



National Qualifications Framework Levels 1–3, 2008

Graphics

National Moderator's Report

National Moderator's Report for Graphics

General Guidance for Assessors

The purpose of external moderation is to provide reassurance that teacher judgments are at the national standard and are made on the basis of assessment materials that are fair and valid.

All assessment materials are expected to:

- give the learner the opportunity to meet the requirements of the standard
- have an assessment schedule that gives evidence of appropriate learner responses and clear judgments at all levels.

The Ministry of Education contracted subject experts to write assessment resources for achievement standards. These are not pre-moderated. The intention is that they are modified to suit teaching programmes and learner needs. They do not provide “rules” but suggest different ways of assessing to the nationally registered standard.

General Overall Comment

An increasing number of teachers are using the Ministry of Education developed TKI resource material as a basis for assessment activities in Graphics and there is a increasing component of Unit Standard assessment tools being used, with approximately 25% of moderation material used in 2008 being Unit standard based. Teachers should now be aware of the recently updated TKI resource material and the Subject Specific Resources on the NZQA website at www.nzqa.govt.nz/ncea/ under subject specific resources-Graphics.

The materials approvals rate has increased with the introduction of these updated resources. The design development stage of the design process in the level 2 resources has been strengthened, to ensure that students use an appropriate depth of engagement in the design investigation. Teachers using this material, either directly from the website or in a modified form, should have a clearer understanding of the requirements of the design process, expected at this level.

The requirement of Explanatory note 7 in the level 2 standards should also be highlighted to students. EN 7 requires that *all design specifications are interpreted in the application of the design process.*

There are a number of teachers who are preparing quality learning experiences for students in Graphics. These teachers have shown that carefully constructed assessment tasks that allow for individual design solutions will provide the evidence necessary to achieve the standards in this area. Carefully designed activities also prompt students to produce evidence that meets the demands of the assessment criteria and the explanatory notes, from each standard.

The issues which continue to impact on student success in Graphics are:

- Teachers must take care when writing assessment material to ensure students are not disadvantaged by an inappropriate level of design challenges set, with specifications that are more outcome driven rather than a specification that provides a restriction or factor(s) that must be investigated in the design process
or
by a lack of appropriate information in the assessment activities, in terms of clearly articulating the requirements of the standard, at all grades levels so that students can clearly see the evidence expected at each grade level.
- Careful integration of the explanatory note requirements into the activity ensures that all the requirements of the standard can be met ie at level 2 Explanatory note 7 states “*Interpretation of all design specifications is expected in the design process*”. If design specifications are omitted from the design process in the generation of the solution, the student does not meet the requirements of the standard.
- Teachers are encouraged to source authentic tasks so students can engage in real design challenges that they can relate to, i.e. in context to their environment. The nature of the graphics achievement standards can allow for creative investigation of design challenges that are real and authentic.
- Generic assessment schedules continued to cause a problem for teachers who have difficulty describing the differences in achievement required for Achieved, Merit and Excellence. Teachers who create a specific assessment schedule for each assessment task clearly linked the assessment task to the design activity, so that the students can see the linkage between the activity and its assessment. Evidence statements are required to exemplify valid student answers including the depth and detail required, to achieve the standard.

Teachers are encouraged to be moving from providing written evidence statements to providing annotated student exemplars. Annotated exemplars give a much better visual indication to students, of the evidence required at each grade level. They can also be an effective teaching tool when defining each grade boundary, to students. Annotated exemplars can be submitted as part of the moderation process, where the formation of grade boundaries can be verified as accurate. The annotations and their position on the script(s) must be clearly indicated to the moderator.

These exemplars could then be used to benchmark future assessment decisions against. This approach may in the medium term reduce teacher workload and improve students understanding of the grade boundaries in their assessment of their work, in Graphics.

