

Examiners' Report

Summer 2010

Principal Learning

Manufacturing and Product Design Level 2 Controlled Assessment

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Manufacturing and Product Design

Level 2 Introduction

Being the first summer series all centres had been asked to send moderation material to Edexcel and not to specific moderators. This was due to the small numbers of centres submitting units that required moderation. No entries were received for Unit 5.

Centre administrators completed the paperwork and documentation required to a high standard. Few follow up calls were required to chase up authentication signatures, candidate lists, etc.

For any postal moderation, the work should be treated as examination material and each portfolio presented legibly and held together using a single treasury tag through the top left hand corner. Folders, plastic or card wallets, folders etc. only impede the moderation and awarding processes and should not be sent. Where a candidate has poor hand writing or dyslexia, a scribe may be used in accordance with the general regulations for controlled assessment.

For internally assessed units the moderator needs to see the Candidate Record Sheet (CRS) attached to the front of a candidate's portfolio, showing the total score for Mark Grid A and Mark Grid B (where appropriate).

As can happen with new qualifications, not all aspects of each Learning Outcome tended to be addressed, with candidates showing a lack of understanding of processes from a manufacturer's point of view. Many candidates had carried out their work from the point of view of a consumer of the products, which led to the assessment being a little generous at times.

Internal assessment of units ranged from reasonably accurate to a little generous, which is not unusual for a new qualification with new specifications, etc, which presents a learning curve for all participants.

Unit 2: The Impact of the Global Business World on Manufacturing

General comments

Centres submitted work on time and in a way that was well organised. This helped the moderators locate work from each Learning Outcome. In most instances Candidate Record Sheets were completed and this helped the moderation process by giving a clear indication of how and where marks were awarded.

Most of the assessment undertaken by centres was generally in line with the national standards. All centres produced candidate briefs and these were included with the material to be moderated. This proved very useful to the moderators.

It is recommended that assessors annotate work in order to guide the moderator through the submission. This makes it clear where marks have been awarded and for what marks have been awarded.

It should be remembered that the Learner Observation Record for each candidate should be included with the material to be moderated and that these records should be completed by the assessor, not the candidate. The comments should relate to the statements in the Marking Grid.

Learning Outcome 1 (Marking Grid A)

Candidates either produced flyers or slide presentations for this Learning Outcome. The work submitted was of a reasonable standard but the majority of portfolios lacked a discussion on the various issues surrounding sustainability. To improve the marks in this section, candidates should produce a thorough explanation of the issues surrounding sustainability.

Learning Outcome 2 (Marking Grid A)

This was the weakest part of this particular unit. All candidates produced slide presentations but these lacked any real depth. Candidates producing notes for their presentations gained the highest marks. Centres should note that to award marks in Mark Band 3, candidates are expected to provide detailed notes and justifications with each slide.

Learning Outcome 3 (Marking Grid A)

This Learning Outcome was well done. The majority of candidates produced slide presentations but some of these again lacked depth. Those candidates with notes on all their slides tended to gain the highest mark. To gain high marks in Mark Band 3, candidates are expected to detail in some depth the issues surrounding the supply chain.

Learning Outcome 4 (Marking Grid A)

This Learning Outcome was covered successfully. Candidates produced some good marketing material. However, the analysis of marketing approaches was weak and to gain higher marks these issues would need to be covered in far greater depth.

Unit 3: Working in Manufacturing

General comments

The majority of the work was received on time. Work in most instances was well organised with some sound annotation that enabled the moderators to locate evidence.

In a number of cases learner observation records were missing. It should be remembered that these are important as they help the moderator to authenticate evidence.

Assessors should note that Learning Outcome 2 (LO2) and Learning Outcome 3 (LO3) in this unit appear in the Unit Specification Marking Grid as a single entity. This is a typographical error (Specification Issue 1 March 2009) and that LO2 is worth a total of 10 marks as is LO3 thus giving a total of 60 for the units as a whole.

Overall the standard of performance appeared to be in line with the national standard. It was clear that centres had a reasonable understanding of the Assessment Criteria and Marking Grid for this unit.

There was evidence that some internal moderation had taken place prior to the submission of work. This was useful to the moderators as they were able to follow through the allocation of marks. In most instances the assessor had included some sound annotation and that again helped to guide the moderators to the relevant places in the portfolios.

Centres should be reminded that Candidate Record Sheets are required. In a number of instances these were missing. Not only should they be completed but should be signed by the candidate.

Learning Outcome 1 (Marking Grid A)

Centres provided worksheets or briefs for this Learning Outcome (LO) which greatly assisted the candidates. However, some elements of the LO were either not well covered or omitted altogether. For example, very few candidates made any mention of trade unions. To gain all possible marks all elements of the LO need to be covered.

