

National Certificate of Educational Achievement

2013 Assessment Report

Design and Visual Communication (DVC)

Level 3

91627 Initiate design ideas through exploration.

91631 Produce working drawings to communicate production details for a complex design.

COMMENTARY

While these were completely new standards there were a number of issues that would affect the student performance:

The new standard AS91627 – *Initiate design ideas through exploration*; was successfully attempted and was remarkably close to the anticipated Profiles of Expected Performance. However, AS91631 – *Produce working drawings to communicate production details for a complex design*; was generally poorly attempted. While fewer schools attempted this standard it was surprising that the Not Achieved rate was greater than 50%, from a standard which reflected the traditional technical drawing heritage of this subject.

Candidates that were more successful benefitted from appropriate learning programmes, set up by teachers who had made the transition from the old level three standards, which have now expired, to the new level three standards. Unfortunately, some candidates submitted work that would have been successful for the expired standards; this was not only redundant but it also prevented candidates from accessing appropriate learning, achievement and credits.

It is essential that teachers of level three Design and Visual Communication (DVC) are aware of the changes in the curriculum and standards alignment that have been made. It is also important that teachers access any available professional development around the new standards.

To achieve at the higher levels of achievement teachers and students should access the NZQA Exemplars at: <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/graphicsdvc/sample-external-assessments/level-3/>

It should be noted that these exemplars are based on work generated before the current standard was published. Exemplars derived from the 2013 external assessment will be posted in the very near future.

Supporting and attending local NZGTTA association meetings will also help.

STANDARD REPORTS

91627 Initiate design ideas through exploration.

ACHIEVEMENT

Candidates who were awarded Achievement for this standard demonstrated the required skills and knowledge. They typically:

- used visual communication techniques (these varied from observational sketches to tracing of photographs and other existing images) to explore and visually analyse a starting experience and regenerate shapes and forms from these explorations. The starting experiences were varied but often included natural influences and experiences such as plant, shell, animal and bird forms. Other starting experiences included existing product and spatial designs, and occasionally themes from literature, film and music
- used visual communication strategies such as: abstraction, re-combination, tessellation, exaggeration, rotation, inversion, translation, translocation, deconstruction to interrogate and regenerate new shapes and forms. Some candidates unnecessarily used all of the visual communication strategies, when a limited range would have sufficed

- selected promising ideas from their exploration and regeneration, and developed a design idea. Demonstrating a link to a potential design idea is a requirement of the standard
- did not constrain their idea initiation to a brief. Students were more likely to succeed in achieving this standard if they experimented with and explored potential shapes and forms without predetermining a design idea. The introduction of the constraints of a brief ideally occurred once idea initiation had reached the regeneration stage.

NOT ACHIEVED

Candidates who were assessed as Not Achieved for this standard lacked some or all of the skills and knowledge required for the award of Achievement. They typically:

- did not use a starting experience, just began to generate initial ideas
- used a brief that asked them to begin generating concepts
- used only research as a precursor to initial experimentation and initial idea generation
- did not use alternatives and variations to explore and regenerate ideas
- did not link idea initiation to own design ideas
- carried out initial exploration but did not regenerate ideas from the shapes and forms explored
- used starting experiences too literally; e.g. a bird could be a lamp looking exactly like the original bird.

ACHIEVEMENT WITH MERIT

In addition to the skills and knowledge required for the award of Achievement, candidates who were awarded Achievement with Merit typically:

- showed evidence where they had selected an idea that had been explored and regenerated, and showed further analysis and re-interpretation
- demonstrated that the idea was subject to further interrogation with an obvious theme (a train of thought) emerging
- used sophisticated visual communication strategies to foster and grow ideas; e.g. observational drawing techniques that deconstructed elements (not the entire starting experience), tracing/overlays from quick experimental sketch models or SketchUp models to examine ideas and consider alternatives, then reconstructing and recombining
- showed elements of risk taking by allowing their ideas to be continually adapted through further interrogation and purposeful exploration
- regenerated their ideas by using analytical visual thinking. This included iteration, reworking design elements, depth of thinking through experimentation and level of creative play.