When assessing against unit standards assessors must ensure the assessment task encompasses all the performance criteria, including range statements and special notes. The assessment schedule must include examples of appropriate learner evidence and judgement statements and should be contextualized to the design activity. The performance criteria alone do not constitute appropriate judgement statements. In some cases assessment tasks have assessed the pragmatic demands of skills but the design

elements inherent in some performance criteria have not been included. The intention of the design and communications unit standards is to undertake the development of evidence for these standards within a contextual design brief and not in isolation as a skill assessment task. This continues to be an issue in 2008 and the information given to students regarding the requirements of a unit standard task varies widely. Often Unit standards seem to have been tacked onto an activity to increase the credit value without integration into the activity instructions to enable students to achieve all of the requirements of the standard. As the numbers of unit and achievement standards used in a single activity increases, the instructions need to become increasingly complex. It becomes difficult for the student to complete every requirement necessary, to achieve all standards covered, by the activity. Some of the Unit Standards often have performance criteria that relate to a design activity that must meet the ‘requirements of the brief or task.’ An example would be Unit Standard 7512 where production drawings are produced to meet the requirements of the brief. This implies that there should be evidence of design that leads up to the planning and detail required for the production drawings.

- There is a step up in the degree of difficulty and the depth of engagement required at levels 2 and 3 in terms of the quality of sketching, instrumental drawing and the representation of design ideas. At level 2 techniques such as crating, thin – thick line technique and rapid viz techniques should be evident to allow students to succeed in the external sketching standard-A/S 90318. Assessors must review assessment activities to ascertain if students have the opportunity to demonstrate the necessary skills and knowledge expected at levels 2 and 3.

At these levels students must be given design tasks that encourage deeper thinking and allow the opportunity to submit more detailed evidence, especially in the design development phase, of the design process. The expectation in an Architectural solution for example should be to investigate design issues such as room size, layout and room flow issues that link to how the rooms are used, or going to be used. Other issues such as green technologies could provide the evidence for a critically analysed solution at level 3 where they are investigated and then related to the design, becoming embedded in the final solution.

When students are expected to meet such requirements as; “*demonstrate an ability to critically evaluate the quality of their results, to identify the major problems, and to make progressive and positive improvements; demonstrate an appreciation of the need for high standards of work and a willingness and commitment to achieving high-quality personal results; analyse the nature of the problem and generate new solutions or produce alternatives to existing designs or ongoing analysis and reflection and examination of the implications of the alternatives*”, clear support and advice on the nature of these processes, is essential.

- Teachers must ensure the assessment activity is assessing to the latest version of the achievement standard. Teachers should check during programme development that all aspects of the achievement standard are assessed and correct assessment information is

provided so students have the opportunity to reach the standard. Assessment schedules require evidence and judgment statements that reflect the latest version of the achievement standard. Often schedules used at level 3 still contain elements of the requirements of version 1 of the standard, especially in the judgement statements used at the merit and excellence levels. Assessors should ensure that at merit all aspects of the schedule reflect the requirements of a refined solution and at the excellence level, the schedule reflects the critically analysed solution, required by version 2 of the standard.

Teachers are responsible for ensuring assessment activities, regardless of the source, meet the requirements of the current registered standard. Some activities developed for earlier versions of the achievement standards may need to be modified. Similarly, buying a commercial activity does not automatically guarantee the task is valid. Activities still need to be processed through the school's internal moderation system before being submitted for moderation. When photocopying student work for moderation, care needs to be taken that the photocopied images, text and media used are legible and able to be moderated accurately. Moderation samples submitted as JPG images make the verification of student work easy as the images can be rotated and enlarged to focus on individual areas in the submission.

Level 1

AS 90041: Produce a mock-up and model

Mock-ups

The construction of the mock-up should be part of the design process rather than an activity that takes place prior to modelling. This should ensure that the mock-up is more than a simple version of the model. The step-up from Achieved to Merit should clearly show some testing that identifies a solution to a problem. It is sometimes difficult determining what aspect of a design idea has been tested and annotation should be used for clarification, in the mock up process.

