



External Assessment Report 2010

Subject	Product Design
Level	Intermediate 2

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the Examination.

Comments on candidate performance

General comments

This year, both the Design Assignment and the examination followed the same format as previous years, so there was no change to the assessment instruments (50 marks for each, giving a total of 100.)

The subject is still continuing to be popular at this level, showing a slight increase in numbers for 2010.

Candidates in S4, S5 and S6 are presented in this Course and numbers are increasing with all three cohorts.

The candidates who seem to perform best, generally speaking, are those in S4.

The Course was originally designed so that it could be bi-level taught to S5 and S6, in conjunction with the Higher course. In some cases it was used as a fall-back position for senior school students originally entered at Higher level.

It now seems to sit more comfortably as a middle school Course in its own right, and the high ability of many of the S4 candidates is quite apparent when the resulting statistics are examined.

Areas in which candidates performed well

The Design Assignment was well attempted by many candidates.

As always, when the candidates are keen and motivated at the beginning of the assignment, the score for Section 1 was very encouraging. Many candidates achieved the full 10/10 for their initial ideas.

In Section 3, candidates are asked to justify their design decisions, and again this was well attempted by most candidates, many of whom included a high number of justified decisions throughout their folio.

There were no candidates with an excessive number of sheets of paper (in excess of eight) and some candidates managed to score full marks using only six or seven sides of A3. This was encouraging as it really proves that centres appreciate the qualitative aspect of the Design Assignment rather than just the quantitative aspect.

In the examination, questions 1 and 5 were generally well answered by candidates. The exception to this was the ergonomic section of question 1 which showed the continued confusion of candidates regarding the three elements within that topic.

Areas which candidates found demanding

In the Design Assignment, a significant number of candidates found some difficulty in adequately developing their ideas from initial concept through to their final proposal.

Even candidates displaying some considerably high ability showed no evidence of having used the anthropometric data and other dimensions which are included in the Design Assignment task from SQA. Although the penalty for ignoring this information is not high, it is disappointing that candidates choose to do so.

The other difficulty which candidates seem to find is that they display little knowledge or experience of how items are actually constructed and fit together.

Many Design Assignments were sadly lacking when it came to planning how their developing ideas could be manufactured.

At the end of the Design Assignment, when candidates are asked to draw their final proposal, many candidates seemed to lack the manual/graphical skill to create a good representation of their design. On the plus side, however, some were able to use their in-house 3D modelling software as an alternative, invariably attracting a high mark for this graphic.

In the examination, candidates performed more poorly than usual when asked to identify features and manufacturing processes for a range of illustrated items.

In a further question, when asked to suggest appropriate research prior to drawing up a specification, candidates tended towards very generic statements bearing little specific relationship to the actual design situation in the question. These generic responses did not attract marks.

The question concerning environmental issues was poorly answered and this was very surprising, bearing in mind the high profile which it seems to have, not just within Product Design, but also across many other subjects and within modern society in general.

Idea generation techniques were the basis for another question and this, once again, produced a rather mixed, but generally poor, response.

Examiners were quite surprised by this as idea generation techniques used to form one of the fundamental building blocks of this Course. Candidate responses in this exam would suggest that this topic is not being given a priority within centres.

Advice to centres for preparation of future candidates

It would seem from all of the above, that there are a few distinct gaps in the knowledge base of many of the Intermediate 2 candidates.

Centres should continue doing the excellent work which they currently do, and should supplement it with a slightly greater emphasis on idea generation techniques, industrial production methods, and modern construction/joining techniques.

Perhaps some more time should be spent on some of the technical language, so that candidates do not get 'mixed up' within the vocabulary of the Course.

When carrying out the Design Assignment in the spring, within centres, candidates should be directed to the Range Statements published by SQA in the Design Assignment Guidance Document, so that they have a very clear steer as to how their Design Assignment can score marks.

Statistical information: update on Courses

Number of resulted entries in 2009	922
Number of resulted entries in 2010	995

Statistical information: performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark — 100				
A	31.3%	31.3%	311	63
B	27.2%	58.5%	271	52
C	19.3%	77.8%	192	41
D	6.9%	84.7%	69	35
No award	15.3%	100.0%	152	—

General commentary on grade boundaries

While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.

Each year, therefore, SQA holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Head of Service and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.

The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.

The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.

Where standards are comparable to previous years, similar grade boundaries are maintained.

An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions, and the mix of questions are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in say Higher Chemistry this does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related as they do not contain identical questions.

SQA's main aim is to be fair to candidates across all subjects and all levels and maintain comparable standards across the years, even as Arrangements evolve and change.