



General Certificate of Secondary Education

**Design and Technology
(Food Technology) 3542/3552/C**

3542/3552/C Coursework

Report on the Examination

2008 examination - June series

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Introduction

Teachers and candidates continue to put a lot of work into this GCSE Design and Technology (Food Technology) specification. However, the quality of work at the top end of the mark range, although very good, included fewer examples of exceptional work. In particular, there was less evidence of high level making skills.

Administration and Documentation

Generally administration was good and centres sent their Centre Mark Sheets ahead of the deadline. This was very helpful and enabled moderation to proceed promptly. Some issues still remain:

- centres with fewer than 20 candidates are not sending the folders of all candidates with Centre Mark Sheets
- number of matrix errors had increased this year
- omission of Centre Declaration sheets
- folders not put in order of merit causing a lot of extra work
- loose sheets and folders submitted with pages not in order.

The following are intended to give a view of some of the positive aspects of candidates' coursework and also some areas for development.

Standards

- Where centres had referred to standards exemplified by AQA materials, accurate assessments were made.
- Internal standardisation was much better.
- Some centres are still marking some low ability candidates severely.
- There is still considerable concern about the amount of time being spent on constructing folders.
- Generally the quantity of work in folders has reduced but there are still too many centres whose candidates produce well over 50 sides of design work.
- Many candidates still continue to produce too much (and irrelevant) research.
- Some excellent use of ICT has been seen however there are still many centres where the use of ICT is almost absent.
- Presentation of work is variable, with some candidates using space on pages well while others use large fonts or writing and leave very large areas of pages unused.
- Far too many time plans / flowcharts in many folders, often one per making activity. This is not necessary.
- Where candidates demonstrate their thought process, work is usually at least satisfactory and provides clear evidence of the design process. Where candidates are unclear of the process, they rarely produce a folder which 'tells the story' of their designing and making.
- Many folders were in the wrong order to tell the story of the product development.

- A number of centres demanded their work back for exhibitions – centres must remember that the work must still be available to AQA throughout the summer term and that exhibiting work may affect the possibility for re-moderation.
- There are often gaps in the folders of middle ability candidates or the folder comes to an abrupt end. With more attention to these areas candidates could improve their marks.
- There needs to be evidence in folders which demonstrates how decisions have been made about the design and production of a food product. Decision-making is a vital part of the process. It should be the result of good research and evaluation and must be recorded.
- There was evidence of excellent use of digital photography and this was very helpful in moderating 'making'.
- Many of the images were included at relevant points in the process of making not just included as evidence of the end product.
- There have been fewer examples of notes and copying out of books.
- Candidates at the top end of the ability range continue to produce some very good / professional design folders.
- Knowledge of the functions of ingredients is still an issue and candidates need to evaluate the impact of changing type and quantity of ingredient on the developing product.
- There was significant evidence of candidates being misled by centres to produce:
 - irrelevant research
 - unnecessary recording of methods of making.
 - drawings of the manufacturing process
 - final evaluations.
- Teacher commentary on the Candidate Record Forms continues to improve and qualitative comments were added which allowed moderators to confirm centre marks.
- Most centres are making good use of the making box and recording the practical work completed by the candidates allowing moderators to review the quality and quantity of making.
- Large centres, on the whole, tended to be accurate in their assessments. There was evidence of thorough internal standardisation. The majority of centres that were out of tolerance were centres with fewer than 20 candidates, often over rewarding the middle and top end of the sample.

Over rewarding 'development of solution' and 'making' were the main reasons for centres not meeting the AQA standard.

Design Briefs

- Design briefs had improved and were much more direct, appropriate and realistic.
- Some design briefs failed to excite or challenge candidates.
- Centres should consider changing their design brief to give a fresh approach to the coursework. When centres/candidates develop a brief related to their local circumstances this can often engage candidates. An excellent brief, produced by an all boys' school and related to a local football team, engaged and motivated candidates resulting in work of a very high standard that met all the requirements of the specification.

Research and Analysis

This continues to be a weak area.