Key considerations are:

Evidence must be presented that demonstrates how the mock-up has been used to test or explore alternative design ideas. Photographs could be embedded into the portfolio of work next to design ideas and decisions, where the mock-up has been used in the design process.

Evidence must be presented that shows how the mock-up has informed the design development process (normally poorly represented in submitted material) and show the evolving nature of an idea. This evidence can be shown as annotated photographs, further drawings or written description.

More than two photographs should be submitted that clearly show the design's features in 3D form and are supported with evidence of how these mock-ups have been

instrumental in progressing the designs aesthetic or function.

Mock-ups are not identical versions of the model. They are made of different materials and represent a quickly constructed conceptual idea to ascertain 3D form or the rough working nature of an idea or part of the design.

Model

This part of the achievement standard appears to be completed with a high rate of success. It is sometimes difficult determining ‘quality’ from a single photograph taken from some distance away. Models are a rich source of realising a design solution in 3 dimensional form and most students are producing some good examples.

90042: Apply a design process and design principles to identified needs and opportunities

This achievement standard appears to be completed with a high rate of success. To achieve this standard, students must apply the key stages of the design process. Some assessment schedules have been written that imply that only some key stages or most stages that have been identified by the student, are required as evidence for this standard. This terminology could enable a student to submit work that covers most stages of the design process but misses one of the key stages required. An evaluation of the final solution is required for this standard.

Key considerations:

The design development stage is still poorly represented and requires strengthening in terms of the depth of design investigation undertaken.

Design development is a process in which questions about the concept such as; construction, size, operation, materials, joining details, colour etc, necessary to define the solution are answered. There should be a significant body of work that shows that the concept has moved forward in terms of clarification, justification and modification of the design in relation to the specifications outlined in the brief.

The way specifications are written could improve learner success. Many submitted assessment activities have too many specifications and tend to be too restrictive. The standard expects that the solution be “evaluated with reference to design specifications”, so the wording of these specifications will impact on the student’s ability to be able to meet this assessment criterion. Seek help in writing specifications if necessary as students are expected to do this in higher levels of graphics. Specifications should not be outcomes but should be restrictions or factors to be investigated, during the design process.

On-going evaluation of design ideas has improved but there are still some problems relating to the way in which accurate information is relayed to students regarding the purpose of evaluation (reasoning and justification) at key stages that support and justify the further development of ideas.

The use of annotations can support the visual elements of any design development and are very important for describing functional, aesthetic or emotional attributes. Many submissions still lack appropriate annotations for Merit and Excellence grades where reasons for design decisions are important. Decisions should be ‘linked to the principles of design’ at Merit level and an ‘in-depth justification of decisions in relation to the principles’ should be provided at the Excellence level.

Design language supports the justification of design decisions when choices are made about how the main principles of function and aesthetics can be manipulated to improve the design’s purpose. Design language is still rarely integrated in an appropriate context. ‘*Use of design language*’ refers to the dialogue (annotated or graphical) that is inherent in the design process and clearly identifies the interaction of principles and purpose.

The student is required to apply the key design principles of aesthetics and function to achieve this standard. These principles should be evident in the design process used to create the solution and the addition of annotation on its own, that relates to the design principles through design language, does not constitute application of the design principles.

90044: Present design ideas that show design features and functions

This achievement standard has been completed with a high rate of success, but there are still some issues that require attention.

Key considerations:

The use of drawing modes should reflect Level 1. Reference can be made to the Graphics Education, Guidelines for Years 9-13. At Level 1 students should be able to; “*demonstrate reasonable skill in orthographic and pictorial representation of ideas and the development of product, system or environmental designs,*” Also; “*demonstrate skills in instrumental drawing including basic component details and assembly and sectional views.*”

A wider range of media should be encouraged. It is important that students have every opportunity to explore multi media capabilities and are not restricted to coloured pencils, markers and pastels.

