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Design and Technology: Food Technology 45452

(Specification 4545)

Unit 2: Design and Making Practice

Report on the Examination

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GCSE Design and Technology: Food Technology 45452

Principal Moderator's Report 2011

The first year of Controlled Assessment for the new GCSE Food Technology specification has been successful and the standard of work presented for moderation has been very pleasing. Centres have worked hard to interpret the requirements of the new Assessment Criteria and embraced the requirements of the new specification. The majority of centres interpreted the requirements of the Controlled Assessment well and accurately assessed the projects against the AQA standard. The Principal Moderator has been delighted with the work seen and this reflects the hard work and commitment by centres and candidates. The following report indicates good practice and areas for focus in 2011-2012.

Criterion 1: Investigating the Design Context

Task analysis

- Candidates approached the tasks with interest and enthusiasm. The tasks which appeared to be the most popular were: Tasks 2, 3, 4, 6, 9 & 11.
- A minority of centres did not use the AQA set tasks. Task setting is high control and the 12 set tasks must be delivered in 2011-12. There will be additional tasks available for 2012-13.
- A good understanding of tasks and contexts was seen through mind mapping and explanation of key words, with the more able candidates elaborating on these issues.
- If using Task 8: Children's Food Products, one healthy eating guideline should be selected to allow the project to have focus. Candidates who tried to incorporate all themes found this too difficult and the projects became muddled and confused.
- Some candidates lost sight of the context – it is important that this is referred to throughout the project.

Research

- There was very good evidence of centres reducing the amount of research to the recommended two sides of A3.
- There was still evidence of irrelevant research: this wastes times and does not move the design process forward. Several centres did too much research and this impinged into the 45 hours time limit. Discrimination needs to be shown when selecting the research material to use.
- If producing a questionnaire, candidates need to be given guidance on asking relevant questions which will help to inform the development of products. Only the analysis of these results is expected in the controlled assessment folder.
- The main focus of research should be on existing products. This should not always be interpreted as products from supermarkets. Existing products could include examining schools meals, menu analysis etc.
- When researching the school meals, candidates did not always examine the existing products in their own school which was a missed opportunity. Candidates could produce annotated photographs, menu analysis, interviews and product appraisals.
- There were some excellent product appraisals/analysis; however, it is usually more appropriate for this to be carried out prior to development and not during initial research. The results can then be used to inform development activities.
- Research does not have to be front-loaded. It is good practice to include research throughout, for example, further research on finishing techniques, properties of ingredients.

- Analysis of the research is essential. This is a high level skill and needs to be taught to candidates. Good practice was seen in folders when headings/starter sentences/scaffolds were used.
- Research analysis was vague in some work, with candidates failing to link their findings to the next stage of the design process.

Design criteria

- There was very good evidence of design criteria reflecting the analysis. The criteria need to be relevant: sometimes the criteria were too vague and not used for evaluation.
- The design criteria must result from the research analysis and the linkage was not always evident.
- When design criteria are not produced it affects candidates' performance for criteria 2 and 4.

Target market

- A target market needs to be identified. To achieve the 7-8 mark band, a consumer or user profile is required. This can then provide the basis for evaluation. This was a weak area and needs to be developed in the majority of centres. Further support materials will be issued to centres to assist with this area of development.

Criterion 2: Development of Design Proposals.

- When an adjustment of marks was required it was Criterion 2 which had often been over rewarded, particularly development of a solution.

Designing

- Imaginative and creative design ideas were generated by many candidates. Candidates should produce a range of initial design ideas (ideally 6-10) that reflect the design criteria. It is advantageous to produce annotated sketches or images. Producing lists or including recipes does not allow candidates to explain their thought process or show innovation and creativity.
- There were some wonderful examples of annotated sketches and images.
- Candidates achieved well when the annotation included reference to: sensory descriptions, ingredients, finishing techniques, implications of a wide range issues and suggestions about how the product offers the opportunity for development. It is also good practice to compare the ideas against design criteria at this point and also good preparation for the examination.
- There were far fewer sketches seen, but these had been replaced by very good annotation of existing products. The source of existing images must be recorded under the image.
- Justification of the choice of dishes to make needs to be recorded in folders.
- Candidates generally adopted a coherent and detailed design strategy and there was good evidence of planning ahead.
- Candidates could be encouraged to aim to be a little more creative when designing and encouraged to take a few more risks.
- The implications of a wide range of issues including social, moral, environmental and sustainability was poorly addressed. These issues need to be included throughout the designing and development process and not as a bolt on at the end of the project. This can be achieved by considering the ingredients used for each design idea.

Product specifications

- Product specifications were misunderstood in many centres or omitted. A product specification needs to be produced after initial ideas have been considered. The product specification needs to focus upon the qualities expected from the product that is to be developed. This is an important element and provides a valuable evaluation tool.
- To achieve the top mark band candidates must justify the product specification. This was an area which was not fully understood.