ACHIEVEMENT WITH EXCELLENCE

In addition to the skills and knowledge required for the award of Achievement with Merit, candidates who were awarded Achievement with Excellence typically:

- communicated their thinking very clearly through the use of sophisticated and varied visual communication techniques and strategies
- showed extensive exploration to challenge thinking through divergent and perceptive alternatives in their initiation of design ideas and by continually exploring and investigating alternatives, questioning/stimulating new thought, by engagement with discovery and perceptiveness
- showed an ability to extend and transform both aesthetic and functional elements of the design idea. This extension and transformation was usually symbiotic and complementary i.e. aesthetic elements related to functional elements and vice versa
- were able to reinterpret and combine dissimilar ideas and discern connections between them that challenged predictable outcomes. This led to enhanced solutions and ideas.

OTHER COMMENTS

This is an entirely new standard in DVC which reflects the gradual evolution from the Level 1 standard of *Produce freehand sketches that communicate design ideas* through the Level 2 standard *Use visual communication techniques to generate design ideas* to the new standard at Level 3 *Initiate design ideas through exploration* and the thinking that is essential to it.

Initiate design ideas through exploration or 'ideation' as it is commonly known is quickly becoming part of DVC practice, it is reflected in the new Scholarship assessment schedule and is a precursor to what students will be doing in tertiary education programmes if they are progressing to Design education.

Evidence suggested that a number of teaching and learning programmes were still based on the previous *Negotiated Brief* and the *Presentation standard*. The Negotiated brief has been discontinued and the Presentation standard has now become an internal standard.

It should also be noted that the work undertaken by students for the new internal standards, while linked to the new external standards, do not generate the same evidence. It is recommended that the evidence for the external standards be separated from the internal standards, particularly the research component which can run to many A3 pages.

Some candidates submitted evidence using outdated briefs which do not expect students to spend time initiating design ideas; there are exemplars provided by NZQA which should be accessed and integrated into teaching and learning programmes.

This standard is separately assessed; apart from the internals *Resolve a spatial design through graphics practice* and *Resolve a product design through graphics practice*, it is intended to be part of the same design practice and evidence will be found in the divergent thinking (initial experimentation and initial idea generation) and convergent (development) work of the internal standards. Some teaching and learning programmes treated the work required for this standard as a quick mini-project in which students could generate a range of origin or starting ideas but did not allow students the opportunity to re-interpret, analyse or extend their thinking any further and gain higher grades.

While an appropriate design brief is an important part to candidate's success, the timing of its introduction is also important. Introducing the brief early can predispose student thinking towards an outcome without the benefit of unhindered creative thinking. The brief can be introduced after design initiation has commenced to allow this thinking.

It is also important for teachers to integrate teaching and learning the skills for ideation at earlier levels to embed the ideation process into their junior programmes to grow and promote this train of thinking. The standard is assessed at level 3, but presumes prior learning and practice.

While the rate of success – achievement, achievement with merit and achievement with excellence was approximately 60% for this standard and in line with NZQA expectation, a higher proportion of candidates may have succeeded if teachers accessed the Professional Development available to improve their understanding and ensure that their students were appropriately prepared for this external standard.

The following is an unpacking of the stages of student work required for this standard.

- identify an experience (or a source of inspiration): from natural and/or built landscapes, film clips, music extracts, observational drawing, conceptual modelling, photography, language devices, etc.
- select visual communication techniques: from modelling (real and/or virtual), photography, sketching, collage, tracing, etc.
- select visual communication strategies: from interpretation, abstraction, re-combination, tessellation, exaggeration, rotation, inversion, translation, translocation, deconstruction, etc.
- produce ideations from the starting experience using selected techniques and strategies. The emphasis should be on a range of interpretations and observations to meet the requirement of "interrogate".
- from the ideations produced in the previous step generate new ideations. This means that the starting ideas are abstracted from the starting experience by two steps of interrogation. They of course may still reference the starting experience but are now new (the student's) ideas
- show the initial ideas that emerge from the ideation, this provides evidence and validates the ideation process as it provides the beginnings of design ideas
- continue to ideate throughout your initial experimentation and initial idea generation and development phases: it doesn't have to stop.

