



Examiners' Report

Principal Examiner Feedback

Summer 2025

Pearson Edexcel
GCE In Design & Technology:
Product Design 9DT0/02

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Principal Moderators Report 2025: 9DT0/02

General

The coursework element of the qualification appears to be stable. The past two years, seem to corroborate this.

It is pleasing to note that the candidature is similar to previous series, indeed the number of centres moderated went up albeit the cohort size in centres was a little less. The standard is the same as the standard for the 2024 series and therefore the boundaries appear to be stable.

In terms of this year's entry, we saw a small uptick in the number of 'Resistant Materials' based products and slightly less architectural artefacts. The number of textiles entry was slightly increased but electronic submissions remain low. The candidates rarely submitted concept/scale models preferring to manufacture the actual artefact, architecture being the obvious exception.

The main area of concern is still the iterative question; centres must try to embrace this design methodology if they are to guide the candidates well and allow them to access the higher levels of the assessment criteria. It becomes increasingly obvious that where the candidates have a dialogue with a real client at the outset and then continue to have a meaningful and critical dialogue with the client, they access the higher levels of the assessment scheme.

The power of a narrative with a real client cannot be underestimated if the candidate aspires to the higher assessment levels. Centres should endeavour to encourage candidates to cultivate a level of reality in fostering the narrative and therefore develop a real client designer relationship. This should be evident throughout the project and not just at the starting point and as part of an evaluative commentary.

The board also published further guidance on the use of AI this year, this insists that the centres used the signed authentication sheets to suggest where AI had been used. This was almost always completed. However, the number of candidates/centres that pointed to the use of AI was limited. At A level it is intended try to embrace the use of this technology, but the candidate must take ownership of the AI and use it not simply rely on it to complete that aspect of the portfolio. The use of AI will continue to be monitored. The overarching statement published on every E9 report to centres is copied below.

Whilst Pearson Edexcel promote the use of technology as it evolves, it is imperative that the integrity of the standard is maintained, and the candidates undertake intellectual activity commensurate with an A level qualification. To this end, A.I. can be used in an A level project. However, candidates must evidence that AI is prompting and supporting their thinking, in short, the A.I. output must be manipulated and/or interpreted by the candidate. The centre and the candidate MUST declare the use of A.I.

Please see the published guidance for further information.

<https://qualifications.pearson.com/content/dam/pdf/GCSE/design-and-technology/2017/Forms%20and%20administration/gcse-and-a-level-design-and-technology-ai-in-component-2.pdf>

A number of centres seemed to try to seek a formula for success in this year's submissions still adopting a somewhat linear approach to the process, but this did, at times, stifle the creativity of the candidates, of course there are assessment requirements within each criterion, but moderators are told to look for evidence across the whole piece and moderate the centre assessment accordingly.

The centre annotation here is imperative to support the thinking of the centre assessors, copying and pasting the assessment criteria into the CAB is not helpful and does not describe the thought process of their assessment.

Finally in this general summation it is also very pleasing to report that the moderation team saw some incredible design work and manufacture which is a testament to the supporting teachers and the candidates, it should always be remembered that the candidates are early 18-year-olds predominantly.

Administration (Centres)

In general, the administration of the submission is improved, the centres seem to be getting to grips with the requirements of the LWA portal and in most cases, we saw the correct documentation for all candidates. It would assist the moderation process if all the centre authentication documents are submitted as one in the admin bar, which several centres did.

We still had to send a number of E 6 forms to centres highlighting administration issues often it was due to some incorrect transcription where the marks on the CAB and those entered into Gateway differed. There were some centres who failed to submit photographic evidence and used the incorrect file naming protocols, it is difficult to report that these errors were slightly more frequent than on previous submissions. Centres are requested to ensure that they are aware of the guidance given for the use of the LWT platform and indeed the submission of marks on the Gateway platform.

The centre annotation is imperative in terms of understanding the thinking of the assessment within the centre and helps to support the assessment submitted. The centre annotation and page numbers that guide the moderation team to relevant evidence that allows them to compare the candidates work to the nationally agreed standard cannot be underestimated

Part 1: Identifying and outlining possibilities for design

Grid 1: Identification and investigation of a design possibility

This section should be characterised by the candidate exploring possible areas that would enable design activity to be undertaken. They could look at the needs of a client or examine a space, organisation or observe activity such as sports, work or hobbies, but there are many other opportunities for design possibilities. This would then allow the candidates to instigate a meaningful dialogue with a real client, target market/organisation or user groups. This client narrative is imperative if the candidates are to mimic commercial activity and to access the higher levels of this criterion.

