

GNVQ

Examiners' Report

GNVQ Intermediate Manufacturing

June 2004

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Chief Moderator Report

June 2004

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Introduction and general comments

A team of four moderators including 2 Principal Moderators and the Chief Moderator were involved in the moderation of portfolios from 35 centres covering Foundation, Intermediate and AVCE. The significant drop in numbers of candidates and centres submitting work for moderation is mainly due to the withdrawal of the Part one programmes. There was a good level of consistency within the moderation process and this was assisted by the use of a small number of very experienced moderators and also the use of standardisation events at which it was possible to share expertise and understanding.

The two Principal Moderators each held specialist knowledge and therefore acted in an advisory capacity to moderators as and when necessary during the moderation process. The areas of specialism were: Textile and Printing, Food and Biological Science. The area of Engineering Manufacture was covered by the Chief Moderator.

Thirty five centres sought moderation across all levels. Of these centres 7 were at Foundation, 15 were at Intermediate and 13 at AVCE.

Overall assessment was more reliable than in previous years, and generally there was good agreement between the moderator and the centre assessments. Generally centres awarded lower point scores than in previous years, which demonstrated a better understanding of the awarding of scores relating to the achievement of criteria. However one centre continued to award much higher marks than were justified by the student achievement against the criteria in the grading grids. This was particularly disappointing since the centre had not acted on guidance, in previous reports, on areas that could be improved.

Where there was significant disagreement between assessor and moderator, it was generally as a consequence of misinterpretation or misunderstanding of the requirements of the unit specification. Portfolios also frequently included materials that were either non-specific or irrelevant to the evidence requirements of the unit. Students only receive credit for evidence that meets identified criteria stated in the assessment grid for a specific unit.

The majority of centres that assessed portfolios accurately and within accepted standards used assessment front sheets to record achievement against the assessment criteria from the grading grids. There was evidence that some of these centres had successfully used these Front Sheets to provide feedback during formative assessment resulting in greater achievement by candidates. Some centres followed advice from the awarding body and annotated candidates' work to indicate where particular criteria had been met. However a

significant number of centres did not provide any indication of how assessors had awarded points scores often resulting in inaccurate assessment.

The use of assessment front sheets is recommended since these can clearly indicate where specific evidence can be found in the portfolio. They also focus on the type of evidence required to meet selected criteria. This practice generally proved helpful to candidates.

It was still found that many candidates included information and work that was not relevant to the assessment process. In some cases it appeared that assessors had been influenced by the quality of the end product, whereas the specifications require assessment of the processes involved in achieving the end product.

It is an acceptable practice to combine the evidence for two or more different units into one portfolio. However it is essential that assessors provide suitable annotation to indicate achievement relating to each of the units covered by the work. This may best be achieved by the use of specific assessment front sheets and possibly the use of different coloured annotation. It is vitally important that assessors provide specific evidence of assessment for each unit and justification of the scoring achieved across the different units.

Assessors should recognise that when grading candidate's evidence the following general qualities must be considered to distinguish between the different grades:

- Increasing depth and breadth of understanding
- Increasing coherence, evaluation and analysis
- Increasing independence and originality.

Some superfluous material was still produced as a result of centres using assignments that were originally written to meet the requirements of the 'old specifications'. In some cases this proved extremely unhelpful, candidates spending valuable time researching materials that did not provide the evidence required by the assessment grids.

Some centres failed to differentiate between learning experiences and assessment opportunities and therefore class notes were often included in portfolios. Where candidates were provided with learning experiences that were separate from assessment activities there was generally more relevant evidence in the portfolios and specific criteria were more accurately met. It should be noted that portfolios are not the same as course work and should contain materials produced as the result of assessment procedures that are separate from learning and teaching activities.

There was a normal distribution of grades across the total entry. However some centres were far more successful than others. This situation suggests that some teachers have encountered difficulty in providing students with the opportunity to meet the higher-level criteria, and this indicates a need for more support in the form of INSET events.

