

GENERAL COMMENTS

The year 2021 has once again been a challenging year for Design and Technology coursework due to the implications of Covid-19. Despite the challenges, centres must be commended for efforts deployed to ensure the completion and submission of coursework samples from all regions.

The quality of coursework for NSSCAS 2021 was generally good. There were some centres that produced coursework that is below average. This indicates that the candidates were not correctly guided by the teacher. Regional Offices should make sure that Examiner's Reports are studied and recommendations drafted for implementation purposes from the regions to the schools.

Regional Office should target schools that did not perform well and investigate what the reason is for the substandard results. In the cases where teachers are not sure what is expected in the folders, they should be trained to ensure that the candidates can be taught how to compile a folder correctly. On the other hand, if the teacher is not performing, the principal and head of department at the school should be informed to continuously monitor the work done by the teacher and the progress of the candidates on the project folders. If possible networking with DNEA, NIED and other regions with Senior Education Officers as well as relevant stakeholders should be initiated to have teachers capacitated and assisted on a regular basis. It appears that the common mistakes centres made during the 2021 design folder are mainly because the learners were not taught correctly by the teacher. This makes one realise how many candidates are penalised for poor quality work submitted because of centres who have not been putting in the much needed efforts from the beginning of the Senior Secondary phase. A conclusion could be drawn that Centre Reports are not studied and recommendations not implemented by many centres. Due to the defiant negligence by some centres, the assistance of the Regional Directors is needed to make sure that Senior Education Officers and Circuit Inspectors study and analyse these reports and monitor that the recommendations are implemented at schools that present Design and Technology as a subject.

Once again, Regional Offices, principals and HOD's are pleaded to take the responsibility of ensuring that folders and projects are monitored throughout the year in future. Towards the end of the second term the folders should be internally moderated before the marks are dispatched to DNEA for external moderation. Regional Offices must make sure that NSSCAS schools are provided with the necessary materials and tools for candidates to build quality models. DNEA observed that some centres' projects were compromised by the lack of adequate resources.

Candidates who are not submitting sufficient photographic evidence is a problem when the projects have to be moderated. There were a few cases where candidates made poor problem selections and outcomes and showed little evidence of imaginative interpretation and creativity. The sample of work presented for moderation was suitable in most cases and centres generally applied the assessment criteria appropriately, although, in some cases, this was not at the correct level.

All folders **must** include clear photographic evidence of the artefacts, in addition to an overall view of the final product, showing detail to support the awarding of marks.

COMMENTS ON SPECIFIC ASSESSMENT HEADINGS

Defining

Most of the candidates clearly stated the problem to be addressed but not all gave a concise Design Brief. Candidates should be encouraged to complete adequate and relevant research in order to form a suitable knowledge base before formulating the Brief. Only then can the specifications be listed. These specifications must be relatively specific. Many candidates stated generic specifications like "it must be safe" or "must not be big or too small", etc. This research does not refer to materials and its properties. Most candidates included points of specification but of a generic nature which could be applied to any product.

Research

Some centres research consisted of irrelevant information that was simply written in a paragraph form. This did not lead the candidate to an idea of what the outcome of the product should be.

Candidates should do research into similar existing products as mentioned in the Design Brief and evaluate these products regarding cost, material, etc. This section should give clear and specific requirements for the design outcome and for the awarding of maximum marks. Then additional information regarding the processes, material and fittings should be researched to see what is available locally.

Conceptualising

This is where candidates can show evidence of genuine design creativity. Imaginative and innovative handling of good range of concepts and ideas is of essence. Some candidates included a wide range of different ideas enhanced by clearly annotated sketches. Often candidates presented a few drawings that showed too little design capabilities and tended to follow a single concept. These ideas can be presented most successfully through sketches and candidates should be encouraged to include everything that comes to mind. Annotations should include comments on the construction, joining methods and materials. Then it is important that each idea is evaluated as to how an idea might link to the specification.

Development

In this section of the folder the candidates should take only the chosen idea and make further detailed decisions on form, materials and construction methods to be used in the final product. Ideas should be fully developed with good attention to detail. Candidates are expected to show deep insight and good command of related knowledge. In some cases candidates found it difficult to apply, and in these cases the final ideas were simply a repetition of one of the ideas recorded in the previous section. Candidates are expected to also illustrate every step of production with notes describing the action.

In most cases the final drawings of the Design Solution were generally well-presented and gave sufficient information with regards to the manufacturing of the product.

Presentation

Candidates were expected to show refined graphical skills including fluent freehand and precise measured drawings. Most centres could produce drawings with good command of rendering and other enhancement which is commendable. Centres in the top band produced excellent communication skills and had their work well managed and attractively laid out. Some centres did not give the correct drawings.

The following is expected: An isometric drawing / sketch with dimensions and notes. (Rendered), an exploded view (rendered) an orthographic drawing showing detailed dimensions. Then also a cutting list, other material list, a table showing time planning and a flowchart showing the sequential steps of production.

Product realization (Control; Technical; Product)

Photographic evidence (photographic gallery) showed that some candidates were able to work on their own and able to work at an acceptable standard of construction and finish to the extent that the end product could be used. Sadly, some centres could not provide sufficient photographic evidence to substantiate the credibility of the folders. Some photographic evidence is just a mere posing activity and no real action is seen which made it difficult for the moderator to clearly distinguish various safe approaches and processes from the photos.

Notably, photographic evidence showed some candidates operating power tools (such as angle grinders) without the required protective clothing (leather gloves, eye protection), an unsafe practise that should be discouraged.

Clear photos of the candidate doing all the processes, as well as clear photos showing the final product. The candidate must be seen working in the pictures.

Testing and Evaluation

Most candidates included photographic evidence to show the testing of the product, which is commendable. They are, however, encouraged to link the outcome of the original specifications and make objective judgements on the success of their products. The section should also include suggestions for further modifications or possible future improvements. Therefore centres are implored to ensure that specifications are fully evaluated and tested in this section, which will guarantee maximum marks for the candidates.

Conclusion

Even though it was the first coursework examination for NSSCAS it is clear that centres offering NSSCAS Design and Technology for 2022 as a subject need to get a unified training to standardize the general understanding on the different sub-topics for the design