Development

- There was some outstanding development work inclusive of experimental and investigative tasks which is to be commended. The most successful and economical development activities involved using small quantities to test component parts.
- Where the centre had a clear understanding of development some superb evidence was seen. Unfortunately some centres are still over rewarding simple modification, changing one ingredient each time in a product. It was therefore difficult to support centre marks in this situation.
- There was more emphasis on the practical side of product development, in line with the assessment criteria, and it was pleasing that candidates, including those in the middle to lower marks ranges, had produced a good amount of investigative making in this section. Centres are encouraging candidates to try a broader range of techniques and modelling which is pleasing to see – however care must be taken that these are not carried out in a superficial way, even by more able students.
- The selection of the product to develop is key. Candidates should act on the feedback from evaluations and ensure that the product selected will allow for complex and skilful development work: this is particularly important for the more able students. Many candidates selected a product that prevented development opportunities, e.g. apple crumble. It is not expected that candidates produce a 'meal' with accompaniments etc.
- It was encouraging to see development work throughout the ability range. Excellent development and making was demonstrated where candidates had chosen products with several layers or sections to them. Each part could be developed and evaluated against the product specification and linked to the final product.
- When candidates thoroughly understood how to develop, some creative final products were produced.
- Development needs to be taught to candidates as part of the teaching of the specification.
- Detailed and complex practical development should include investigation and experimenting with ingredients, component parts and processes.
- It is acceptable to produce some group based development work but it is essential that candidates record their input and evaluate the results independently.
- When recording the development work, candidates should be encouraged to include: aims, ingredient lists, photographic evidence, changes made, results, sensory testing, conclusions and nutritional analysis if relevant.
- Adjustments were required when simple modification had taken place, e.g. changing one ingredient and then remaking a product, yet awarded high marks. It is expected that lower ability candidates will modify rather than develop and this is reflected in the mark bands.
- More able candidates in particular needed to show a greater range of more challenging developments to justify the very high (and often full marks) awarded by centres. Development is not just related to the sensory characteristics of products. Higher ability candidates should be encouraged to test ratios, storage, cooking methods etc.
- High ability candidates explained and justified how each development did or did not contribute to the final product.
- A final design solution should be produced, that includes all the results of the development work. There are still some candidates producing high quality and complex development work and then failing to use the results when producing the final product.

Working properties of ingredients

- It was pleasing to see candidates addressing the working properties of ingredients throughout the design and development stages. There is more emphasis on this area in the new specification and is was disappointing that some centres failed to address

this. The working properties must be considered throughout and not just for the final product.

- Candidates in the highest mark range need to make more reference to working properties such as the gelatinisation of starch for thickening or gluten in flour supporting stretch and structure in yeast mixtures. When candidates had studied the properties of ingredients as part of the teaching of the specification they were able to recall their knowledge and include this when evaluating.
- There was evidence of more nutritional analysis in folders but better use of the results needs to be included particularly if the brief has a healthy eating/nutritional bias.
- A manufacturing specification is not required nor is reference to industrial practice/HACCP and production methods.

Criterion 3: Making

- There was some excellent making throughout the ability range. Candidates had produced some interesting and creative ideas.
- Excellent examples of finishing techniques, illustrating skills and flair.
- The amount of making was correct in the majority of centres and it was pleasing to see lower ability students often scoring proportionately more marks in this section.
- Photographic evidence was well used to support candidates making. A photograph of the final product must be presented.
- Some centres need to include more development opportunities for candidates to justify the high making marks awarded.
- There was evidence of good quality finish and a high standard of presentation. Candidates really did take pride of their completed practical work.
- Candidates demonstrated a range of skills and processes particularly at the design ideas stage.
- There was still a lack of making opportunities within some centres and this was the main reason for the reduction of marks. At least half of the project should be devoted to making activities.
- A minority of centres misinterpreted the assessment criteria and awarded the making mark based on the final product only. It is essential that all making carried out through out the controlled assessment is credited in this section.
- The making mark was under rewarded in a number of cases, particularly for lower ability candidates.
- The choice of products to be made is essential in achieving good making marks. A range of products must be produced inclusive of a variety of skills and processes. When selecting the Celebration context there was a tendency to make very similar products with repetitive skills.
- There were discrepancies between the work in some folders and that claimed on the Candidates' Record Forms. When candidates have difficulty with written work, centres must consider ways of recording practical work. This was done superbly in some centres when photographic evidence was produced.
- A method for all making opportunities is not required; candidates need to produce a method/production plan for the final product only inclusive of health and safety and quality control procedures.
- It is important that photographic evidence has the name of the candidate to allow for authenticity.
- The production plans were well done and understood by candidates.
- There is no requirement to produce packaging or a label for any of the tasks.

Criterion 4: Testing and Evaluation

- There was good evidence of a range of evaluation techniques being used throughout the product development process.
- Food Technology students scored well for this criterion.