Original work must be sent as evidence for this achievement standard as moderation of black and white photocopies are not acceptable when demonstrating a student’s competence with a variety of media.

Assessment activities must incorporate valuable information for students about the appropriate application of media and presentation techniques.

When multiple design activities are used to generate evidence for this standard, the individual design activities should reflect the requirements necessary to achieve this standard. Often the design activities submitted lacked instructions on the ranges of modes

and media required and the requirement for the visual information to highlight the design features and functions of the design.

Level 2

90322: Produce a mock-up and model to explore design ideas

Mock-ups

Teachers are reminded to ensure that students effectively use the mock-up(s) to aid the concept generation or design development of design ideas and that the mock-up resolves specifications that have been determined by the brief. Successful student evidence for this standard should show photographs embedded in the portfolio of work alongside sketches and notes that describe the impact of the mock-up and how it has informed design ideas. Photographs are the preferred way of presenting evidence for this achievement standard and this media appears to be clearly appropriate now that assessors are taking several shots of the design to explain its functional part in the design development.

Key considerations:

More than two photographs should be submitted that clearly show how the mock-up contributes to the design's development. Photographs alone do not provide adequate evidence for this achievement standard.

More information needs to be provided by the learner to show how the mock-up informs design development by embedding the photographic evidence alongside design decisions and annotation that makes reference to the mock-up and decisions made.

Mock-ups are used to quickly explore ideas and help check things such as size, appropriateness for purpose, look and operation. This information supports design decisions by confirming design thinking or changing the way ideas develop. The evidence about how these experiments have helped make design decisions must be communicated in the design concept development stages in the form of annotations or sketched visuals.

Justification refers to a clear in-depth explanation of why a particular approach has been used for the purpose of design development.

Models

As with level one, model submissions are mostly successful pieces of work that represent a well planned and constructed scale version of a design.

It is important that at least two quality photos along with notations/drawings are supplied with students' work for clarification of the models scale and to show details from different viewpoints. It is sometimes difficult determining the 'quality' of a model from photographs that have been taken at some distance away from the model.

AS 90323: Design and present a solution for an architectural or environmental brief

AS 90324: Design and present a solution for an engineering or technological brief

AS 90325: Design and present a solution for a media or technical illustration brief

Overall Statement

There are some instances where students are not being extended beyond level one thinking, skills and knowledge. Students must ‘apply a design process at all levels’ which implies that all stages of the design process be evident.

Teachers must ensure students are given opportunities to explore ideas in depth and be encouraged to communicate more sophisticated information about design detail and construction of outcomes.

Key considerations:

Teachers are encouraged to **write interesting and authentic assessment tasks with challenging design problems** to enable students to successfully develop technically detailed solutions to design tasks. Design briefs need to clearly outline the issue to be solved and the specifications written in such a way that they enable the learner to successfully meet the specifications during the design development of a solution.

Students must be encouraged to explore a wider range of design options for the development and evolution of ideas. Many submissions lack the depth of thinking associated with the investigation of alternatives and appropriate detail associated with level two submissions.

Evidence provided in many submissions appears to be struggling to complete a full design process. Students at this level must be engaging in explorative investigation of alternatives and justifying their reasons for design decisions throughout their design practice. This means that all stages of their chosen design process must reflect critical thinking through detailed drawings and annotations.

Many students produced an abundance of research and a range of concepts, however the amount of design development that was evident is often lacking in detail, depth of analysis and decisions making based on full interpretation of the design specifications in the brief. Research is appropriate where it is used to support on-going design decisions that clearly improve the value of the outcome. The amount is dependant on the direction of the design not on the abundance of information available. There should be a clear distinction between the need to research a designer or design era and the need to provide focused research based on the requirements and specifications in the brief.