- Too much research resulted in candidates losing sight of the relevant information they had gathered.
- There is still a real need to ensure that research is relevant and that candidates make use of what they already know. Summaries of findings are required rather than vast quantities of facts which they neither require nor use. Results from questionnaires and surveys are rarely used once gathered.
- Less research was front loaded, e.g. at the beginning of folders.
- Analysis of research is crucial to the writing of design criteria and generation of ideas. Even when candidates have spent so long and completed so many pages on research they gain little credit if they do not analyse their findings.
- In many cases the product appraisal is carried out at the wrong time and often a poorly selected product is chosen, which in some cases does not relate to the brief. A more appropriate time to carry out product appraisal would be before development: this would then produce a clear insight into an existing product that could then inform development.
- Evaluation at key stages within the project could still be strengthened to aid the understanding of the design process particularly:
 - (i) justifying which ideas are to be taken to the prototype stage, many candidates fail to evaluate against the specification.
 - (ii) evaluation of development. Candidates often produce some excellent development work and then fail to explain/justify how they will use the development work to inform the final product.
- Sensory analysis is a definite area for development. Higher ability candidates should be using a range of sensory analysis methods, not just product profiling! Evidence of the understanding of different sensory analysis methods and recording methods was poor.
- When sensory analysis had been carried out candidates did not always use their results to inform the next stage of the design process, often ignoring the results.

Design Criteria and Ideas

- Design criteria have improved, however, there is still insufficient use of research to inform criteria and design ideas being evaluated against criteria.
- There was less evidence of good annotated sketches or drawings which not only describe the product but which also suggest development possibilities.
- More evidence of just recipes and methods without comments was seen – this is to be discouraged.
- Presentation of ideas needs to focus on how successful the product would be in relation to the brief and what opportunities there are for development. Nutritional analysis is only needed as part of the evaluation of design ideas when the criteria have a nutritional or dietary point.
- Sketching and more importantly annotating possible ideas continues to be a strength in many centres. However, where candidates find sketching challenging, particularly lower ability candidates, centres should consider developing other methods of recording ideas such as: pictures, computer

generated images etcetera. This could save time and also motivate candidates.

- Generating ideas does not mean including printing and copying recipes from magazines, books and the internet.
- Candidates' ideas must relate to the specification; teacher guidance is essential at this stage as, in many cases, candidates had not used the design criteria and made little justification for their selection of ideas to make.

Development of a solution

- Many centres failed to produce a product specification before development work. This is an important aspect, as it provides a good evaluation tool for candidates.
- Development continues to improve, but centres should encourage their candidates, particularly at the top end of the ability range, to carry out more investigation and experimental work.
- The selection of the product to develop is key and teacher guidance is essential at this stage. A product with several component parts lends itself to the development of a solution and will allow candidates to produce successful development work.
- Candidates are still being awarded high marks for 'development of a solution' when only simple modifications are made to a product, such as changing the flavour of cheese in a lasagne.
- The most successful development is when small quantities are used to test component parts of a product.
- Development, for the higher ability candidates, is not just changing an ingredient but should be complex and challenging and involve small-scale investigations and experiments.
- There was more evidence of development / modification at the lower end of the ability range and that was encouraging to see.
- Food is a material which provides lots of opportunity for changing, adapting, substituting, altering proportions, using different methods, comparing, altering cooking methods, trying out different storage methods, producing different finishes, etcetera.
- Where development is taught well and understood candidates, particularly those at the top end, carry out investigation and experimental work using small quantities for small-scale investigations and experiments. This is particularly useful where several small samples are compared against each other, e.g. different types of pastry made and shaped to find the best casing for a product.
- More able candidates are good at listing the functions of ingredients as they appear in a recipe however are less good at commenting upon the impact that changing the type, amount and ratio has on the outcome.
- For candidates in the mid mark range, there should be some evidence of modifying and changing ingredients.
- For less able candidates, development is likely to be weak or not done.

Making

- There was some very good making evident within candidates' work this year.
- Use of photographic evidence clearly showed the quality of finish which some candidates are applying to the products produced.
- Candidates should be encouraged to make a range of different products to demonstrate skills and processes.

However

- making continues to be marked generously.
- there are still issues relating to the amount of 'making' which candidates are doing.
- this year saw some very simplistic products being made which were awarded high grades.
- there continues to be a lack of challenge in the products which are made. This applies across the whole ability range.
- there was a lack of making opportunities within some centres. At least half of the 40 hour project should be devoted to making activities.
- a recipe / method is not required for each idea/making opportunity. Candidates waste too much time copying out recipes. This is particularly evident at the lower / middle end. More time should be devoted to evaluation not writing out recipes.
- candidates should be providing more evidence related to their knowledge of the functions of ingredients. The most able candidates should be providing detailed evidence of their understanding of ingredients and processes using relevant food technology terminology.

Industrial Practices

- Industrial practice continues to be a strength of the Food Technology specification.
- All candidates at the top end of the mark range should be producing three specifications throughout the project: design, product and manufacturing. This enables evaluation to be more focussed and informs the next steps in the process.
- Candidates are relating their final product to industrial practices but there are still too many theoretical notes included explaining different production methods, HACCP, why food is packaged etcetera.
- Candidates should relate the production of their final product to relevant industrial practices.
- ICT continues to be strength, particularly the use of photographic evidence.

