AQA

General Certificate of Secondary Education
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Design and Technology: **45502**
Graphic Products

(Specification 4550)

Unit 2: Design and Making Practice

Report on the Examination

GENERAL

This was the second full year of the Controlled Assessment Tasks and it is pleasing that the vast majority of centres have now fully embraced the twelve published Controlled Assessment Tasks and are assessing them accurately using the five assessment criteria.

Only a small number of candidates are still over contextualising the briefs or omitting to consider a number of the requirements.

There were still a number of delays in moderation caused by some centres missing deadline dates or misunderstanding the instructions on sample sizes. These can cause severe problems for the moderators because of the tight moderation schedule.

Once again it was pleasing to see an increase in the number of candidates who submitted their work by electronic portfolio. Many of these candidates took full advantage of the additional presentation methods available to them when using this media. Candidates who choose to field test their prototypes were able to demonstrate using video clips to evidence procedures or activities undertaken.

ASSESSMENTS

It was pleasing that the assessment in the majority of centres was generally accurate and fell well within the tolerances set by the Board. There were still a small number of centres who did not mark according to the published criteria and as a result produced marks that were out of tolerance. In some cases centres have awarded marks in a holistic way not considering the fact that missing criteria can affect the overall mark. It is worth reminding centres that photographic evidence is required to evidence the manufactured outcomes, and is also a useful tool to evidence the model making that may have taken place by candidates beforehand.

Below are some general statements of how the assessment criteria were addressed followed by comments on issues specific to each of the twelve assessment tasks.

Criterion 1 (investigating the design context) 8 Marks

It is important that candidates remain focussed on the task. Many candidates still include generic or irrelevant material, much of it downloaded directly from a range of sources. In some cases this work can stretch to a disproportionate number of pages. Many candidates are still failing to fully analyse the design context, this being the main factor contributing to a proliferation of peripheral material. It is pleasing that more candidates are disassembling products and considering the constructional detail. Candidates should be encouraged to carry out this disassembly activity stage in their primary research.

More candidates are now producing detailed annotated and photographic evidence of this activity. Analysis of the research undertaken was again generally well done .This should lead candidates towards to a design specification identifying the important design criteria to be considered, however many candidates failed to identify the target market and few profiled it. Many candidates are still producing mood boards containing downloads and photographs

with no further comment or feedback on them. Mood boards are only useful if the candidates use the information or inspiration from them later in their design work.

Likewise questionnaires should be used to gain facts and information that proves useful later in the design and development and evaluation stages. Often no further mention is made to either the questions or answers found in this research activity.

This section was again generally well assessed by the majority of centres, however there are still centres awarding candidates full or near full marks for pages of generic copied research with little analytical comment, or when one or several of the above criteria were not evidenced in the candidate's folders.

Criterion 2 (development of design proposals) 32 Marks

In this section candidates are expected to show and develop a range of imaginative design ideas using 2D and 3D annotated sketches through which they demonstrate graphic imagery and constructional detail, developed through well evidenced modelling and testing. It was pleasing to see candidates are now developing and using these skills to produce some pleasing work, with the use of photographs to evidence this activity. Modifications and prototypes were then made as a result, before final proposals were presented. Some went on to consider wider issues including social, moral, and environmental and sustainability but in many cases these wider issues did not relate to their chosen brief and were generic and copied out of textbooks. The use of CAD continues to contribute greatly to this section. Candidate are encouraged to use " screen dumps" to evidence the development of CAD work, but far too often drawings and images are still appearing in candidate's folders with little evidence of how they were formed or where they appeared from. Candidates who produce nets apparently without any design work are still being awarded maximum credit. The preparatory work should be been included in candidate's folders, as well as the CAD work, that precedes outcomes that are cut out using a laser cutter. Candidates are still missing out some elements of this important process and it was often difficult to follow the development of their thinking from design ideas to their final proposals. Many candidates still repeat their earlier ideas with only minor adjustments and miss out the important modelling and testing stages. There was still a tendency for some candidates to concentrate too much on the graphic imagery missing out on the constructional detail or materials required to make an effective product. As a result many final proposals did not have sufficient detail given to enable them to be made by a 3rd party.