- The most successful candidates used a variety of testing/evaluation techniques which incorporated points from the criteria/specification. They explained their methodologies, referred to the product specification, fully discussed the results and used these to inform the next steps.
- The design criteria must be used when evaluating ideas. Some candidates lost sight of this.
- Candidates achieved well when they included aims and conclusions in the relevant and key areas to successfully tell the product development story/design process.
- To access higher marks, candidates must record their decisions throughout the folder to provide a link and coherence that will tell the 'product development story' clearly.
- Sensory testing was done well however a range of testing methods should be used by higher ability candidates e.g. rating/ranking etc. Many centres use only star profiles to record their results.
- The target group must be referred to throughout the design and making process.
- There was evidence of some very good final design solutions ideally this document must include: a photograph of the final product, a full list of ingredients for all component parts, a review of the development process including full justification of the choices made, a comprehensive comparison against the product specification, an explanation of how the outcome may need to be modified for commercial production and final sensory testing results inclusive of comments from the target group.
- The explanation of how the product needs to be developed for commercial production was a weak area. Candidates could refer to production methods, standard components, quality assurance, packaging, use of additives, large scale equipment etc.
- In tasks that have a nutritional aspect e.g. Tasks 1 and 8, it is important that nutritional analysis is carried out. Nutritional analysis was a weak area with candidates failing to understand data and included print outs with no evaluations. It is not necessary to complete a full nutritional analysis for each product.
- A final evaluation of the controlled assessment process is not required.

Criterion 5: Communication

- Candidates achieved good marks when the design folders reflected told the product development story.
- The majority of folders were concise and focused.
- Some good use of technical language related to the working properties of ingredients was seen, however this is an area that could be developed further.
- Encourage the use of smaller font sizes (size 10-12) to reduce the number of pages.
- The use of ICT was a strength in the majority of centres.
- Photographic evidence was used purposefully particularly when linked to production plans.
- In a minority of cases higher ability candidates used writing frames and this prevented extended commentary, creativity and innovation.

Administration/Assessment

- The detailed commentary on the Candidate Record Forms was much appreciated by moderators.
- Teacher annotation needs to provide qualitative comments related to the making ability of candidates.
- A list of making must be included on the Candidate Record From.
- Several centres provided supplementary evidence to record practical achievements which helped the moderation process.
- Many centres delayed sending the sample to the moderator after the initial sample was requested which delayed moderation. Centres with 20 or fewer candidates must send all the work to the moderator by the deadline date.

- Samples of work need to be sent in rank order to the moderator from the highest to the lowest.
- If awarding high marks for a particular criterion it is essential that the elements of the assessment criterion are comprehensively covered – this was not always the case.
- Please ensure all the work is fastened secularly together. Loose sheets are very difficult to moderate. Work does not need to be removed from folders.
- Several adjustments were required because centres had under rewarded the lower ability candidates, particularly for making.
- Assessment criterion 2 was the area centres found the most difficulty in assessing accurately.

Recommendations and focus for 2011/12

- Research needs to have clear aims and conclusions and be analysed thoroughly.
- Product analysis should be carried out before development.
- Design specification/criteria are an essential element of the design process and must be used as an evaluation tool throughout the project.
- A target group must be selected at the outset and higher ability candidates produce a consumer profile.
- Encourage candidates to be more creative and take a few risks with their choice of design ideas.
- Candidates need to generate a range of thoroughly annotated ideas and then select 4-6 ideas to make in the test kitchen.
- The implications of a wide range of issues including social, moral, environmental and sustainability must be addressed throughout the project not as a bolt on at the end.
- Encourage more creativity, innovation and risk taking when designing and making and reward candidates for this.
- A range of design ideas should be produced to allow candidates to demonstrate their making skills. Encourage the use of a wide range of ingredients and processes.
- Candidates must consider the working properties of ingredients. Higher ability candidates need to use specific food technology terminology.
- A product specification must be produced before development and the statements justified.
- Ensure the product selected for development allows for challenging, creative and complex development. This is particularly important for students aiming for the higher marks.
- An investigative and experimental approach is required for students to achieve the top mark bands.
- At least half the project should involve candidates being engaged in making activities this should be evidenced in the folder of work.
- Nutritional analysis data needs to be understood and explained more thoroughly.
- The final solution must make reference to commercial production.
- Encourage candidates to evaluate and justify key areas within the project.
- Centres are supposed to have marked all work and completed the Candidate Record Forms for all candidates before marks are sent to the moderators.
- The CIEH have changed their temperature advice and foods must now be reheated to over 75°C rather than 72°C. AQA will accept both for the moment, as all the text books currently available state 72°C.
- New materials will be produced for 2011-12 related to the recommendations above and sent to centres in the Autumn term.

Mark Ranges and Award of Grades

Please see the following link:

http://web.aqa.org.uk/over/stat_grade.php