It is disappointing to report that many candidates did not demonstrate meaningful dialogue and therefore the top levels of the assessment in this case were rarely awarded. All too often the candidates listed a range of differing scenarios and explored each one whilst also attaching a client to each scenario. Sometimes up to ten disparate scenarios! This did mean that much of the work undertaken here was rendered redundant as they moved a singular design scenario forward.

The candidates should be encouraged to think about the client first, this may help to focus the work in this section and encourage, that all important client narrative. A good example of this might be where the candidate looks at the needs wants and values of cycling commuters and investigate, along with a client or interested stakeholders a number of aspects such as clothing, carrying, lighting and maintenance for example. The underpinning dialogue could trigger a design possibility which would have real meaning to the client and stakeholders.

It was rare to see a level of reality in terms of the client and an in-depth investigation of the possibilities, and therefore the centre assessment was often somewhat lenient according to the moderation team.

Centres should encourage candidates to move towards a client centred approach if they are to access the higher levels of this criterion and therefore establish and embed the iterative design model throughout the portfolio.

Grid 2: Investigation of needs and research

In this section, candidates should be identifying clear opportunities for research. In the best cases, this should be led by the client; and the client/relevant stakeholders should be offering opinions and suggestions at key points. At this level, would expect candidates to have clearly identified focused research that is pertinent to their specific design problem that offers clarification or refinement of the needs. This type of research would then focus on the needs and lead into firm technical and measurable specification points.

We are still seeing some very generic research, that said a larger proportion of candidates are beginning to focus more effectively, but there is still a lot of unfocused, formulaic, generic and suspected centre led research this is especially true of materials research.

The moderation team reported:

“...some centres had over credited volume especially when it was irrelevant and unfocussed...”

Again, in this section the development of a real relationship with the client or stakeholders cannot be underestimated, if a dialogue is taking place this can shape the nature of the research. For example, if the candidate is looking at the workings of a lakeside dinghy sailing club the issues of sourcing materials that will be durable in an outdoor environment become pertinent. Researching these materials and consulting with users illustrates the perceptive approach that we are looking to reward.

Centres should try to avoid structuring the folders heavily especially for the higher scoring candidates to avoid the somewhat generic research, the structure should come, for these candidates from the discussions undertaken during the compiling of this section of the portfolio. It should also be remembered that as the design 'iterates' further research may be required and this can be credited here or further on in the development for example.

Some candidates had missed opportunities to carry out important, pivotal research, such as the dimensions and/or quantities of items to be stored, a greater proportion did, at least, attempt to acquire some of this information, which is commendable. However, this section is still rather weak as candidates often copy and paste information from the web or increasingly appear to use AI without filtering unnecessary research.

The moderation team reported that this section was leniently assessed by the centre assessors.

Grid 3: Specification

In this section we are expecting to see evidence of technical and measurable specification points that are a product of the focussed research undertaken. This should also be a product of a refining/renegotiation narrative with the client or a realistic target market/user group. This narrative is imperative if the candidate is to fully justify the performance requirements. The candidates should submit a re-worked Design Brief that reflects the research and the stakeholder/client requirements.

It is again disappointing to report that the moderation team often commented on vague, unjustified, generalised statements with limited attempts to include quantifiable data. In many cases the only quantifiable elements were a little simplistic, such as cost or overall size.

The candidates should be encouraged to undertake research guided by the client and then identify specific measurable elements, if they are designing a counter for balls used in training for tennis, the size of the group of balls is imperative to developing the hopper size for collection. This is a known factor and should be specific and quantifiable in the specification. The client should be involved in this as a tennis trainer they would have a good understanding of the number of tennis balls used in the training session. This exemplifies client interaction and a resultant measurable specification point.

All too often we saw simple statements more akin to GCSE level, with, for example ergonomic and anthropometric data presented in the research but having no impact on the specification points. Phrases such as 'it must be aesthetically pleasing' or 'it must have enough storage' were all too common. Where candidates failed to conduct focused research in sufficient detail, this also led to rather generalised specifications which lacked sufficient measurability and often struggled to satisfy the requirements of the assessment criteria.

Where the section was completed to good effect the client designer relationship was clear which led to justified specification points, we did see some candidates using a referral

system to indicate where the information was in the grid 2 work that justified the specification points and some candidates used a traffic lighting system for example, identification of technical and measurable elements. In a limited number of cases the candidates revisited the specification later in the portfolio as a result of further client interaction and possible design changes, this is illustrative of the iterative process.