Learning Outcome 2 (Marking Grid A)

There was a similar issue in this Learning Outcome where one particular outcome was omitted by candidates. Few candidates mentioned training or career advancement. It should be remembered that the relevant assessment word in Mark Band 3 is 'describe'. Candidates' evidence showed few descriptions of career and on the job training that might have been available in the particular situation under study.

There was evidence that some elements of candidate work had been 'cut and pasted' from the internet. It should be stressed that this practice is not acceptable. Candidates should produce the work in their own words.

Learning Outcome 3 (Marking Grid A and B)

Candidates found the evaluation of their contribution to the team very difficult and also found it difficult to express how their behaviour and actions contributed to the team's success.

One method of evaluation that was widely employed was either in the form of a tick box or in the form of a table with numbers being awarded out of a possible maximum of 10 marks. This is not an example of best practice. Moderators expect to see fully justified evaluations.

Centres are advised to refer to page 157 of the Diploma in Manufacturing and Product Design Specification (Issue 1 March 2009) for suggestions on how candidates may cover this element of the coursework.

Unit 4: Designing and Developing Products for Manufacture

General comments

The moderators noted that centres used standardised templates and all candidate work was produced in a similar format. All work was correctly assessed and included all documentation needed for moderation. All aspects of the Candidate Record Sheet were completed by both the candidate and centre, with useful annotation from the assessor.

Some of the portfolios sampled contained shared or non-original material as a result of working in small groups. Group work is acceptable, although not suggested as a requirement for this unit, but each candidate's portfolio must contain their own

work. Marks are awarded for each candidate's work only, and any shared material must indicate which candidate carried out which section.

The assessor comments on the Candidate Record Sheets indicated how each assessment decision was made. This greatly assisted the moderation process.

To help guide the moderator to the evidence in the portfolios it is suggested that assessors annotate candidate work with the relevant performance verb or description e.g. 'outline' 'describe', 'sustainability', 'economic'. This provides specific guidance to the moderator on which area of the Learning Outcome is being addressed.

All centres should be commended for their timely submission and neat packaging for this unit. All the candidate work was packaged in order of each Learning Outcome (LO) making the moderation simple and easy to follow.

Learning Outcome 1 (Marking Grid A)

Most candidates displayed a good understanding of this Learning Outcome. The Client Brief was provided within the evidence and this greatly assisting the moderation process. Candidates did not cover the Research and Development process in sufficient depth for Mark Band 3.

Candidates should be encouraged to provide details of why it is important to carry out research, design and development and demonstrate some knowledge of the stages in research and development.

Overall candidates displayed an understanding of most of the aspects of this LO. The evidence supplied by some candidates was not sufficient to indicate their understanding of all aspects of LO 1. To achieve higher marks in this LO a more in-depth description is required with regards to added value and the manufacturing process, and candidates could be encouraged to investigate quality control, communication with the customer, and prototyping.

Learning Outcome 2 (Marking Grid A)

There was some good information presented for this LO. Some candidates' work lacked depth with regards to social and sustainability factors. Most candidates covered a good range of economic analysis but showed a lack of depth in their market research.

Little to no evidence was provided to show any understanding with regards to the factors that can affect product design and development. Generally candidates worked through this LO in a logical sequence, covering most of the factors that affect the design and manufacture of a product, in varying detail.

Learning Outcome 3 (Marking Grid A)

A majority of candidates demonstrated a clear understanding of the basic principles of data analysis, producing clear planning charts. Centres are advised to use industrially recognised software to plan activities to ensure candidates are producing relevant scheduling and implementation techniques to evaluation performance.

Most candidates produced a product proposal relating to the customer requirements. Product Design Proposals were presented in varying formats. Centres are advised to use industrial standard PDS templates.

Candidates used colour coding to differentiate differing aspects of their PDS, however some had not produced a legend for the colours. No initial drafts of packaging were present for moderation. This made it difficult to award points for design ideas for prototype development.

The majority of the candidates' work lacked a demonstration of how their features benefit the product proposal and met the customer needs. Candidates should include information on the materials and techniques relating to the customer requirements within their evidence.

Unit 6: Applications of Processing Systems in Manufacturing

General comments

Including Candidate Record Sheets, with candidate scores, as well a copy of the assessment grids, which indicate where scores were derived from, greatly assisted the moderation process. Assessment for this unit was accurate and to national standards.

When a Learning Outcome contains two or more sections (such as processes, systems, efficiency, and scale of production) it is advisable for candidates to write under these headings. This directs the assessor or moderator straight to the evidence. Use of imported images is acceptable for candidates to refer to, although they cannot be awarded any marks as they are not the candidate's own work. Where imported images are used, it is expected that some reference to the original source is made as well as respecting copyright. This could be achieved by copying and pasting the website URL next to the image. Where candidates draw or re-draw an image to help explain any LO, credit can be awarded.

