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Moderators' Report/ Principal Moderator Feedback

Summer 2013

GCSE Design & Technology

Food Technology (5FT01)
Creative Design & Make Activities

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Introduction

This year showed a larger proportion of centres getting to grips with the specification and assessment criteria. The level of work seen this year was very promising showing a range of outcomes from very good to weak. Clarification of the two different options and the titles to select from can be found at

http://www.edexcel.com/quals/gcse/gcse09/dt/Food/Pages/default.aspx.

Students are required to identify a gap within the food market, employ design skills to produce a design proposal and to make a range of food (a range being more than two) products that match the design proposal. A range of products are required to provide students with the opportunity to present a wide range of different skills and techniques. As with all the Design and Technology subjects, centres need to address relevant sustainability issues related to their choice of design brief. As with last year's entry we saw some good examples including the use fair trade products, air miles of the ingredients, amount of water used during the making of the product and the recycling of any packaging used to transport the ingredients or final product. This process was tackled much better when students focused on the ingredients used in products coupled with the global view of origin, travel and processing. It was apparent that centres are combining the teaching of the theoretical aspects of the course alongside the portfolio to aid understanding; this is something that is encouraged.

This year showed a fairly even split between the combined and separate design and make portfolios. Where centres opted to undertake the separate design and make tasks this often enabled perceived lower ability students to access a wider range of marks i.e. the design element of the folder may have gained a relatively low level of marks but the making section saw a much higher proportion of marks awarded.

Each student has to produce a folder of 20 to 25 A3 pages in approximately 40 hours of work; containing work from the research to ideas to the final products and evaluation of a new concept food item. The range of topics/design briefs were interesting and well thought out with students presenting a wide range of variations on most of the topic headings; the most popular topics seemed to be celebrations and multicultural foods. The most common design brief for celebrations was children's parties whereas many of the multi-cultural foods focussed on Italian and Indian foods. A very similar trend was seen in project work this year as was seen in the last series.

Most centres selected appropriate tasks that allowed all students to access each part of the specification with varying ability. Some centres set a common topic allowing high ability students to take ownership and personalise their work to produce individual outcomes; for example food for a celebration and a multi-cultural themed meal. A good choice was desserts within the celebration theme; this allowed the students the opportunity to

display a broad range of skills and processes with good scope for design and developments. This choice offers stretch and challenge opportunities to students. This allowed students of all ability to select an appropriate range of products with a varying degree of complexity and demand.

Where some centres design briefs were too narrow, this stifled creativity and limited the range of practical skills at the design and make stages. Some centres were still limiting the scope of the design and make activities and where this was shown, the work was not demanding enough for KS4 level e.g. simple all-in-one cakes decorated with readymade icing and pizzas made with readymade bases are examples of this. Where students were allowed to express their skill e.g. lasagne made with fresh pasta, home-made ragu and béchamel sauce; higher marks could be awarded.

Overall this year we saw an improved interpretation of the specification criteria to show some consistent teacher assessment. The main areas identified as requiring improvements in some centres included; production plans and testing and evaluation of products.

There remain some issues surrounding the ease of moderating folders however; these are far fewer than were seen last year:

- Centres must remember that student CMRBs must contain a signature for declaration from the assessor and the student. Where this is missing, a delay in the moderation process occurs.

- Witness statements should be used to aid the moderator and justify the awarding of marks. Centres should include enough detail to justify the marks awarded stating the processes used as well as clear justification given.

- Remember that photographs of the final product range must be included in the CMRB as well as in the folders.

- Where an assessor has clearly annotated the CRMBs, it greatly helps the moderation process; clear annotation includes page numbers, teacher observations and general guidance to why they awarded marks.

- The CMRBs are removed from student's portfolios during the moderation process. It is time consuming to remove the CMRB from a folder if it is attached, it would be advisable to loosely include the CMRB with the students work to aid the moderation process.

- Page referencing on the CMRB is very useful to the moderator to show evidence of how and where students have met each of the specification criterion.

- Where work has been submitted on CD please ensure that each students work must be combined into one document either PDF or PowerPoint and clearly labelled with the centre number, student number and student name.

The general student performance has shown improvement this year and centres should be congratulated on the application of the assessment criteria.