Students need to use an evaluation process to analyse their design ideas. The evaluation dialogue involves an analysis of decisions being made using appropriate design language. Students who merely provide a commentary of what is happening (description) have not evaluated. Effective design development can be achieved through on going evaluation at each

stage so that design *decisions can be discussed and justified*.

Presentation skills are an inherent part of all of the work submitted for achieving a design solution. Students require more information and classroom support to improve evidence submitted to meet the “high quality presentation skills” and this should be evident throughout the portfolio of work and not just for the presentation of final solutions. Students should be introduced to a variety of media beyond coloured pencils and graphite and encouraged to use a wide use of modes where applicable. Students wishing to achieve excellence in any one of these standards must be given the opportunity to **choose** appropriate media and modes for the drawing purpose. Some design briefs are written with a very prescriptive list of drawing requirements which may disadvantage some students.

Level 3

AS 90735: Develop and communicate a solution to an architectural or environmental design brief

AS 90737: Develop and communicate a solution to an engineering or technological design brief

AS 90738: Develop and communicate a solution to an medial or technical illustration design brief

In general and associated with all level three achievement standards-

There are some highly sophisticated design ideas being developed by informed, talented, young designers, however some teacher directed design activities and most student generated design briefs often lack the structure necessary to unpack the requirements of the standard. Generic resources such as the TKI level 3 resource provide a structure which students and assessors, can add their design context into, but at the same time provide information and guidance to the student, on the expectations of a refined solution and a critically analysed solution, required at the merit and excellence grade levels.

A large percentage of assessment schedules submitted for moderation referenced version 1 elements of the standard and required review to align them with the current version 2 of the standard and did not unpack the requirements of a critically analysed solution, from explanatory note 4 of the standard, to highlight this requirement to the student.

The following statements are made to reinforce the expectations for level three submissions.

Key considerations:

The integration of the external negotiated brief as a motivating tool prompted students to produce some good results. Negotiating with a client can present several issues that can impact on learner success. Firstly, if the client cannot articulate their needs accurately, students can find it difficult to develop adequate solutions and will require considerable

teacher support to guide and advise on direction. Secondly the learner/designer can find the task of writing appropriate design briefs difficult, especially when they fail to accurately identify clear specifications. Thirdly, the client may be unable to contribute clear direction during evaluation sessions. Teachers should reflect on how many client related briefs are used in a graphics programme.

Where teachers are being too prescriptive with *project requirements*, learner freedom is minimalised and tends to constrain the design process
some teachers are still using version 1 assessment tasks or combination version 1 and 2 variants to assess against version 2 of the achievement standard. The variation between the two versions is significant.

Version 2 of the standard, for Merit requires a **refined solution** and Excellence requires a **critically analysed** solution. Often schedules had the correct heading for the judgement statements, but in the main body of the schedule at the merit and excellence areas, the actual judgement statement descriptors did not align with the heading and the standard. There is a change of focus to communication rather than presentation techniques and skills. More information must be provided to students about the meaning of these two criteria. Activities and schedules should be changed to reflect the communication of design ideas rather than the presentation, to align with the terminology used in version 2 of the standard. The requirement to use modes and media is embedded in the communication aspect of version 2 of the standard and need not be specifically separated out in the assessment schedule. The updated TKI resources provide a template for activities and assessment schedules that meet the requirements of the standard.

Investigation at this level must represent considerable depth and analysis making sure that alternatives are explored with reasons and justifications given for design decisions. *A critically analysed solution* involves the examination of the implications of the alternatives. During conceptual development students will be actively exploring different ideas. The focused investigation and evaluation of these alternative ideas is reflected in a critically analysed solution, in which the critical analysis should be evident throughout the design process.
The critical analysis can be demonstrated through extensive drawing, annotation and/or other means of communication.

