EXAMPLES OF ASSESSMENT SCHEMES

CHAPTER 8

Some teachers were using coursework assessment in mathematics and other subjects long before the introduction of GCSE. For this reason we have included some examples of assessment schemes which predate GCSE. GCSE marking shemes for coursework build on the experience of these early pioneers.

SMILE GCSE

Until 1988, use of SMILE could lead to an associated GCE 'O' level and CSE, and now it can lead to a GCSE. The examination papers are written by teachers who use the scheme. The CSE examination paper included two investigation questions and was marked by teachers. The outline for marking the investigation questions was as in the paraphrase:

(The resulting score gives a mark out of 10.)

Interpretation of examples given, resulting in generation of pupil's own examples which do not contravene rules. maximum 1 mark

Results: 3 correct results for the maximum of 2 marks. maximum 2 marks

Ordered approach or tabulation of results. maximum 2 marks

Observation of patterns: Patterns described from pupil's own work. maximum 2 marks

Generalisations: 1 mark for any relevant general comment up to 10 marks for entire investigation. Generalisations may be expressed in words or algebra or both. For a complete generalisation of the investigation, 10 marks should be awarded. up to 10 marks

A maximum of 7 marks can be awarded to a student who works through the investigation but does not reach any generalisation. A student can be awarded 10 marks for complete and correct generalisations alone.

After teachers had marked their individual scripts they met for moderation. (This is still the procedure for GCSE). At the moderation meeting, details of interpretation of the marking scheme were ironed out, e.g. in the context of one investigation there may be a particular point which several pupils had made. This same point may have been counted as a *pattern* by some teachers while other teachers had counted it as a *generalisation*. The moderating meeting would decide which it was to be.

MREB/LREB Mode 1 CSE, Syllabus B

The coursework contribution here was 50%. Five pieces of coursework were required. A mark out of 10 was awarded for each piece of work. The marking scheme for these was as follows:

Mark

1–2 Nothing much more produced than the presentation of previously known facts or gleanings from text books.

3–4 Mainly presentation of facts and the results of the pupil's own investigations.

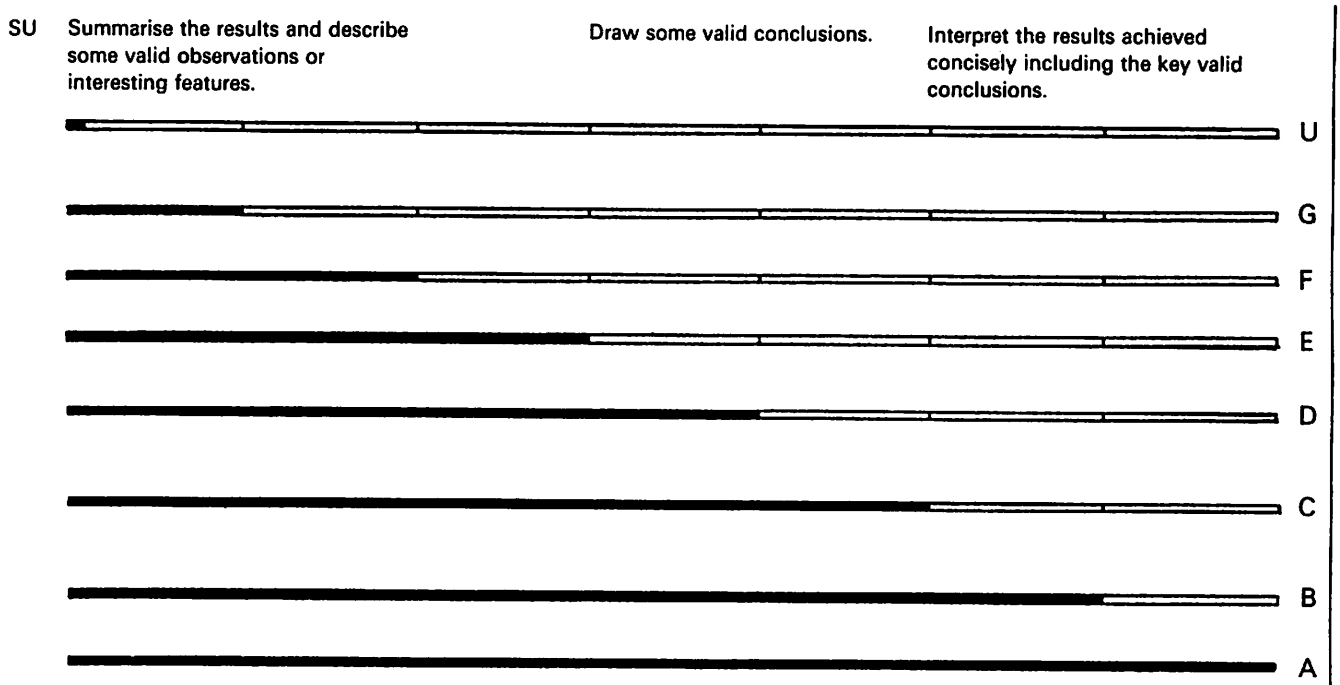
5–6 Recognition in their results of patterns and relationships.