Candidates are now including in their production a justified manufacturing specification and sequential plan for making. The best of these compared manufacturing in the school environment to that in industry and included quality control information.

Some candidates are still failing to produce either a product or manufacturing specification, whilst others are simply including imagery of a manufacturing process with comments added to the sheet of work.

This section was again significantly over marked in many centres with high marks being awarded when several of the assessment criteria had not been addressed and in others where a number of simple labelled 2D sketches formed the majority of the evidence offered.

Criterion 3 (making) 32 Marks

Moderation was once again greatly assisted by the inclusion of photographic evidence of the final making and all centres are encouraged to do this.

The Controlled Assessment Briefs often stated exactly what should be made but left it to the candidate to build in an appropriate level of difficulty and rigour. Many again produced some challenging and pleasing outcomes. Candidates are using a wider range of materials and processes to produce outcomes with a much better quality of finish. CAM at various levels is being used more selectivity in this process. Many outcomes are much more commercially viable and more candidates are to be congratulated on the excellence of their work in this section.

It is still disappointing that some candidates opted for the easiest option and the lack of constructional planning often meant that their work was less challenging or commercially viable. Corner joints and outcomes were masking taped together in the final construction stages and in some cases temporary spray mount adhesive is used, resulting in surface finishes peeling off or joints coming apart. Unfortunately these omissions were again not limited to the less able.

Once again it was disappointing that some sections of the design briefs were ignored by some centres. Briefs that asked for a number of manufactured outcomes, including promotional materials or smart materials were ignored, yet high marks were still awarded for the final outcome.

This section was very well assessed in the majority of centres visited, or work viewed using photographic evidence. There were, however, some notable exceptions where very high marks were awarded for work which lacked both rigour and a good quality of finish.

Once again I would encourage all centres to contact their coursework advisor or view work on the e-AQA website, if they have any queries over what is required from the final outcome.

Criterion 4 (testing & evaluation) 12 Marks

It is accepted that the evidence for this section will be found throughout the folder. Much of the work done in development can contribute as on-going testing and evaluation which through modification then lead to improvement. Often this is the weakest area. Summative evaluation was generally done well with the majority of candidates involving the opinions of the client and matching their evaluation against the specification. Some candidates gave very brief generalised evaluations which sometimes focussed on the process rather than the product.

It is important to involve clients and users at this stage of the project.

Conclusions, modifications, testing and third party opinion are all important aspects of a good evaluation; the twelve marks awarded for this section can be gained, as has been stated, for work throughout the folder. Some evaluations that only made brief or little reference to these important aspects were awarded marks in the higher range band.

Centres are recognising the importance of this section and generally it is well assessed by the majority, but there were a small but significant number of centres who gave high marks for self-congratulatory evaluations or when there was very little evidence in the folders.

Criterion 5 (communication) 6 Marks

This criterion requires candidates to be selective, concise, clear in their presentation and have the ability to use technical language correctly.

Only a small majority of candidates failed to be concise and produced folders well in excess of the 20 recommended A3 pages. Much of this excess material continues to be in the investigation section and candidates should be encouraged to select and summarise only relevant material. Candidates should also be encouraged to avoid repetition and consider the best and most economical layout of each sheet.

Candidates who miss out stages in development and fail to show evidence of the modelling and prototyping are still gaining maximum credit from a small number of centres.

Use of technical language, spelling, punctuation and grammar is improving but was surprisingly poor from a small minority of candidates especially when considering that much of their work was word processed. Assessments in this section were generally accurate.

Controlled Assessment Tasks

Task 1 Activity Pack

This task was undertaken by an increasing number of candidates.

Most had no problems in the interpretation of the brief and finding suitable examples for their investigations. Once again it was pleasing to see some very clever and complex designs offered for both the package and its contents and the majority of candidates produced an effective and complete outcome.