Design Activity

Analysing the brief

The majority of students undertook a wide range of design briefs allowing them to show a good understanding of the design process from the initial analysis to ideas, development and the final solution stages. Many students followed similar paths to undertake the analysis of the brief with an initial mind map of thoughts being shown before a more detailed who, what where, when approach was used. Where students just presented a mind map they were not able to access the full range of marks due to lack of clarity. The inclusion of a focussed task analysis under the headings of who, what, where, when helped students to fully identify the target group needs for the task adding detailed analysis where appropriate. This technique often helped students to identify specific needs associated with the task e.g. who the target market is, what the purpose of the task and final product may be, where will the product be sold etc.

Research

This year the research section was carried out a lot more successfully with many centres submitting work that was condensed but relevant to the task. All centres appeared to carry out 2-3 pieces of relevant research that contained much less secondary research allowing students the opportunity to gain relevant primary research that was taken forward and used during the later stages of the portfolio. The recommendation remains for 2-3 pieces of good research which must include some form of existing product analysis.

In order to gain high marks in this section, students are required to carry out analysis of existing products. This was carried out well by many centres where students were able to disassemble existing products to determine how they were produced, carry out costing analysis and acceptability testing to the user group as well as looking at issues of functional properties and sustainability associated with products.

Where analysis was clear, specific and relevant, detailed analysis was acquired that helped focus students minds surrounding the requirements of the task and user group. In turn, a range of relevant research produced with detailed analysis of findings allowed students to go on to produce a detailed specification containing clarity.

Where some students failed to access the higher marks the research lacked detail and analysis was repetitive, limited and sometimes generic. Some centres are still producing excessive research and including mood boards (not analysed) and questionnaires. Questionnaires are a difficult form of primary research as many students fail to ask questions that can lead to a specification. Where research could have been improved students often failed to include enough justification of findings that could aid the writing of their specification points. Examples of student work included comments such as ‘I found the average price’, ‘I found out many ingredients were

used' instead of providing clear evidence of what the product will need to do and examples of how this could be achieved e.g. 'the average price was ….', 'the average weight was ……' Centres need to be reminded that top box research needs to 'aid the writing of specification criteria' so it is essential that the evaluations pull out the measurable findings.

Specification

Where marks awarded for the research are middle box, this is often indicative of the specification marks. This section was carried out with varying degrees of success by some centres. Centres should remember that in order to gain high marks in this section students must produce a detailed specification highlighting the main needs of the task whilst points must be fully justified containing some issue of sustainability.

Many centres are now choosing to use the Edexcel recommended headings of form, function, user requirements, performance requirements, materials, scale of production and costs. The inclusion of these headings often appeared to focus student's thoughts on the expected outcomes of the eventual proposals.

Some centres decided to create a specification using a tabular format to ensure that students had justified points using research as well as showing how points might be tested throughout the ideas and development stages. Where this method was seen, student work showed excellent clarity.

Initial ideas

There was some excellent evidence here. Many centres undertook a mind map of ideas and then took four to six forward discussing the reasons for choice. Students that were most successful in this section told the story of where ideas had originated, why they were suited to the task and then justified this with user feedback, ingredient functionality etc. It was pleasing to see that many centres encourage students to trial the ideas.

All centres should allow students to present their ideas that include a reason for selecting the idea relating to the research and design specification, a list of ingredients and functions, methods and processes, user group feedback (may be sensory analysis) and final evaluation which should demonstrate some notion of future developments that could be made to the idea. Where the functionality of ingredients is discussed this needs to be both relevant and technical in order to gain high marks. There was evidence of basic understanding of ingredients e.g. students writing 'to add flavour' or 'to add colour' however, in order to gain high marks a thorough understanding should be presented using correct terminology e.g. discussing gelatinisation, shortening, fermentation etc.

To see full marks awarded we would expect to see a detailed understanding of ingredients with a comprehensive evaluation explaining the overall suitability of the product including possible modifications linked to the design specification.

The main area to be mindful of is the inclusion of a nutritional analysis chart for every idea by every student regardless of the task. Nutritional analysis is only required if it is relevant to the design brief; nutritional analysis of celebration desserts would not be appropriate.