7–8 Some explanation of patterns and relationships and or generalisation of them, with prognostication followed by verification.

9–10 More rigorous proof. Great originality. An unusual extension of work or all-round excellence.

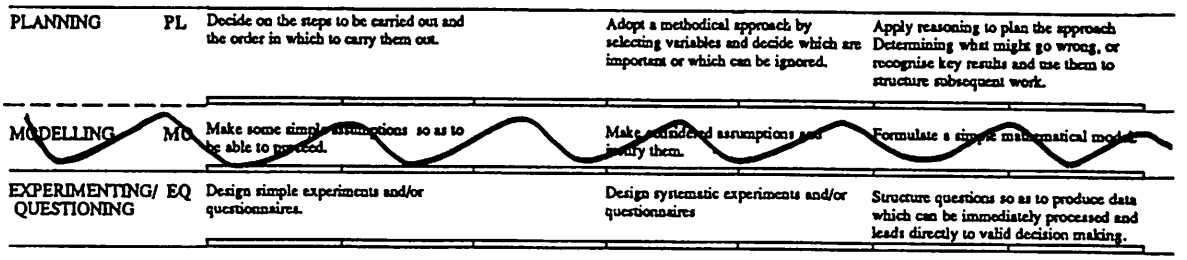
MEG SMP (11–16)

A copy of the assessment form for investigational open-ended tasks appears on p.69. SMP also provides a similar form for practical open-ended tasks. The boxes underneath the criteria for each process are shaded by the teacher up to the grade awarded for that process. The following diagram shows how each grade would be indicated (half grades are also allowed).



It may help to write the grade at the end of each process in the comment section.

The criteria given are 'benchmarks' on a scale, rather than 'hurdles'. It is expected that the tasks will normally allow candidates to demonstrate all the criteria; if a process is not applicable to the approach used by a particular candidate, then this should be indicated on the assessment sheet with a 'wavy line', for example:



After all the processes have been assessed, a line of 'best fit' method is used to reach an overall grade. Judgement here is most important. For example, if a process is considered to be particularly important to achieving a good solution to a task, then this should be given extra weight. Factors like this must be noted on the assessment sheet.

Framework Press

SMP 11–16
ASSESSMENT SHEET FOR OET
(INVESTIGATIONAL)

Candidate's name		Brief title of task	

Grade	
Final mark	
Teacher code	

Stage	Process	Code	The pupil at grade F will be able to	The pupil at grade C will, in addition be able to	The pupil at grade A will, in addition, be able to	Teacher's comments in addition to shading boxes
IDENTIFYING	QUESTIONING/ EXTENDING (linked with EX)	QE	Decide the relationship to be established, the features to be investigated, and information to be obtained.			
	PLANNING	PL	Decide on the steps to be carried out and the order in which to carry them out.	Adopt a methodical approach by selecting variables and deciding which are important or can be ignored.	Apply reasoning to plan the approach and determine what might go wrong or recognise key results and use them to structure subsequent work and extensions.	
	GETTING STARTED/ SIMPLIFYING	GS	Explore by looking at some particular cases.	Structure a simple start in order to approach a difficult task.	Use efficient methods to simplify a complex task.	
IMPLEMENTING	WORKING SYSTEMATIC-ALLY	WS	Find and list all possibilities in a simple situation by haphazard trial and error.	Develop a system to find all the pertinent data in some of the cases used.	Work with a system which leads directly to generalising or proving.	
	CLASSIFYING	CL	Categorise information according to given criteria.	Decide to categorise information in relation to chosen criteria.	Produce general classifications.	
	SYMBOLISING/ RECORDING	SR	Record results in a simple diagrammatic or tabular form.	Decide to record using conventional symbolic representions or novel diagrams.	Make use of a novel symbol system in an elegant manner.	
	CONJECTURING/ GENERALISING	CG	Recognise, describe and extend patterns.	Make a conjecture about a relationship and attempt to verify.	Make and test conjectures and formulate general rules.	
	CHECKING/ PROVING	CP	Check that a pattern applies to all data available.	Predict a further case in order to check a generalisation or prove a situation is not possible.	Prove a generalisation by analytic explanation.	
REVIEWING	SUMMARISING	SU	Summarise the results and describe some valid observations or interesting features	Draw some valid conclusions.	Interpret the results achieved concisely including the key valid conclusions.	
	COMMUNIC-ATING	CO	Explain orally and in writing the problem,the route to the solution and the outcome using a step by step approach.	Give a clear general description, orally and in writing, of the progress with, and outcome of the task.	Give a clear verbal and concise written account of the task including the assumptions made and the strategies used.	
	EXTENDING (linked with QE)	EX		Describe or follow further enquiries to extend the scope of the work.	Explain any limitations to the work and relevant further enquiries, modifications or extensions.	