Candidates should recognise that this pack was for use by young people on a long journey and that it should therefore be relatively small and compact. Some solutions continue to be very large, quite flimsy and difficult to handle. Some candidates disappointed, by buying in all, or most of the contents of the pack. However the majority of candidates either made the majority of the contents or mixed and matched with made and bought in. A good example of this is when pencils or crayons were to be included, the pencils and crayons were bought in but the package for them was candidate produced.

Task 2 Board Game

Once again this was a very popular task which was undertaken by a significant number of candidates. This was often the only task undertaken by candidates in a given centre.

Candidates generally understood what was being asked of them and found suitable examples for their investigations. Again these investigations often concentrated on how the game was to be played or its graphic imagery rather than its constituent parts and their

secure packaging. In only a tiny minority of cases did candidates ignore the 'race and chase' element.

Most candidates completed an effective outcome and the main discriminators were the complexity of the box and board, the range of game accessories such as counters and cards and the quality of finish. There was a significant use of CAM in completing this task. Some candidates completed their work in a material which was too thin or flimsy.

Some candidates concentrated on the board itself and the folder included work confined to the 2D imagery to be applied. Little evidence was offered in some cases as to how the board could be folded to fit inside the box. The packaging and secure containment of the contents are equally important, candidates need to bear this in mind when undertaking this task.

Design Task 3 Kinetic spread book.

A popular and easily understood task.

Candidates in their investigations did not always look at the full range of kinetic and other mechanisms which produce movement and this once again limited them when completing their designs.

The majority of candidates completed an effective outcome to the correct size and orientation. The main discriminators were the range and complexity of the mechanisms, the method of binding and the quality of finish. Some of the work produced was at near commercial standard having used CAD/CAM very effectively. However candidates need to bear in mind the need to bind and complete the book to a satisfactory standard. Some quality book interiors were let down by a poor or incorrect binding.

Task 4 Model Building

This task was chosen by a growing number of candidates and the majority of those who did complete this brief did it very well.

Investigations generally looked at suitable model buildings, appropriate scale and methods of flat packing and packaging ready for sale. There was a range of materials chosen .Most candidates considered scale but a few did not package their product ready for sale.

The better candidates produced effective flat packed models to scale in a suitable material such as thick card. They then packaged these and included assembly instructions and commercial signage.

Task 5 Band Promotion

This was probably the most popular task undertaken. The concept of a 4 fold CD case was on the whole well done but the definition and inclusion of a smart material were the main concerns.

Candidates investigated a wide range of items which would be suitable for promoting a band. A few again failed to acknowledge that the promotion was for a school band and substituted their own favourite pop group. This limited innovation.

Candidates should consider the thickness, folding and spine arrangements for the CD cover. This was done to get them away from producing simple labels which were then inserted into acrylic CD cases. In most cases candidates took up the challenge and produced some worthy outcomes. Centres can refer to the "Ask AQA" website if they require definition of a fourfold CD case.

Many candidates did understand what was required and produced a variety of folding arrangements, some of them very complex and innovative. Some however misunderstood and produced a variety of outcomes, such as point of sale displays for CD's and DVD's. Many of these outcomes were also quite complex and the demand involved in producing them generally outweighed the misunderstanding. A few candidates produced the CD cover in paper; this material is unsuitable for a commercially produced outcome.

A good range of other promotional material was generally produced with smart materials often being used on tickets and T shirts. Some candidates continue to confuse smart materials with modern materials such as holographic paper. A growing number of candidates did not acknowledge or use a smart material.

Design Task 6 Stationery Pack

This was not a popular choice, and only a small minority of candidates attempted this task. Many of the candidates that did attempt it once again concentrated on the imagery and ignored the packaging of the contents. A number of candidates did however produce excellent final solutions displaying creative images, reflected both on the stationary and the cabinet itself.