The centre assessment in this criterion was often lenient with few candidates being awarded the 'top box' assessment, level two was the norm.

Part 2: Designing a prototype.

Grid 4: Design ideas

In this section, candidates are expected to employ a variety of design strategies to generate multiple design solutions that are feasible, practical, and clearly meet the criteria outlined in the specification. Candidates should adopt the mindset of a commercial designer, apply their technical knowledge of processes and materials, and substantiate their concepts with both prior and supplementary research as necessary. Creativity is essential, and candidates are encouraged to seek inspiration from diverse sources, including nature, industry, historical design movements, and emerging technologies.

Again, as we move through the assessment criteria the client narrative is imperative, we should see the candidate interacting with the client and allowing that narrative to trigger further iterations of the proposal. Genuine client involvement was extremely rare. Where 'client comments' were included, they were often superficial and congratulatory, contributing very little to the direction of design development.

One of the main areas of concern was the level of sketched ideas one moderator reported:

"Saw some excellent sketching of a range of ideas (but actually not that many considering it is a key part of the subject) and then some really poor drawing of really simple shapes.... Some candidates altering their basic design/shape (of say a tabletop) and considering that to be another new idea."

Candidates should be encouraged to develop their sketching technique alongside the use of CAD as this is still an integral part of the specification and indeed an important immediate method to communicate ideas when consulting with stakeholders etc. Too many moderators mentioned low level sketching in their reports to centres.

That said where the work was at the highest level the candidates did show interaction with the client and that dialogue triggered further design thought illustrating the iterative approach.

Centres certainly feel like this criterion is more familiar to them and so the centre assessment were more in line with the national standard, but high-level performance was still more limited.

Grid 5: Development of design ideas into a final design

The moderation team broadly felt that this assessment, as in previous years, has improved as the candidates use modelling both intermediate and CAD to good effect to test aspects of the proposals. In the best cases a candidate may model aspects of the potential proposal and use those as a discussion starting point with the client, or interested stakeholders to tease out the client's needs wants and values in regard to the proposal. For example, a candidate may be developing a mount for a defibrillator for ambulance use and they model differing swivel/clamping methods that could be commented upon by stakeholders for effectiveness and function. This illustrates the iterative process and indeed underlines a perceptive approach to the development of the proposal.

"Many candidates adopted an iterative approach in this section. They produced some very good development sections that showed the design progressing through experimentation."

We did see some effective use of further research in this section, which is commendable, as the product developed the candidate understood the need to research other aspects and so this was credited as developmental.

Where the submissions were weak the candidates often failed to submit any real development as they appeared to misunderstand the requirements of this section. Candidates, on occasion, submit the drawing of the final product as developmental work. This is especially true where they produce a step-by-step series of CAD drawings adding detail such as windows or doors. This is especially true of the architectural submissions.

We also see a diary of how the product will be made submitted as evidence in this section and in both cases the centre assessment was difficult to support.

The centre assessment was rather polarised for this criterion either the centre marks were agreed or the candidates misunderstanding of the criterion requirements resulted in a substantive moderation.

Grid 6: Final design solution

It is pleasing to report that, in general the improvements in this assessment criterion continue, candidates are understanding the key to unlock this criterion is the ability to enable third party manufacture. There is a greater understanding that the candidates need to focus on detail in the final designs that they submit. Where, for example there is a base attached to a lamp of some description the interaction between the two parts should be clear, Is the base counter-bored? Is there a turned shoulder? Are there threaded parts? This could be illustrated in a sectional view enabling third party manufacture.

Although the final drawings are still a little mixed, they do show sustained improvements. CAD packages certainly help but again as with AI candidates need to have control of the package editing and manipulating the drawings appropriately.

In the weaker cases the candidates did not give enough detail, indeed the drawings often simply gave an overall view lacking component detail or parts interactions.

Architectural submissions do need to show constructional detail especially of the model at this cross over stage, the candidates are manufacturing the model, however in the best cases the candidate should show an understanding of the actual construction at the same time.

Where there were some differences between centre assessment and the national standard it was because of some lack of understanding of the manufacturing specification. We still see many flow charts with little detail on them; it is much more effective to have individual component detail that lists the operations, tooling and materials required to complete that part. This does also give the candidate opportunity to undertake a cost analysis and calculations of quantities etc. The submission of meaningful calculations remains somewhat uncommon.

