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Principal Moderator's Report

Summer 2016

Pearson Edexcel GCE in Design & Technology: Food Technology (6FT01)

Unit 1: Portfolio of Creative Skills

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Summer 2016
Publications Code 6FT01_01_1606_ER

General Observations

Most centres submitted work in three discreet separate sections, which were divided into:

- Product Investigation
- Product Design
- Product Manufacture

Where centres had chosen to use a different food product range across the three tasks, it gave greater depth and coverage of the specification requirements. There was evidence of good application of knowledge and understanding of food science, nutrition, preparation and processing technologies and sustainability throughout the portfolio of creative skills.

Administration

- Candidate name and number, plus centre name and number should be on the front cover of the coursework.
- The recommended page number limit is 30 pages for the portfolio of creative skills.
- Annotation in the CABs was generally very good and aids the moderation process.
- There were examples of page references in the annotation having little relevance to the numbering on the script. There were some scripts without any page numbers and others had numbered each task separately.
- A4 or A3 coursework page format is fine. It is beneficial to choose and use just one format (A3 or A4) if possible.
- Photographic evidence should be used extensively through the portfolio to record work for assessment in each of the three sections.
- Photographic evidence in the CAB should only be presented for the Product Manufacture Task.
- Electronic coursework submissions are acceptable, but Edexcel guidance clearly states that this must be through an acceptable file format such as PDF, power point or adobe.

Product Investigation Task

Criterion A - Performance analysis

Most candidates achieved very good levels of success in this criterion, when their work was well structured under the recommended headings listed in the subject specification. Selection of product(s) is fundamental to the success of this task. A range of products were generally chosen within each centre, and this should allow greater depth and breadth of investigation thus developing discussion, interest and learning opportunities within product investigation of commercial products using a diverse range of ingredients and processes, adding relevance and Unit 2 studies. The choice of the second product is important in allowing

students to compare and contrast one against the other effectively, and whilst the majority of students were successful at this, a significant number selected products that were too similar, and this limited their opportunities to make effective comments when comparing and contrasting. It is advisable that candidates try to choose similar products that are focused on different user groups, have different performance and user requirements and are manufactured from different ingredients. Once again, interesting combinations of products included luxury versus value, chilled versus frozen, or an artisan food product compared to a supermarket equivalent, special diet comparisons, and multi-cultural styles of commercial products.

Many candidates chose to tabulate this information and this was highly effective, with a concise evaluative summary of the main findings presented at the end of this section.

Criterion B: Ingredients and components

The disassembly of the chosen product should allow candidates the opportunity to understand the component parts and structure of the product. Good practice was demonstrated by candidates choosing to tabulate information using the headings: ingredients, % contribution, advantages, and disadvantages of ingredients whilst justifying their inclusion, alternative ingredients and environmental issues. Sustainability was addressed by most candidates but this must be relevant to the product. Analysis relating to origin and season were worthy of credit, but other considerations could include reference to the source, farming/growing methods and disposal of the specific ingredients/materials used. Generic information cannot be credited with marks if there is no obvious application to the chosen product investigation.

Criterion C: Manufacture

Candidates must identify the method of production for the chosen product, and then state one alternative method of production that could have been used in the manufacture of the product. An evaluation of the selection of manufacturing processes by applying the advantages and disadvantages of the manufacturing processes used in the product was vastly improved this year, and many candidates choose to present this as an annotated flow diagram, with images to aid communication. The weakest part of this section remains the environmental impact of the manufacturing processes. However, those centres that explored CO2 emissions, use of energy to power machinery, water consumption during food preparation, and use of standard components on the production line to reduce production processes and applied them to their chosen product, were largely successful in this section.

Section D: Quality

A description of two/three specific quality checks was presented by most candidates and it was pleasing to see continued improvement in the descriptions

of how these checks would take place (not just when), and that they related to the actual product under investigation. Reference to standards was often mentioned, but there was hardly ever any explanation of how they influenced the manufacture of the chosen product. This is an area that requires attention by centres. A description of a quality assurance system often referenced the Marine Stewardship Council (MSC), Farm Assured ingredients (Red Tractor), traceability schemes and other specific QA systems linked to food retail organisations that have had a direct impact on the product under investigation.

Product Design Task

As in past years, the most successful centres embraced design and development work with clear and concise design briefs, with technical and measurable specifications that influenced the choice and design of the practical work. Design intentions and decisions were recorded with clarity and justification, leading to final products that showed significant developments from the original idea. Good photography aided communication.

The moderating team reported that the design ideas chosen by candidates were largely effective; however, some of the candidates' developments were slightly cosmetic, e.g. still changing flavours and shapes etc., without moving the product forward significantly. It would be advisable for centres to select products that contain several components in future, to enable candidates a wide selection of possible developments. Where products contained several technical components, candidates scored much higher. The level of detail contained within the manufacturing specification was good and showed a high level of detail of the form and function of the final solution, with a detailed understanding of the dimensions, ingredients and functions of ingredients given. This section was fine for many centres, but some centres must consider the level of demand within their development to allow candidates to achieve top-box marks.

There was evidence of much innovation, creativity and flair, with high level design and development skills, and a range of communication techniques supported with good application of knowledge and understanding relating to food, nutrition and product development.

