007: Design a digital technologies outcome

Commentary

An obvious issue that arose this year was that teachers and candidates need to understand there is a clear difference between design and develop, and that they are not the same. There should be no evidence from 92004 or 92005 in this standard. Many responses focused on the development of an outcome rather than discussing the design.

Many final designs were light on detail and did not fully communicate what the outcome would look like. The completed/final design should include enough detail so that the marker knows exactly what is to be created, including how it should look and how it should work.

Candidates who had an authentic project with a context they had chosen themselves were better prepared to describe, explain, and justify across all responses. Candidates who created a design for database or program to address a 'given brief' lacked the opportunity to explore design ideas and generally provided limited responses.

Many candidates did not understand what user requirements are. Candidates should clearly outline those aspects of the design that will enable the outcome to meet the need or opportunity. They should be written as a list of requirements that need to be met, not written as things that have already been done.

Many candidates did not provide sufficient images to illustrate their designs or their process. Candidates needed to include a minimum of five images to properly demonstrate their designing, and

to provide evidence that a genuine design process had been followed. Some candidates supplied images that included written evidence from their project documents that clearly supported them in answering the questions. These were not considered as part of their responses.

EN2, addressing manaakitanga and / or kaitiakitanga, was often answered poorly. Many candidates gave only one example, or related them to the content of the design rather than the design or process itself. Candidates need to give multiple examples. These examples should illustrate how the concepts were used in their design or design process.

Certain contexts had common shortcomings. Database design should include an entity-relationship (ER) diagram, with data types, constraints, and primary and foreign keys. Program design should include flowcharts or pseudocode. 3D models were also an issue, being created in the development software with no exploration of design ideas and sketching.

Some schools changed the format of this NZQA external assessment, and in some cases even changed the prompt wording and the NZQA instructions. This is not acceptable. This is an external paper and scaffolding and alternative questions made it impossible to mark the cohort to the same standard.

Grade awarding

Candidates who were awarded **Achievement** commonly:

- communicated their design process through research / mood boards, sketches, storyboards, wireframes and mock-ups
- summarised how they created a design for a proposed digital technologies outcome
- showed that the created design had an actual need or opportunity, potential user(s), and identified requirements
- had generated design ideas
- showed evidence they had worked through a design process to create a design
- described how either manaakitanga or kaitiakitanga was used authentically in their design process
- supplied images of improvements or decisions, but did not write a response
- discussed improvements they had made themselves, but not ones based on feedback
- repeated the same responses / examples for improvements and / or decisions.

Candidates who were awarded **Achievement with Merit** commonly:

- used feedback to make two improvements to the design and gave specific examples
- explained how at least one design decision improved the quality of the design for the proposed digital technologies outcome
- gave three different examples
- when justifying how the final design was fit for purpose, repeated their examples of improvements rather than explaining how requirements have been met.

Candidates who were awarded **Achievement with Excellence** commonly:

- had a clear understanding of the difference between creating a design and creating an outcome
- understood who potential end users were, and what requirements were linked to these end users
- had an authentic design process, with suitable end users and valid requirements
- wrote requirements in bulleted lists, enabling them to more clearly explain how they addressed them
- worked through a structured design process, clearly generating design ideas, refining the design, and creating a final design

- included a range of different examples that related to the design
- provided multiple images to illustrate their final design, making it clear how the outcome would look and work
- when justifying decisions made during the design process, candidates made clear the affect they had on the design, relating back to the end users and their requirements
- clearly explained how the selected design met the need or opportunity and the requirements of the potential users.

Candidates who were awarded **Not Achieved** commonly:

- created a design that breached legal / copyright laws
- did not create a design
- created a design, but it was not for a digital technologies outcome
- did not give an example of using manaakitanga or kaitiakitanga in their design or design process
- wrote about the digital technologies outcome rather than the design
- did not describe the need or opportunity
- described who the end user was, but not what their requirements were
- did not show design ideas
- did not understand the design process, so responses were limited or repeated
- relied on images containing written evidence.