Design Task 7 Olympic Promotion

Another popular and generally successful task. Candidates were asked to make the packaging and promotional material for a commemorative Olympic product, many also designed and modelled the product itself. This was not necessary.

Investigations generally concentrated as expected on packaging and promotion. There was some slight confusion as to whether candidates should use the existing logo or design one of their own; credit was given in both cases. This was seen as a 'catch all' task and a very wide range of products were identified and used. Discrimination was again achieved by assessing the range of skills, techniques and processes used and the quality of finish.

Design Task 8 'Milano Pizza'

A very popular and generally successful task.

Material was readily available to aid investigation and the majority of candidates had no problems with the interpretation of this task. A small minority of candidates again produced a holder for business cards rather than a menu holder made from card as required. No

candidate was disadvantaged for this failure to follow the brief. Again some candidates failed to incorporate a smart material.

The best material for the production of a pizza box is E3 fluted cardboard but many centres encountered difficulties in obtaining this and used a variety of substitutes some more successfully than others. Thermal strips were included by most to check the temperature on delivery. Some candidates failed to appreciate that pizza boxes arrive at the fast food outlet flat packed and opted for a permanent construction.

Because of size and printing issues this brief encouraged candidates to stick on their labelling rather than printing them directly onto the box. Some candidates solved this problem by completing scaled prototypes and commenting on the problem when relating to commercial production. Menus and their card holders were generally well made.

Design Task 9 Chocolate Outer.

This task is growing in and once again, generally done well by those who chose it.

The majority of candidates understood the significance and dual purpose of an outer and considered these in their investigations. Some outcomes used CAD/CAM very effectively in the production of the final outcome.

Most candidates produced an effective outcome consisting of a point of sale outer and wrapped chocolate bar. Many of the more able candidates built rigour into the point of sale outer by including elaborate constructional detail and comprehensive promotional and informative graphics.

Design Task 10 Hamster Play House

A much more popular task with wide ranging solutions of varying quality.

Candidates took up the task of designing and making a suitable play house with increasing success. Those made of cardboard, decorated the play houses with non-toxic inks. A small number of candidates still interpreted fluted board as the plastic based corriflute and this would have had disastrous effects when chewed by the hamster.

Outcomes varied widely from some well packaged, flat packed complex card based constructions, with assembly instructions, to a few who failed to produce a package at all.

Design Task 11 Recyclaphone

A minority choice which was generally done very well.

Phones and their packaging along with environmental and recycling issues were readily available for candidates to investigate.

The vast majority of candidates produced an effective outcome consisting of a packaged modelled mobile phone and its promotional material. Not all phones were modelled from block foam but there was often justifications made as to why this was the case. The environmental issues were invariably addressed through the graphics and signage on the packaging and/ or in the instructions given for recycling the phone.

Design Task 12 Jack and the Beanstalk Promotion.

A popular choice producing outcomes of a varying quality and complexity

The brief was clear but some candidates still chose to change the focus from Jack and the Beanstalk.

The required items were not as readily available for investigation as in some of the other tasks and many candidates again concentrated on the graphic imagery rather than constructional disassembly.

It is accepted that a scale of 1:5 relates only to the height of the free standing display and not the thickness of the foam board and that adhesive could be used to fix any printed paper material to the foam board as a finish.

 Again there were some excellent and original graphics used and these combined with complex flat packed structures for the foyer display gave many candidates an excellent 3D outcome. Some candidates produced very simple structures however, but were rewarded with high marks when the complexity of the manufacture was often lacking and sometimes very simplistic. Many candidates then completed their submissions by producing a smart cinema ticket, poster and press advertising. Some of the press adverts were shown incorporated into the page of a newspaper. Smart materials used on tickets were generally related to security or made use of 'glow in the dark' material, candidates displaying some novel final solutions. Some candidates confused smart materials with modern materials such as holographic paper. A small number of candidates did not acknowledge or use a smart material; others restricted their use of a smart material to a generic explanation in their initial research section.

Mark Ranges and Award of Grades

For grade boundaries, please click the following link:
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