LEAG A Syllabus

The grade desciptions given in Table 1 are for the award of grades A, C and F.

Teachers should use their professional judgement in determining the other grades.

GRADE	ITEM
F	Shows an understanding of the tasks. Strategy poorly defined. Uses fairly routine and/or elementary methods. Usually explores a situation by experiment or by trial and error. Processes some data. Some simple calculations complete. Uses the information provided. Recognises some simple patterns. Attempts to relate results to the original task. Summarises the results and makes some valid observations. Describes some patterns or features or the results. Produces some sketches and graphs, and, where appropriate, computer output. Can give short fairly clear responses to question when prompted. Able to make limited use of mathematical terms. Gives single or obvious reasons for choice of strategy, apparatus, method but cannot sustain argument. Brief, not always relevant responses when questioned. Rarely initiates discussion.
C	Shows good understanding of the task. Applies some reasoning to plan the strategy. Adopts a systematic approach though not necessarily an efficient one. Orders and categorises information. Selects appropriate variables. Uses appropriate methods. Generally processes data accurately. Applies some variety of skills, knowledge and procedures to a task. Recognises patterns. Makes conjectures about patterns, etc., and tests them. Attempts to formulate some general rules. Devises simple formulae when generalising. Attempts to verify and justify results. States results achieved and relates these to the original task but usually without being able to state many valid conclusions. Communicates clearly the work undertaken but without giving reasons for the strategies used and/or explaining the assumptions made. Presents results in an orderly sequence. Uses an adequate range of mathematical language and symbols, including appropriate visual forms and, where appropriate, computer output. Response to questions is intelligible and audible although not as refined or concise as for Grade A. Uses some mathematical words relevant to the task and is generally familiar with the vocabulary of Level 1. Can give reasons for choice of strategy although those involving successive decisions may not be explained in a logical order. Responds willingly and in some detail to questions. Uses discussion to clarify thinking and expression of ideas.

LEAG A Syllabus *continued*

GRADE	ITEM
A	Shows excellent, clear understanding of the task. Where appropriate extends the task and/or creates sub-problems. Applies clear reasoning to plan strategies. Chooses efficient strategies. Uses appropriate concepts and methods and develops the methods as the work proceeds. Orders the information systematically and controls the variables. Uses efficient methods to simplify the task. Processes data very accurately. Discriminates between necessary and redundant information. Plans and schedules a range of relevant mathematical tasks. Applies a variety of skills, knowledge and procedures to a task. Recognises patterns. Makes and tests conjectures. Formulates general rules. Where appropriate, makes use of symbols when generalising. States results achieved and draws and states valid conclusions. Communicates clearly the work undertaken giving reasons for the strategies used and explaining some assumptions made. Selects the most appropriate methods for communicating results. Makes effective use of a range of mathematical language and notation, diagrams, charts and, where appropriate, computer output. The response to questions is clear, audible and concise. Uses and responds to mathematical language relevant to the task and the examination level. Can explain steps in reasoning in a logical manner, including any assumptions made. Comments effectively on arguments put. Responds confidently in a variety of situations, initiates discussion, may ask further questions and sustains conversation.

GAIM

GAIM provides 80 coursework tasks to choose from. 8 are required for certification purposes. Each task has its own levelling scheme based on research into students' achievements on that activity.

GAIM has 15 levels of attainment. Levels 8–14 are designed to be equivalent to GCSE grades G—A.

Here is the assessment scheme for the activity *Can you Design a Better Timetable?*

This activity is deemed to be suitable for levels 3–12.
NB This is the 1989 working draft of the assessment. It may differ from that in the final GAIM publication. This was not available at the time of writing.

Level 3
Draws up a partly completed timetable or makes a list of subjects to be included.

Level 5
Completes a timetable or indicates some way of apportioning the subjects.

Level 6
Considers some of the following: length of lesson, timing of lessons, a reasonable balance of lessons, a workable mix of breaks, allocation of room and/or teachers.

Level 8
Justifies or compares choices (orally or on paper), and produces a timetable which gives a well organised and balanced mix of lessons with adequate breaks, etc.

Level 9
Produces a timetable with well thought out and interesting innovations, e.g. changing the hours worked each day/or week or creating new subjects, etc.

Level 12
Designs a timetable which is well thought out, giving a careful explanation of how decisions were made about subjects requirements, length of day, etc., and probably including details of a survey.

An illustration of a students' work is provided for each level description. Teachers can use their judgement to award levels not shown.