Review

This was carried out well by many centres with many now choosing to present a separate review page in tabular format. This was a common approach which enables students to demonstrate their understanding of the design process through the discussion of products strengths and weaknesses associated with products listed across the top and each specification point shown down the left hand side. By taking this approach students could offer constructive feedback showing how/if a specification point had been met and how further developments might enhance the idea.

Centres must remember that, in order to access the full marks, clear user group feedback and some issues of sustainability must be addressed. It is helpful to include a review summary which will lead onto the development stage.

Communication

A good range of appropriate techniques were generally used; word processing, internet, photos, diagrams and specialist vocabulary were seen.

Development

There were a range of outcomes shown during the development process ranging from extensive and detailed to no evidence provided. Centres must remember that three products (a range) should be taken forward to be changed/improved in relation to user group and research results; the products need to be developed in relation to their initial brief and should be accompanied by clear evidence of their outcomes. Developments can be physical or paper based activities; paper based activities include costing (value products to fair-trade, e.g. sustainability, nutritional analysis or sustainability development. The minimum requirement is for one development for each of the three products, e.g. lemon to forest fruit meringue, or family size to individual portions.

Successful developmental work was seen by students who were able to show how a product ‘moved on’ throughout the developmental process whilst being able to also give clear reasons and justification for changes occurring. This was often evidenced by user feedback, links back to research and the specification as well as photographic evidence. A useful technique adopted by several centres this year was to provide a before and after photograph to clearly depict changes along the journey of the product.

Where students failed to achieve a high level of marks, developments were often superficial and lacking evidence. Some products seen showed minor and cosmetic changes e.g. adding 1/2tsp more of oregano or changing the lamb mince to pork. Simplistic ingredients changes are not moving the

product forward. Centres need to look at changing the shape, pastry type, components, layering as well as flavouring. It is perfectly acceptable to make more than one change at a time e.g. a student can change the pastry and also add flavourings as well as changing the shape. A product can develop into a completely new product as long as the student can show how this has happened whilst also satisfying the original brief.

A note to centres; please be aware that unless evidence is contained within the portfolio of evidence a student cannot be credited with marks.

Final design

The final design page(s) must clearly show three fully developed products using photographic evidence, sketches or both. The developmental story should have been shown in the previous criterion. Here students should be explaining the main ingredients/components included in each product as well as a list of technical information e.g. functions of ingredients, dimensions, costing, and nutritional information (if required). It is the level of clarity contained that will determine the level of marks awarded. Some of the best examples of work carried out in this section included a brief manufacturing specification including enough detail for a third party manufacturer to understand all of the design intentions.

This section is either the final section of the 'Design' project or the continuation of the combined option. This means that the students are either designing the final item relating to their 'design' brief, e.g. celebration cakes, then being given a new specification by the teacher for the 'Make' project, e.g. multicultural main meals. Or, if the centre wishes, the students continue with the designing process and make the dishes they have designed in the 'design' section of their work.

Make activity

If a centre is undertaking a separate make activity, please remember that a new specification is required.

Production plan

Centres should be reminded that only one fully completed detailed plan for making is required for each student; it can either be a flow chart, or a tabulated HACCP chart. Where a simple written list of instructions (method) was presented, students failed to achieve high marks to the lack of detail demonstrating the application of quality control throughout the production process.

The plan should include a sequence of manufacturing tasks in the correct order and reference to quality checks. Other considerations might include time, temperature controls, and relevant hygiene and safety issues relevant to the chosen product and specific skills and process used to manufacture the product. Students need to ensure that their quality control checks are

specific in detail and not too repetitive, for example ‘check the meat is evenly cut’ could be ‘check the meat is diced. The repetition of simplistic checks e.g. ‘check utensils are clean’ was again an indicator of low level work.

This series saw an increase in the number of students demonstrating a limited awareness of QC with many simply stating ‘visual checks’ or ‘check size’ when needing to describe the visual checks and mention the exact size(s). When including a HACCP chart information was generally more detailed with some students stating the type of contamination with example instead of writing ‘contamination’ and many students looking at the high risk foods and types of food poisoning bacteria that could be present.

If more information is required on this topic please refer to the subject webpage.