Candidate work was received on time and in good order. Presentation using treasury tags made the processes of moderation and awarding straight forward. It would help a remote moderator if each complete portfolio started with pages numbered '1' at the front, and increased numerically from front to back. Where portfolios include several booklets, all starting with page 1, it can make it difficult to find relevant evidence. Photo evidence was used appropriately and provided a clear picture of the work undertaken by the candidates.

Learning Outcome 1 (Marking Grid A)

Candidates demonstrated good industrial links and used the knowledge gained within their portfolios. Effective use of centre devised pro-formas allowed candidates to evidence the content required for this Learning Outcome.

Learning Outcome 2 (Marking Grid A)

Candidates centred their evidence for this Learning Outcome on a simple project. This restricted the opportunities to provide evidence for why quality assurance and control is central to cost-effective production. This also limited the marks available in Mark Band 3.

Learning Outcome 3 (Marking Grid A and B)

Portfolio evidence clearly indicated that candidates were aware of the importance of quality check points in industry and in their own practical activities. Centres generally used learner observation records for the Grid B element of this LO. These were well-designed and personalised with individual comments for each candidate. This is a very thorough way of recording evidence for LO3 in Mark Grid B.

Level 2: Unit 7: Product Manufacture

General comments

Not all centres submitted the assessment tasks used by the candidates. This made it difficult for the moderators to work out why some candidates had done what they had done, or not done, and which elements of the evidence to match to the assessment grids.

Some portfolios had a 'D&T' feel to them with candidates including sketches and ideas. Some portfolios lacked information about the constraints on working practices aspects required for the Learning Outcomes, containing little detail of actual manufacturing processes.

It was evident that some candidates had worked in groups or teams. This is allowable and to be encouraged, but this meant that candidates submitted identical material in places. Where one person in a team carries out some aspect, no marks for his or her performance or output can be awarded to anyone else in the team. Marks can only be awarded for individual work, so role allocation within teams must be considered very carefully from the outset.

Some portfolios contained photographs of written work. These were then compressed making them almost unreadable. Where a candidate produces a large item of work, the actual item of work need not be submitted for moderation and a photograph is recommended, but the final image reproduction size needs to be considered.

The finished artefacts or products are not required for moderation, just evidence that they were manufactured. This evidence could be photographs (preferred) or video. If video evidence is included on a DVD or CD, an indication of its location by minute helps direct the moderator to the most relevant section.

Learning Outcome 1 and 2 (Marking Grid B)

LO1 and 2 are assessed internally and some observation records or learner observation records were included, but many of them were very subjective, giving observer opinions of how well the candidates had done, and not recording what was observed.

Learning Outcome 3 (Marking Grid A)

Health and safety and environmental issues were covered in varying depth, but there was little evidence of evaluation which is required for Mark Band 3.

Most candidates made statements which were relevant to manufacturing in general, but not specific to the tasks they were completing for LO1 and 2. Evaluation of health and safety and environmental compliance was lacking.

Learning Outcome 4 (Marking Grid A)

Assessment of this LO was generally accurate, but a little generous at times. Some candidates had covered packaging, transport and storage as general topics, in varying depths, with no relation to any particular manufactured product. Energy resources were also covered in general terms and not related to manufacturing and product design.

Time, storage and transport, efficiency and energy resources were described well. A common weakness of many portfolios was the lack of effective descriptions, as required for Mark Band 3. Efficient manufacturing was outlined in most portfolios, but not always made relevant to specific projects or processes. Energy resources were also covered as standalone topics, and not as part of the process of product manufacture.

Statistics

Unit 2 The Impact of the Global Business World on Manufacturing

	Max. Mark	A*	A	B	C
Raw boundary mark	60	52	42	32	23
Points Score	10	8	6	4	2

Unit 3 Working in Manufacturing

	Max. Mark	A*	A	B	C
Raw boundary mark	60	52	42	32	22
Points Score	10	8	6	4	2

Unit 4 Designing and Developing Products for Manufacturing

	Max. Mark	A*	A	B	C
Raw boundary mark	60	51	41	31	22
Points Score	10	8	6	4	2

Unit 6 Applications of Processing Systems in Manufacturing

	Max. Mark	A*	A	B	C
Raw boundary mark	60	53	43	33	23
Points Score	10	8	6	4	2

Unit 7 Product Manufacture

	Max. Mark	A*	A	B	C
Raw boundary mark	60	52	42	32	22
Points Score	10	8	6	4	2

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