Section E: Design and Development

The starting point in this section must be a design brief that contains some measurable design criteria that can be used to evaluate designs as they progress through design and development. After the initial brain storm of ideas, most candidates presented a good range (4-6) of imaginative design ideas with detailed annotations linking to the understanding and working characteristics of ingredients, components, techniques and processes for their chosen food products. In the best work seen from centres, the modelling at this stage was practical work, which allowed for the opportunity to critically evaluate the product against the design criteria through a review page, recording design

decisions and development opportunities in meeting the requirements of the brief.

From this, development intentions could be communicated and explored with clarification and refinement for individual components, skills and/or techniques within a food product. Successful development from candidates, showed how the final design proposal had been moved on from an original idea through the results of practical development, sensory testing and evaluation. Weakest development tended to focus on one-off simple practical tasks or cosmetic changes with little evidence of why it was taking place, or indeed any application of knowledge and understanding of food science and nutrition through GCE design and development activities. Three good quality developments must be shown to offer contrast and comparison instead of six superficial trials.

An effective final design proposal was only possible if developments had been justified with valid conclusions. Making must be used to test important aspects of the final design proposal. Once again, there was some good third-party testing and feedback evidenced, with objective evaluations against the design criteria to justify comments. A manufacturing specification was an effective format to present this information with detailed technical information linked to ingredients, processes, attributes, tolerances and dimensions to support third-party manufacture in the communication section.

Section F: Communication

Communication techniques focussing on concise annotation to convey ideas, development of work with technical considerations, CAD cross-sections or exploded drawings, digital photographic evidence, scanned images, costing spreadsheets, excel product profiling were shown and most candidates achieved significant marks in this section, displaying excellent standards for a wide range of communication techniques. However, it is essential that candidates choose relevant communication techniques pertinent to their design brief. Nutritional analyses seemed to reappear in this section, often with little relevance to the design brief.

The moderating team reported a wide range of ICT was used in all centres to good effect. Many of the manufacturing specifications would allow 3rd party manufacture however; where marks were adjusted the candidates lacked clarity about the construction of their final product with reference to dimensions, scale of production or technical making details.

The final design proposal should allow third-party manufacture of the intended product, and in the best work seen, this tended to be presented as a manufacturing specification with good quality photographic evidence.

Product Manufacture Task

For some centres, the Product Manufacture Task proved problematic as candidates continued the design task into the make task, thus presenting the same product twice for assessment. This is not acceptable.

The best way forward is to do a separate manufacturing task, which results in either a range of different practical items being made for this task, or a wide range of skills and techniques presented for one complex, high-level food product. By working on three separate discreet tasks, candidates can present a **wide range** of skills and techniques for different food products, thus producing an effective portfolio of creative skills.

Again, there was a big variation in the quality of practical work, ranging from outstanding practical work, demonstrating skill, flair and creativity in their making, to very simplistic products that lacked the required level of finish.

The moderating team reported that macaroons, meringue, technical pastries including choux, rich short crust, hot water crust and flaky, plus pasta, noodles, breads, pies, sauces and many layered sweet or savoury products were created with high levels of skill and creativity.

Section G: Production plan

Many centres produced clear HACCP charts showing the correct stages of making. Where flow charts were seen these were used to good effect; however, they did not provide much detail in most cases. Some centres are still forgetting to include timings in their plans.

Candidates need to present an accurate plan with realistic, relevant time scales and deadlines for the scale of production, including relevant links to ensuring a good quality product whilst meeting H&S requirements during the making of the item. Thumbnail pictures were often included as part of the production plan, which were effective, clear and supported making marks.

Section H: Making

Once again, the majority of centres were in line with the requirements of this section and set manufacturing tasks that allowed candidates to experience a range of ingredients, processes and techniques, to show quality, complexity and technicality, and to develop skills that they could call upon in Commercial Design at A2. Some high quality outcomes were seen.

Quality of finish and demand of high level skills and techniques have continued to see a slight improvement this year. However, it is still advisable for centres to consider the choice and selection of components for the practical products to allow candidates to demonstrate a wide range of skills and processes. An absolute minimum of three components should be demonstrated at AS level, and hopefully more by those students wanting to access the top marks.

Many centres followed advice from training and exemplar material, by selecting food products where candidates could demonstrate accuracy and precision when working with a variety of ingredients/components/processes and techniques. These candidates were awarded high marks when the evidence was apparent in their coursework. Teacher annotation in CABs was generally extremely helpful for moderation purposes, and was very much appreciated by the moderating team.

Section I: Testing and Evaluate

Commentaries on testing carried out on the completed Product Manufacturing Task exactly reflected statements made last year. An interesting range of tests was evidenced by some centres. This included a range of different sensory tests, storage-life tests, transportation tests, viscosity tests, and tolerance tests against a manufacturing specification and nutritional analysis where relevant to the design brief.

Candidates must describe and justify a range of tests that will be carried out to check the performance or quality of the products. This must not be retrospective. However, responses were disappointing where testing was simplistic or superficial. Many candidates continue to simply evaluate their work against the design criteria, with subjective comments or a brief summary of work completed for the task. Relevant, measurable points of the design brief/criteria must be objectively referenced to achieve the top-box marks, and this was often presented successfully in a tabulated format to aid review and evaluation.

Grade Boundaries

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