91631 Produce working drawings to communicate production details for a complex design.

ACHIEVEMENT

Candidates who were awarded Achievement for this standard demonstrated the required skills and knowledge. They typically:

- had selected a design of adequate complexity to produce working drawings for
- included views and modes that a set of working drawings would conventionally use including; site plans, floor plans, elevations, cross-sectional views, assembly views, detail views, material information
- included exterior and interior detail including their construction and assembly

- had proficiency in technical drawing and presentation conventions, such as titling, dimensioning, use of appropriate scale, detailed drawings, line quality and accuracy
- indicated the relationship of one drawing to another through the use of labels and titles
- adapted and contextualised generic detail to their design
- identified materials
- produced elevations which were drawn neatly using conventions, and a sectional view was available to show some detail of either materials that would be used or how it would be assembled.

NOT ACHIEVED

Candidates who were assessed as Not Achieved for this standard lacked some or all of the skills and knowledge required for the award of Achievement. They typically:

- selected a design of inadequate complexity such as; simple furniture, letterboxes, decks
- produced working drawings only of exterior or interior views
- did not communicate construction or assembly of their designs using detailed drawings
- produced only generic design working drawings, generally from a pre-published source
- produced class exercises
- lacked understanding in the use of drawing conventions such as titling, dimensioning, use of appropriate scale, detailed drawings, line quality and accuracy
- produced drawings that were not linked to each other or showed no relationship to each other
- included drawings with contradictory information, e.g. different measurements for the same item
- did not complete the set of working drawings.

ACHIEVEMENT WITH MERIT

In addition to the skills and knowledge required for the award of Achievement, candidates who were awarded Achievement with Merit typically:

- showed precise measurement and dimensioning, accurate line-work and good application of drawing conventions. Using a computer programme helped with being more precise but still required knowledge and application of conventions used in New Zealand
- produced a complete set of linked drawings with the exterior and interior detail
- explained the construction and assembly of the design.

ACHIEVEMENT WITH EXCELLENCE

In addition to the skills and knowledge required for the award of Achievement with Merit, candidates who were awarded Achievement with Excellence typically:

- showed excellent and consistent use of drawing conventions and standards
- included all relevant drawings to clearly communicate detailed construction and assembly information through the use of carefully selected series of plans, elevations, section views, assembly views and enlarged detail views
- included three dimensional drawings, CAD models or animations to clearly communicate assembly and construction. The animations offered sequential

information that clearly communicated assembly and rotational views that explained 3D design details.

OTHER COMMENTS

This standard is also new at Level 3, however, it is created to provide a learning and achievement pathway from Level 1 standard *Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas* and the Level 2 standard *Produce working drawings to communicate technical details of a design* to tertiary study and a future career. However, the high rate of Not Achieved was surprising given that this standard also reflected the heritage of Technical Drawing as a core part of what was originally 'Graphics', and is now Design and Visual Communication.

Achievement in this standard is rewarded with 6 Credits which using NZQA and MOE guidelines should take approximately 60 hours of teaching and learning including homework and self-reflection time. But the quality, quantity and standard of work submitted by candidates often did not reflect this expectation.

A significant issue that contributed to the lack of achievement in this standard was the generic nature of the design work. It is recommended that the construction and structural details of spatial design projects should be contextualised to the student ideas; this will require teaching advice and student knowledge.

Also requiring teaching advice was the selection of simple designs that were unable to access this standard. The use of simple furniture, letterboxes and decks often did not allow students to engage in drawings of adequate complexity.

The standard was also created to recognise the increasing use of CAD programmes that incorporate 2D (plans, elevations, sectional views), 3D (parallel and perspective constructions) and 4D (animations and other moving views). This allows students to design in 3D and generate 2D views and 4D views, and vice versa. Producing working drawings using CAD programmes has the added advantage of controlling line quality and minimising measurement errors. However using CAD still requires the students to ensure that the default settings controlling line weight, dimension conventions and orthographic systems are correct and reflect New Zealand Standards.

The use of more traditional pencil drawings to access the highest achievement, however, was more common.