Witness Testimony

It was disappointing to note that evidence of practical skills was still particularly weak and there was a significant lack of witness statements, annotated photographic evidence or candidates 'logs' to record performance in practical tasks.

Witness Testimony is a very useful support for evidence of the use of practical skills and achievement. However these statements should be detailed and must contain reference to the criterion/criteria being supported by the statement. In many cases assessors still ticked a copy of the assessment grid and initialled this tick. This practice is not acceptable and does not meet the requirements of National Standards.

A **witness statement** is a document which records statements of learner performance. It should relate directly to the criteria contained in the Assessment Evidence grid included in each Unit Specification. It may confirm achievement or provide specific feedback on candidate performance against National Standards.

It is essential that the recording of performance is sufficiently detailed to enable others to make a judgement as to the quality and sufficiency of candidate performance against National Standards.

Any witness testimony must be signed and dated by the assessor.

Intermediate programmes

Fifteen centres provided assessed evidence for moderation from units 1, 3, 4, 7, 8, 9 and 10. No centres provided evidence from unit 11.

It is not intended to provide detailed comment on all units. However, those presenting significant areas of concern are included in the report.

The ability to produce a good standard of written evidence still remains a problem for both assessors and moderators to interpret the work produced by many students. Assessment and moderation should be centred on the students 'manufacturing ability' and not their ability to write fluent English. However many students, particularly those for who English is a second language, have difficulty with clear concise communication, and this inability may possibly contribute to students inability to achieve higher grades. Tutors should be encouraged to provide more opportunity for the development of both communication and presentation skills. Wherever possible moderators have allowed benefit of the doubt in cases where the full meaning of evidence has been unclear and therefore serious loss of points has been avoided.

Many students did not separate general teaching materials from the evidence required for assessment purposes. This was particularly evident where several units had been linked for delivery purposes. In many cases this meant that gaps in evidence were evident and also much information was included that was not relevant. There is a need for students to learn the skills of portfolio building in order to ensure that only relevant evidence is included.

Some students produced work that appeared to be incomplete. It is also vitally important for centres to ensure that all assessed evidence is supplied to the moderator. Failure to comply

with this requirement resulted in assessment decisions not conforming to National Standards. When building a portfolio for assessment and subsequent moderation students should be encouraged to remove all evidence from files and plastic wallets. The **relevant** evidence should then be organised in a logical sequence, annotated where necessary, and securely fastened, possibly using treasury tags.

Unit 1: Application of New Technology

This unit was generally well covered and the majority of students achieved the pass criteria. However there was still difficulty in producing appropriate evidence to meet the higher grades.

The evidence for pass, merit and distinction all relate to the chosen product. Many students presented descriptions of the effects and benefits of new technologies on manufacturing in general and some students produced 'text book' evidence of the general stages of manufacturing production. It is necessary for the student to learn about the overall situation, but in each case the evidence provided should relate specifically to the chosen product.

It is important that teachers and students can effectively differentiate between 'what you need to learn' and assessment evidence. Effective portfolio building skills would help this task considerably.

Unit 3: Manufacturing Products

Once again there was improvement in the standard of evidence produced to meet this unit. However it remains appropriate to repeat the comments of previous years since some centres still are not producing evidence that specifically meets the criteria detailed in the assessment grid.

As with Unit 3 of the Foundation programmes, some centres failed to provide candidates with a detailed production plan, and therefore some candidates encountered difficulties in providing suitable evidence for this unit. It is recommended that centres use industrially relevant styles for the production plan.

Students generally provided good evidence for the manufacture of a batch of products that were sufficiently complex to incorporate three main components, materials or ingredients. However some centres produced evidence that was of a general nature and failed to detail individual involvement in the production process. Witness statements, signed and dated, annotated photographs and detailed student logs needed to be included to illustrate the use of appropriate processes and skills to make and finish the batch of products.

Evidence of the use of correct safety procedures and safety equipment still presented a problem. Students continue to list the relevant safety procedures and to identify the relevant safety equipment to be used in the activities. However this evidence was unfortunately not then developed to confirm that the students had actually used these procedures and equipment.