Teachers need to reinforce the specific requirements of explanatory note 2. *Develop and communicate may include the use of: design sketches, working drawings, notes, research, models, mock-ups, audio, visual, oral presentation to a group, 3D rendered pictorial sketches or drawings, computer generated images, and photography.* The use of the above methods will be dependant on the design task but any level three submission should contain a range of these different communication strategies.

Students will require considerable support and direction when creating **their own design briefs**. Quite often there is a problem with how the specifications have been

written, not allowing for sufficient design investigation. Students' briefs must present a suitable challenge **as the level of design engagement** relies on the complexity of the task and the design issues/specifications to be investigated.

Research is a tool for improving the quality of the outcome, not to become the main objective. Students must use research to inform the creation of design ideas and must be encouraged to only use the information that will definitely contribute to the refinement and critical analysis of a solution.

The key stages of design are dynamic not linear in form.

Assessment schedules in the case of the student developing their own brief or working with a client to develop a brief will of necessity be somewhat generic but they must still describe the expected evidence for each level of achievement and reflect the explanatory notes of the standards.

At this level many schools are still opting to adapt or use exemplar material supplied by the Ministry of Education. These tasks have been reviewed in 2008 but teachers still need to ensure that the tasks are assessing the latest version of the achievement standard. It is recommended that this material is continually reviewed to make sure that it meets the expectations of the local context and the requirements of the standard.

Unit Standards

There are a significant number of Teachers using Unit Standards, some in Graphics in 2008 with almost 25% of the submission sample comprising Unit Standard tasks and assessments.

In many cases the assessment material was not at the national standard. Teachers unfamiliar with appropriate assessment practices associated with the development of assessment schedules and tasks for unit standards should seek support as Unit Standard assessments in the Design and Communication domain all contain some design context or focus to be applied in order to achieve the standard.

Unit Standard assessment tasks need to be written to reflect the level of the standard. The assessment activity should cover the design problem, specifications, design requirements and the unit standard requirements, including the special notes, elements and performance criteria.

A full assessment schedule that unpicks the elements and performance criteria and range statements needs to be written. This could be set up in columns; Performance Criteria, Evidence, Judgement, and Assessment Strategy. Teachers are using assessment schedules with judgement and evidence statements that are direct copies of the Unit Standard performance criteria. This does not unpack the requirements of the standard in relation to the design activity and provides little linkage between the activity and its assessment. Often the special notes which in some standards have a direct impact on the evidence the students

are required to produce, are not integrated into the activity or schedule. An example is a level 3 Unit standard 7493 where special note 2 states *In the process of attaining this standard learners are expected to: use information technology to find, organize and select resources: and to gather information from such sources as – other learning areas, existing products and systems, libraries, industry and community personnel and government organisations.*

The lack of integration of the special notes often means students do not produce suitable evidence to achieve the standard. The level of Graphics skill required at a particular level should also be reflected in a Unit Standard solution i.e. Sketching in a level 2 unit standard should reflect the standard required in a level 2 achievement standard solution as reflected in the Guidelines for Graphics Years 9-13.

There appears to be a number of assessors offering Graphics standards in a Technology context. These submissions reveal a need to improve the design development and appropriate visual communication of design ideas. Many students failed to meet the requirements of the unit standard because they did not produce solutions appropriate to the level of the standard. To meet the requirements of a unit standard all of the performance criteria and special notes from the standard must be met. Assessors must ensure the standard of work and the level of difficulty is in line with the achievement standard quality of evidence at the same year level.

There are some assessors that are adding Unit Standard assessment tasks onto an Achievement Standard activity to increase the credit value of the activity. In general in this combined approach, the requirements of the unit standard tasks were not integrated into the activity instructions for the achievement standard task. This gives no direction to the student regarding the requirements of the unit standard at the performance criteria level or in some case even at the elemental level, of the Unit Standard.

Having activities that try to incorporate multiple unit and achievement standards should be used with caution as the often conflicting requirements, make it difficult for the student to determine and produce evidence to meet all of the requirements, of every standard involved in the activity.