Candidate Record Forms (CRFs)

Thank you to all those teachers who have spent so much time, effort and thought in completing the CRFs by writing comments which support the quality and standard of their candidates' work.

- Annotation is most helpful when:
 - teachers give specific comments not general ones
 - different information to what is already written in the assessment criteria is provided
 - reference is made to work in folders
 - words like excellent, very good, good, satisfactory, unsatisfactory, poor, very poor are used (as these help the moderators to understand the difference in quality between candidates' work)
 - teachers use comments indicating aspects about individual products and giving a qualitative view of each product
 - quality of specific methods, skills are given
 - information about the quality of the sensory testing is provided, saying how the candidate used this information.
 - personal comments about candidates are not included.
- The majority of centres have used the correct CRF which now provides the opportunity for assessing different aspects of 'making' before coming to a final judgement.
- The 'making box' has been completed well and gives a clear view of the quantity of making which has taken place. (It is easier to get this view when the 'making' list is completed by the teacher and not the candidate!)
- Commentaries on the CRF, for making, continue to improve.
- Where CRFs are poor and lack comments, there is often the same lack of evidence of making in folders. Centres are reminded that moderators need sufficient information on the CRFs to facilitate their understanding of why marks have been awarded.

Recommendations

- Ensure that you plan project time which enables candidates to carry out sufficient making to warrant the assessment weighting of two thirds to one third designing to making.
- Provide candidates with exemplar material to explain how the thought process can be shown.
- Ensure that candidates have a short direct design brief which is evident at the beginning of the folder.
- Reduce the amount of effort and time spent on design work and devote this time to more challenging developments of the prototype.
- Restrict research at the beginning of the project to no more than two to three sides of A3 paper.
- Insist on a range of research which is relevant and not irrelevant research methods, i.e. not letters to manufacturers.
- Ensure all research *information* is analysed and not the research methods – this can be quite short and concise.
- Check that candidates understand the importance of design criteria. Ensure that all candidates have a design specification / criteria within their folder to which they can make constant reference.

- Teach candidates to generate ideas from design criteria and evaluate the suitability of these ideas against the criteria.
- Encourage candidates to make a range of design ideas which are quite different and which provide good evidence of their 'making' ability. For the majority of candidates this is an ideal opportunity to use existing recipes and skills to make products which can be finished to a high quality.
- Encourage candidates to produce product specifications
- Omit time plans for each idea.
- Ensure candidates understand and use a range of sensory testing and that when they carry out sensory evaluation they apply fair testing techniques.
- Make sure that the final idea for development arises as a result of evaluation of ideas.
- Encourage more able candidates to carry out challenging complex development.
- Include further research as and when it is required throughout the design process.
- Apply knowledge and understanding of manufacturing methods, packaging materials and labelling requirements to the developed product.
- Ensure that HACCP is fully understood and applied to the final product rather than producing a health and hygiene checklist.
- Produce a plan for making / manufacture of the developed product and evidence of a specific HACCP procedure and Quality Control for that product.
- Omit a final evaluation but ensure candidates include evaluations as they proceed in order to justify their decisions.
- Encourage candidates to provide more evidence of social, moral and environmental issues.
- Increase the opportunities for 'making'. Candidates could provide evidence of 'making' by:
 - using existing recipes to make products at the research stage
 - carrying out product analysis – this is a very good way to show 'making' provided the product is relevant and the activity takes place at the appropriate point in the process
 - making stand-alone recipes as design ideas
 - carrying out several developments of one chosen idea rather than one development of three ideas
 - carrying out storage tests at various stages of the development
 - making the final developed idea
 - organising and using sensory evaluation
 - using standard components at the manufacturing stage to mirror what happens in industry
 - providing photographic evidence of the process and the outcomes in folders
 - recording making activities in folders.
- When completing the 'making box' on the CRF, give sufficient detail and clarity, e.g. what does 'decorations used' mean?
- Encourage candidates to evaluate and justify key areas within the project. Evaluation is a definite area for improvement. Particular areas for development within the project are.
 - evaluation / analysis of research: candidates produce lots of useful research but in many cases fail to analyse their findings.
 - evaluation of design ideas: to allow the project to 'tell the product development story' candidates should be justifying which ideas they are taking to the prototype stage and why.

- evaluation of prototypes: often this is only on sensory analysis grounds and little, if any, reference is made to the design criteria.
- evaluation of development: this is a very poor area. Candidates often carry out some excellent development work then fail to explain / justify how they will use the development work to inform the final product. It is often difficult to see where the final solution has come from or that candidates have failed to use the development work in the production of the final solution.
- Candidates should always make a final product after completing all development work. This product should incorporate all the relevant developments.