Again, the moderators reported a somewhat polarised submission where many candidates performed well and therefore the centre assessment was agreed but those that misunderstood the requirements were subject to moderation.

Grid 7: Review of development and final idea

In this section, candidates are required to conduct a thorough intellectual analysis of their completed work. The commentary should be both analytical and evaluative, rather than merely descriptive. Ideally, the evaluation will include a balanced assessment of strengths and weaknesses, considering all relevant factors such as materials, processes, techniques, and feedback received. It is also important to address the client or target market narrative, as this may prompt further refinement of the proposal. The evaluative discussion must remain balanced, ensuring that any conclusions drawn are well-supported by evidence.

This section has always been the most difficult for centres and candidates, and this year was no exception, that said, the centre assessments were more in line with the national standard, albeit at a lower level. The centre assessors seem to understand that this grid does involve a critical, balanced and intellectual assessment of the development and final proposal. Yet again as this qualification has, as an underlying principle, that is user centred design activity, it is a great pity that the client/interested stakeholders were often ignored. Centres do need to try to embrace the underpinning design philosophy as it is the differentiating factor that allows access to the highest levels of the assessment criteria.

The centre assessment was often reasonably in line with the national standard, but they were assessed at level 2/3 the top level in this criterion was rarely seen. The review statements were often rather self-congratulatory rather than analytical and incisive.

Quotes from the moderation team appear to support this view and illustrate shortcomings:

“Generally, not completed very well and very few candidates scoring highly.”

“Many candidates did not appear to have a genuine client, and the tone of the feedback felt like it had been written by the candidate.”

Centres in the future might consider developing the candidates understanding of the key elements in this criterion i.e. balance, perceptive and client led.

Grid 8: Communication of design ideas

In general, this section was accurately assessed by the centres, we did see, in most cases the, the candidates, demonstrating the three aspects of communication methodology expected to access the top level in this criterion.

However, the quality of the sketched work is of some concern, as is the level of the technical annotation. It is important that the annotation reflects the candidates understanding of materials, processes and techniques that illustrates the theoretical input that they have experienced.

We did see some very well executed examples of super designing and development sketching allied to client interventions, but this was rare.

The use of CAD packages is now at a high level in many cases, and this does aid the candidate show the detail and thinking behind the proposals. This work is often very well executed candidates should be commended for this

The moderation team often agreed the centre assessment in this criterion.

Part 3: Making a final prototype

Grid 9: Tools and equipment

In this section we are expecting to see the candidates select and use, in an accomplished and sophisticated manner tools and equipment that are commensurate with the A level award. It is pleasing to report that the candidature is generally returning to complete artefacts, the number of modelled outcomes is somewhat diminished. The exception of course is the architectural submissions.

Candidates typically produced complete final outcomes; however, in some cases, there was limited evidence of advanced material, fixture, component, and fitting selection, or extensive use of tools and techniques. A broader demonstration of skills and processes would be beneficial. Additionally, certain projects presented less complexity, resulting in reduced tool usage and process diversity. Indeed, in limited cases we saw work that was more suited to GCSE level.

To access the highest levels in this criterion candidates should be demonstrating a diverse and complex array of tool usage and complex processes. For example, a candidate producing a multiple storage device for string instruments evidenced wood turning, metal casting with a self-manufactured pattern, internal boring, screw cutting and centre lathe work. The product was also very well finished. This demonstrates a selective use of tools and sophistication in terms of tooling set up and execution.

We did see projects that had a heavy reliance on CAD which, if they have complex interlocking parts can fulfil the requirements for the higher levels in this criterion, but for example a wholly laser cut jewellery tree may not evidence the range of complex processes at the top level.

“Where candidates used CNC manufactured components to build a complex, interlocking assembly, it was easier to support higher assessments”

The frequency of the use of programmable technologies is increasing and this was considered in the award for this section much the same as a machine set up would be considered as a part of the evidence for the award.

The centre assessment again felt somewhat polarised they were often accurate and scoring in the level 3 to 4 levels of the assessment criterion or they were rather leniently handled by the centre lacking the accomplished sophistication required and generally a level 2 to 3 award was appropriate.

A note to centres where we see health and safety issues, we report that on the E9 report centres should always endeavour to act upon this advice.