Some students were still not able to produce schedules for manufacture. A schedule should be developed from the consideration of: labour availability, equipment and machine availability, deadlines and costs. It should also identify estimated times for setting up and executing each process, and critical control points. One easily understood format for a schedule is the Gantt chart. Students could be introduced to an estimate of the times for setting up and carrying out process when undertaking pre-production process training to ensure adequate knowledge and skill.

Quality control procedures were generally clearly identified, but some students did not present evidence that they had used these procedures. Records of measurements and inspections, supported by annotated photographs, would have satisfied the evidence requirements for use of appropriate quality control during the manufacture of the product. A common failing was that candidates recognised 'the ensuring of smooth edges' as the only quality requirement. It is essential, for example, that candidates understand the relevance of accurate measurement to required tolerances as important quality requirements.

Unit 4: Technical Communications

It is important that students produce a portfolio of technical communication illustrating product development from a **given brief** through to a **production-ready state**. Many students did not produce evidence that followed all the way through to a production ready state. It is essential that students record their design procedure for a given product design. The banner recognises that a collection of drawings, sketches etc would probably not be sufficient, since it requires appropriate annotations to describe information which cannot be illustrated easily. This information could include the process of choosing the most suitable design idea.

Many students did not differentiate between work done as part of a learning activity, which should not be included in the portfolio, and the necessary, evidence produced as part of the assessment process.

Chief Examiner's Report

June 2004

GNVQ Intermediate Manufacturing

It was pleasing to note that many candidates attempted all questions on the majority of the papers. Some examination results were very good with a high number of candidates gaining excellent marks in certain Units. The better answers came from candidates who were obviously well prepared and involved in well-planned coursework projects, and they often referred to this work in their examinations. Other indications of well prepared candidates were Centre specific, and this must be an indication of good teaching practices in these Centres. Some of the work presented in the pre-release answer book was of a good standard, and this was usually reflected in the corresponding test papers. It is difficult to draw many conclusions from the results of some papers due to the low number of candidates taking these examinations.

M202T: Working with a design brief

| | Distinction | Merit | Pass |
|-----------|-------------|-------|------|
| Upper | 99 | 63 | 49 |
| Lower | 64 | 50 | 36 |
| Cum%Cands | 3.0 | 24.2 | 60.6 |

General Comment

A total of ninety four candidates were entered, but disappointingly approximately one third were absent on the day of the examination. The pre-release material was the same as in January 2004. However, the overall quality of the work produced in preparation for the written examination was of an inferior standard. A small number of candidates sat the examination without completing the pre-release material in the answer booklet and had to be awarded zero marks. Centres should also note that when candidates are re-sitting this unit they must complete a new answer booklet for the examination.

Specific Comments

- Q1 This question was not answered particularly well by the vast majority of candidates. Many responded by listing aspects of the customer brief, although a number referred to costs. Customer needs are clearly identified in the unit specification.
- Q2 Many candidates produced a basic design specification at the front of their answer booklet. However, they failed to give reasoned explanations as to the purpose of a design specification, and why this is important in the manufacture of a product.
- Q3 This question was answered reasonably well by a number of candidates. However, for part (b), some gave reasons which were not related to their being the most suitable for the manufacture of their product. For part (c), marks were generally low since detailed answers were not given. For part (d), reasons for rejection tended to be merely the opposite of the responses given for part (a).
- Q4 Most candidates scored a number of marks on this question. They were familiar with the equipment and were aware of health & safety precautions appropriate to the use of this equipment.
- Q5 Many candidates did not give specific quality checks which would be carried out at the assembly stage of manufacture, which the question quite clearly required. Also, descriptions of how the checks would be done were often vague and not sufficiently detailed to gain maximum marks. Some candidates simply gave one word answers such as 'visual'.

- Q6 Many candidates did not seem to understand the meaning of a 'production constraint' and either failed to attempt the question or simply guessed the answer. Production constraints are clearly identified in the unit specification.
- Q7 Candidates tended to score marks in part (a), but failed to give appropriate reasons as to why their chosen techniques were most suited to the production planning department of a company. For example techniques which would be most suitable would be the use of technical drawings etc, but this needed to be justified in the context of the candidate's chosen product. In many cases candidates appear not to have read and interpreted the question correctly.

