



QCA Evaluation of Participation in GCE Mathematics

About this questionnaire

Evaluating participation in GCE Mathematics was a key recommendation of the Smith Inquiry into Post-14 Mathematics. Until now crucial information on participation and retention of GCE Mathematics students has never been collected. This questionnaire is designed to enable teachers and tutors to provide this information and to give their professional advice to QCA. This will inform a series

of recommendations to the Secretary of State for Education and Skills.

Your response is confidential and we will not share this information with anyone at your school/college.

It should take about 30 minutes to complete this questionnaire.

Returning the questionnaire

Please complete and return this questionnaire by 18 March 2005, using the freepost envelope addressed to:

David Pepper, Research
QCA
FREEPOST
PAM 4413
London W1EY 7EY

As this is a FREEPOST address, there is no need to affix a stamp.

If you prefer to complete an e-version of the questionnaire, please visit www.qca.org.uk/gcemaths/

If you have any questions about the evaluation or questionnaire please contact David Pepper at QCA on 020 7509 5698 or pepperd@qca.org.uk

Section A About your centre and you

A1 Name of School or College

A2 National Centre Number (or exam number, 5 digits)

A3 DfES Number (if known, 7 digits)

A4 Your name

A5 Your role

Section B Recruitment and Retention

We appreciate that you may need to look up some of the information for this section but it is crucial to the evaluation. The Smith Inquiry underlined the precarious position of Advanced level study of mathematics, and a clear picture of participation is key to tackling the issue of reduced take-up.

B1 Please indicate the number of students taking GCE Mathematics at the beginning of September 2004.

AS Mathematics

A2 Mathematics

B2 How many of these students dropped GCE Mathematics between the beginning of September 2004 and 18 February 2005?

AS Mathematics

A2 Mathematics

B3 Is the proportion dropping GCE Mathematics between September and February this year higher, about the same, or lower than in 2003–4?

	Higher than 2003–4	About the same as 2003–4	Lower than 2003–4
AS Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A2 Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B4 Is the proportion dropping GCE Mathematics between September and February this year higher, about the same, or lower than in 2002–3?

	Higher than 2002–3	About the same as 2002–3	Lower than 2002–3
AS Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A2 Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B5 What are the main three reasons for students dropping GCE Mathematics since the beginning of September 2004? Please rank the reasons 1, 2 and 3, with 1 as the most important reason.

AS Mathematics

- Student's programme too full
- Mathematics content overload
- Student's prior knowledge not at appropriate level
- Student left centre
- Student found mathematics harder than other subjects
- Student did not enjoy mathematics
- Other, please give details:

A2 Mathematics

- Student's programme too full
- Mathematics content overload
- Student's prior knowledge not at appropriate level
- Student left centre
- Student found mathematics harder than other subjects
- Student did not enjoy mathematics
- Other, please give details:

B6 We need to ask you about AS Mathematics students as a proportion of all AS students. Was the proportion starting AS in 2003, 2000 and 1999 higher, about the same, or lower than in 2004?

	Higher than 2004	About the same as 2004	Lower than 2004
2003 (last year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000 (beginning of Curriculum 2000 (C2K))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1999 and before (pre-C2K*)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*compare 2004 AS with total A level students starting courses

B7 We need to ask you about A2 Mathematics students as a proportion of all A2 students. Was the proportion starting A2 in 2003 and 2001 higher, about the same, or lower than in 2004?

	Higher than 2004	About the same as 2004	Lower than 2004
2003 (last year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2001 (beginning of C2K A2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B8 How many of your students completed AS Mathematics last year?

B9 How many of these students *did not* continue with A2 Mathematics this year?

B10 Of the students who completed AS Mathematics last year, how many of the students do you think originally intended to complete the full A level?

B11 Has your school/college employed any strategies to help prevent drop-out from GCE Mathematics, or to encourage retention from AS to A2?

Yes (please go to question B12)

No (please go to section C)

B12 What are these strategies and to what extent they have been successful?

Please describe the strategies briefly and rate them from 1–4, with 1 being very successful, 2 being quite successful, 3 being unsuccessful and 4 being too early to tell.

Strategy

Success

Strategy

Success

Strategy

Success

Section C Moving from GCSE to GCE

In this section we are interested in the effect of the Intermediate tier at GCSE on progression to A level.

C1 Do you have GCE Mathematics students who took the GCSE Intermediate tier?

Yes (Please go to C2)

No (Please go to Section D)

C2 Please tell us what percentage of students at your centre *starting* AS Mathematics at the beginning of September 2004 took GCSE at Intermediate tier?

%

C3 Considering students with the same GCSE grade, are those who took the Intermediate tier more or less likely to drop out during the course than those who took the Higher tier?

More likely

Less likely

Neither

C4 Considering students with the same GCSE grade, are those who took the Intermediate tier more or less likely to continue with A2 after AS than those who took the Higher tier?

More likely

Less likely

Neither

C5 If you do have students taking AS or A level Mathematics who took the GCSE exam at Intermediate tier was there an opportunity for them to study the required elements from the Higher tier?

Yes (Please go to Section D) No (Please go to C6)

C6 If no, what provision was made for Intermediate tier candidates in order for them to access the AS/A level content that assumes knowledge of the Higher tier material?

Section D Two-tier Mathematics GCSE Pilot

There is currently a pilot of a two-tier Mathematics GCSE (OCR specification ref: 1969).