Quality of Manufacture and Quality of Outcome

Quality of Manufacture is the processes used to make the product and the Quality of Outcome is the final appearance and ability to meet the specification. In this section, marks are awarded for the quality and manufacture of component parts of final products, how well they are assembled into a completed and fully functioning range of products and whether the tasks and levels of response are appropriate to Key Stage 4 expectations. The range of skills and application demonstrated this series was excellent. It is encouraging to see students using high quality techniques to produce a range of products that demonstrate the high degree of precision and accuracy required for high marks to be awarded.

To reinforce expectations, in this section we are looking for at least three good quality skills and components for GCSE, these could include roux sauces/range of sauce making skills, homemade pasta/noodles, range of pastry making skills, meringue and jelly using gelatine/arrow root. Some students were still producing Key Stage 3 products e.g. pizzas, crumbles, spaghetti Bolognese, scones, cupcakes, biscuits, fruit kebabs. If standard components are used, again it is difficult for the students to demonstrate a high level of skill, understanding and process. Students can enhance some products with the addition of accompaniments and components e.g. if a student makes a Bolognese and makes their own pasta then this is evidence of a KS4 product; if a student makes a curry then marinating the meat, making their own paste, sauce and naan bread would move it into the KS4 criterion. It should be made clear that we are looking for the level of skill to be high whilst demonstrating the production of fully functional products which contain a variety of components.

As evidence of the quality of manufacture and quality of outcome, clear photographs must be submitted; photographic evidence plus the witness statement are the only proof of manufacturing quality. The witness statement is the essential part of the moderation. The photos must be accompanied by a label with the name and student number, allowing for evidence of manufacture. It is essential that images convey details of levels of difficulty and complexity of making, so it is unlikely that a single image

will achieve this. A good technique shown by centres was the inclusion of a quality of manufacture page whereby students could demonstrate the range of products produced whilst including details of processes, skills and techniques that were used. A series of thumb nail photographs and annotation over a period of time during manufacture is the ideal way of highlighting processes and skills used (a record of decision making) and providing examples of precision and attention to detail that may not be readily noticeable in an image of the finished product. The image of the final products must be attached to the students CMRB.

The awarding of marks in both the quality of manufacture and quality of outcome were greatly improved this year. Many more centres now understand that a range of products must be produced which are all suitable for KS4. The witness statements were, as always very helpful when agreeing the awarding of marks along with clear photographic evidence. Please make sure that only photographs of the completed product range are required on the CMRB.

Health and safety

This section is a teacher observed assessment. There no longer needs to be evidence in the folder and the marks can be evidenced as teacher observation; relevant health and safety issues will be identified in the production plan and photography is a useful way of demonstrating student success.

Testing and evaluation

This refers to the student's quality of written communication and the testing and evaluation of one of their final food items. Students that used ICT facilities to support them in the presentation of their work, tended to use the English language with more accuracy. Tests and checks relate to the testing of one of the final products against the measurable points of specification. Where the specification was detailed and measurable, it was possible to effectively judge the success of the product using a range of appropriate tests. A range of tests (more than two) could include: costing, portion size, nutritional analysis, sustainability, or a range of sensory tests (ranking, rating and star profile). Students should be testing one of their final products on their target market and using the feedback gained from this information to produce their evaluations. These tests and checks can include photos, taste testing, costing and nutritional analysis.

Many of the students seen had tested all their products (although only necessary to test one). A suggestion can be made for the student to discuss each area of the specification and how the product has met the points – some students produced this as in the review section (table format). Tests then need to be undertaken to demonstrate how the measurable points have been met. For example, costing, weight check, sensory test. Thorough objective evaluations of these tests are required for high marks.

Although many students decided to test all three of their products it should be noted that it is only a requirement to demonstrate a 'range of tests'. This

could indeed be carried out by evaluating all three of the products, evaluating only one of the products made or carrying out a test on each of the products made (by carrying out a different test on each product a ‘range’ will be shown).

Note to centres; the awarding of QWC marks must only be applied to the testing and evaluation section of the portfolio. This is a discrete section and marks cannot be credited throughout the portfolio. If there is no evidence of testing and evaluation, marks cannot be applied for QWC.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwant to/Pages/grade-boundaries.aspx

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