M205T: Application of computers in manufacturing

| | Distinction | Merit | Pass |
|-----------|-------------|-------|------|
| Upper | 84 | 58 | 42 |
| Lower | 59 | 43 | 28 |
| Cum%Cands | 0.0 | 21.3 | 71.3 |

General Comment

The paper was of a similar level and format to those of previous years. Some Centres appear to have prepared their students well, and their candidates made very good attempts at the question paper, whilst others showed little evidence of having prepared their students. It would appear that the same Centres do well each year. With such low numbers this year (seven Centres and eighty candidates) it is difficult to draw any sound statistical conclusions from the results.

It is clear that some Centres are entering students who have very little chance of passing the exam, mainly because they have difficulty in expressing themselves in, or to understand, even relatively simple English. A few candidates evidently did not understand the phrase 'an application of computers in manufacturing', which is close to the title of the Unit they are studying.

Specific Comments

- Q1 Question one helped even the weaker candidates to gain some marks, and was therefore a good starting question for the paper. Most candidates obtained good marks for this question, and also for question four. Centres evidently are not teaching their students about the types of data in computer manufacturing systems. They should understand the types of data in a computer system, and be able to describe input, output data and data generated by that system.
- Q3 Some of the benefits given in the solutions to question three did not related to their chosen system, and some students did not appear to know what a benefit was! Generally the explanations were weak and many only gained one mark for stating a benefit.
- Q4-7 Basing questions on an application chosen by the candidates did appear to work for questions four to seven, and some candidates did quite well. Many applications given by the candidates were better than previous years, but candidates still showed little imagination and some candidates showed little knowledge of even the simplest manufacturing system. The weaker candidates gave almost the same answers to questions five, six and seven.
- Q8 Question eight was poorly attempted by most candidates and the weaker candidates had difficulty gaining any marks. Evidently this is a difficult topic for Intermediate candidates.

Centres are advised to study the marks scheme in order to obtain a clearer understanding of what is expected for each of the questions on this question paper.

M211T: Production Planning and Quality Assurance

| | Distinction | Merit | Pass |
|-----------|-------------|-------|------|
| Upper | 88 | 66 | 49 |
| Lower | 67 | 50 | 34 |
| Cum%Cands | 0.0 | 32.6 | 65.3 |

General Comment

The paper and format were of a similar level to those of previous years. The pre-release material was similar and the answer book and mark allocation were the same.

To achieve full marks candidates need to demonstrate a clear correlation between the estimated times on the production schedule and the process plan. Some centres need to explain lead times and critical control points in greater depth.

The cost of materials was generally covered well, although a clear indication needs to be provided by candidates of how many products are being made for the material costs stated. The subject of labour cost was not covered so well.

Specific Comments

- Q1 Some students did not realise that set-up time could be carried out during material preparation. Many students were able to identify a critical control point.
- Q2 This question was answered reasonably well, with many students identifying details of their product design specification.
- Q3 Many candidates gave good responses, whilst others missed the question completely.
- Q4a Evidently a difficult question for many candidates, with only a few providing an appropriate response.
- Q4b Far too many candidates gave only generic answers to this question.
- Q5 CCP was not fully understood. Students generally were unable to explain the significance of their selected CCP.
- Q5b Many candidates failed to explain exactly what was checked in the procedure.
- Q6 Those students who had worked well on their answer book responses were able to obtain good marks for this question.

- Q7 Many candidates were able to identify a suitable alternative process, and the effect of this on the product.
- Q8/9 Some candidates showed an understanding of the depth of responses required by this question.

The Pre-release Answer Book

Centres who had prepared their students well by making effective use of the answer book/pre-release information/mark scheme demonstrated this by providing significant amounts of work in most areas, and these centres achieved a correspondingly high proportion of the marks. Unfortunately other Centres had not prepared as effectively and their candidates' responses were correspondingly poor.

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