Grid 10: Quality and Accuracy

This section should showcase advanced making skills through a fully functional prototype that meets user needs as outlined in the specification. Candidates are expected to consult with stakeholders and adapt their designs during manufacturing, demonstrating an iterative approach. While most produced complete and appropriate outcomes, some lacked the advanced skill level needed for higher marks. Precision and attention to quality are essential for a high-standard artefact.

The submissions this year were again somewhat polarised in that we saw some excellent manufacturing, skilfully produced and a very accomplished finish. Or, the work lacked skill and complexity, in these cases it is a little disappointing to report that the centre assessment was generally lenient. These centres were moderated to bring them into line with the national standard.

In the best cases for both grid 9 and 10 the candidate involved the client or stakeholders as the product was evolving, and they used those discussions to trigger alterations to the proposal. In several cases the candidates submitted products that had a realistic client, used electronic/programmable technologies and housed them using several differing high-level skills such as casting, 3D printing and various machine tools such as milling or centre lathe work. This exemplifies the top level in this criterion.

Where the candidate had thought about how the 'real thing' might be manufactured and then used that to modify their thinking in Architectural outcomes, they scored well, for example an exhibition stand that could be taken apart and transported had some complex joints that were milled and turned, again exemplifying A level quality.

Where there were differences between submission and the national standard the work was too simplistic for this level often straightforward storage solutions with slab construction and simple bracketry. Some centres also appeared to use the theme of storage as a starting point and so often the outcomes looked very similar, centres should be reminded that this unit is an independent design and make activity.

The lower marked products also often evidenced a poorly applied finish and a lack of rigour in the construction.

That said as Principal Moderator it was a pleasure to see some of the products manufactured, they were superb outcomes and a testament to the candidate's hard work.

The moderation team reported overall that candidates tended to be in the level 2/3 portion of this criterion, but a small yet significant number did score in the 'top box' of this criterion.

Grid 11: Testing and evaluation

This section assesses whether candidates can distinguish between testing—using the product in practice to see if it meets specifications and client needs—and evaluating, which involves a critical review of strengths and weaknesses leading to a balanced, well-supported conclusion. Stakeholders or clients should be consulted, and feedback should be presented constructively, possibly resulting in suggested modifications that support an iterative post-manufacture process. Refer to appendix 5 in the specification for definitions of key terms like "Analyse" and "Evaluate" to aid understanding.

This assessment criterion is also showing improvement and development, we saw a greater understanding of a testing regime, and an increase in the use of realistic 'in situ' testing this is commendable. In the best cases the candidate used the client or interested stakeholders to good effect and linked the testing to a critical evaluative commentary having undertaken focussed discussions with the client. That said centres should try to encourage testing in the appropriate environment rather than just in the school workshops.

The main issue that causes moderation of the submission in this criterion is a product of a poor or limited specification. Where there are very few quantifiable/measurable elements to the specification the ability to measure success is much diminished. Furthermore, if the level

of reality in terms of a client is at a low level the quality of the client evaluative commentary follows on. Candidates must be encouraged to foster the client/user group relationship, and this should be present throughout the portfolio, but especially in this assessment area.

The evaluation of Architectural submissions is always difficult, but we have seen an increase in the use of 'walkthrough' software and animation that proves to be a useful way of attaining feedback from a range of diverse users of the space in question. It is also important that the candidate understands the importance of testing for scale and space usage.

The candidates must endeavour to think through the questions that they might ask clients and stakeholders if they are to elicit helpful and critical responses that will enable them to measure the success of the outcome and suggest improvements evidencing the iterative process. This of course would allow access to the highest levels in this criterion.

LCA's were much more common but often still a product of a software package but on occasion candidates had looked at elements of the product from 'cradle to grave' and this was refreshing to see.

Overall, the assessment of this criterion in centres was broadly accurate, however the candidates scoring at the top level was rarely seen.

Conclusions

It is heartening to report that the coursework element appears stable for this qualification and the standard is very similar to the 2024 standard.

For centres to move forward from this point they need to fully embrace the iterative process, and a good starting point would be the identification of a client, user group, target market or interested stakeholders that will provide a reliable yet critical ongoing evaluative commentary that allows access to the highest levels in each of the assessment criteria. The iterative process is the underpinning of the qualification and should be evident in each criterion.

We are seeing the use of AI and have embraced that use but, if the candidates do become wholly reliant on this technology this may need to be re-visited, indeed further guidance will be published in the next academic year. The use of AI will continue to be monitored.

Finally, as Principal Moderator it was very exciting to see new and innovative work being undertaken and some ambitious manufacture taken on, the moderation team look forward to future series.

Mark Clapham

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