D1 Are you offering the two-tier Mathematics GCSE?

Yes (Please go to D2)

No (Please go to Section E)

D2 Are all GCSE Mathematics students at your centre on the pilot course?

Yes

No

If 'no', please explain how you select the students that do the pilot:

D3 How has the pilot affected the numbers of students *progressing* to GCSE Mathematics?

Increased

No change

Decreased

D4 Compared to the three-tier model, how well does the pilot GCSE *prepare* students for GCE Mathematics?

Better

No difference

Worse

Please comment on your answer:

Section E 2004 revised GCE Mathematics – Content, teaching and learning

This section will ask you about your reaction to the new GCE AS and A level specifications, we appreciate that it is early on in the year, but we would welcome your initial feedback at this stage.

E1 In your view, what do you think are the two most significant differences between the old and new specifications?

1

[Greyed-out text box for answer 1]

Is this difference: **Positive** **Negative** **Neither**

2

[Greyed-out text box for answer 2]

Is this difference: **Positive** **Negative** **Neither**

E2 What have been the two main impacts of the new specifications on teaching?

1

[Greyed-out text box for answer 1]

2

[Greyed-out text box for answer 2]

E3 The content of the units has been changed so that the compulsory content is spread between 4 units, rather than 3, with a reduction to 2 optional units. In your opinion does this:

1 Give more time for students to acquire knowledge and understanding of the compulsory material?

Yes **No**

2 Help students to learn the compulsory material more thoroughly?

Yes **No**

Please describe any other effects of this change:

[Greyed-out text box for comment on E3]

E4 We have removed indications of 'background knowledge' required in the new specifications. Is this change helpful?

Yes **No**

Please comment on your answer:

[Greyed-out text box for comment on E4]

E5 In some parts of the new specifications we have tried to encourage an approach of introducing a topic at AS level, with a more sophisticated treatment of the subject at A2, to encourage maturation. An example is the treatment of 'Exponentials and logarithms'. Do you think that this approach is likely to be successful for all students?

Yes (Please go to question E6)

No (Please explain)

If 'no', please explain why not

E6 In the new specifications one unit must be taken without using a calculator.

Is this change:

Positive

Negative

Neither

E7 We have allowed the use of graphic calculators in all other units.

Is this change:

Positive

Negative

Neither

E8 We have reduced the overall number of formulae to be learned.

Is this change:

Positive

Negative

Neither

Section F Patterns of assessment

We are interested in finding out about the different patterns of assessment that are used during mathematics courses.

F1 How many of your mathematics students will complete the whole A level in one year?

- All
- Some teaching groups
- A few individuals
- None

Comments:

F2 Prior to September 2004, when did you usually enter A level Mathematics students on a two year course for assessment? Tick one box only

- All AS units in first year & all A2 units in second year
- Some AS units in the first year & remainder of AS and all A2 units in the second year
- All AS and A2 units in January and June of the second year
- All AS and A2 units in June of the second year
- Other, please specify:

F3 Will this pattern change with the revised specifications?

Yes No Undecided

-

If 'yes', please explain how:

F4 Are you using the new GCE Mathematics specifications for your A2 groups this year?

Yes No

-

Section G Further Mathematics

The Smith Inquiry reported that: 'Far too few able candidates are entered for AS or A-level Further Mathematics because their schools or colleges do not have sufficient resources to provide these courses'. We are interested in your perspective on this issue.

G1 Do you offer Further Mathematics at your school or college?

	Yes	No
At AS	<input type="checkbox"/>	<input type="checkbox"/>
At A2	<input type="checkbox"/>	<input type="checkbox"/>

If 'yes', how many students do you have?

	Number
At AS	<input type="text"/>
At A2	<input type="text"/>

The Further Mathematics AS and A level specifications have been amended. Previously the AS level contained at least 2 A2 Modules, now it can be made up from AS modules only.

G2 Did you know about this change to Further Mathematics?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

G3 Do you think this will make more students likely to do Further Mathematics?

	Yes	No
At AS	<input type="checkbox"/>	<input type="checkbox"/>
At A2	<input type="checkbox"/>	<input type="checkbox"/>

G4 If you do not currently offer Further Mathematics, will this make it more likely that you will offer it in the future?

	Yes	No
At AS	<input type="checkbox"/>	<input type="checkbox"/>
At A2	<input type="checkbox"/>	<input type="checkbox"/>

G5 Are you aware that there is a government funded Distance Learning Further Mathematics Project for students whose schools/colleges do not offer Further Mathematics?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

G6 Would any of your students be likely to take up a government funded project to do Distance Learning Further Mathematics?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If 'no', please explain why not:

Section H Next steps and further comments

H1 The issue of student participation in GCE Mathematics is very serious and the project will run over several years to allow us to map how things change. QCA would value your professional advice again next year. Are you willing for your centre to be contacted in 2006 for this purpose?

Yes No

H2 If yes, please provide a contact email address here:

Data Protection Fair Collection Notice:

Please note that QCA as data controller is collecting this contact information so that you can be invited to take part in the 2006 questionnaire survey. QCA will adhere to the eight data protection principles of 'good information handling' for organisations collecting and processing personal data, as set out in the 1998 Data Protection Act. For further information, please contact the Data Protection Officer (dataprotection@qca.org.uk)

H3 Please use this space to add any further comments that you wish to make:

Thank you very much for completing this questionnaire.