

Maths and English Functional Skills Reform Programme

Your views on the new (draft) national Standards for numeracy and literacy

Introduction:

The purpose of this questionnaire is to obtain views and feedback from individuals and organisations about the new (draft) national Standards for numeracy and/or literacy. Anyone with an interest in Functional Skills and these Standards is invited to provide their views.

Once finalised, these Standards will define the range of numeracy skills and capabilities that people need to function and progress in life, learning and work. They will form the basis for adult qualifications involving mathematical and English skills, of which Functional Skills are one example.

The draft Standards for numeracy are available [here](#) and the draft Standards for literacy are available [here](#). You will need to be familiar with one or both these in order to answer the questions that follow.

Note added for clarity during the Functional Skills reform process:

The Functional Skills qualifications use most of these Standards and will be presented within a separate document called Subject Content. The Subject Content document will have assessment objectives added to them by Ofqual in due course (to be added once the content is agreed) to form Functional English qualification specifications.

This questionnaire will be open until 5pm on Monday 25th July 2016. On completion, feedback will be collated and analysed to inform the next draft of the Standards. These will be subject to further comments and feedback between 1st and 12th August 2016 before the Standards are finalised.

The research is being conducted on behalf of the Education and Training Foundation, by Pye Tait Consulting in association with the Learning and Work Institute. All information provided to the research company will be treated confidentially and reported anonymously in line with the Market Research Society (MRS) Code of Conduct.

For further information please visit the Functional Skills Reform web pages:
<http://www.pyetait.com/fsreform>

Any enquiries about this questionnaire should be directed to Adrian Smith at Pye Tait Consulting, via a.smith@pyetait.com (telephone 01423 509433).

Any enquiries about the maths and English functional skills reform programme research as a whole should be directed to Imke Djouadj at the Foundation, via imke.djouadj@etfoundation.co.uk (telephone 020 3740 8280).

Part 1: About you

Q1 We would be grateful if you could provide your contact details in case we have any queries or need to contact you directly. (As stated previously, your views will be treated confidentially and reported anonymously by Pye Tait Consulting who work to and abide by the Market Research Society Code of Conduct).

Your organisation name: Mathematics In Education and Industry.

Your name: Charlie Stripp

Your job title: Chief Executive

Your contact email and telephone number in case of queries: charlie.stripp@mei.org.uk
07771 864507

Q2 Are you responding (highlight one):

- On behalf of the organisation listed above
- Individually (your own views)

Q3 Please indicate the type of organisation where you work (please highlight one):

- Academy/school
- Adult and community learning organisation
- Awarding Organisation
- Employer
- Employer representative body (e.g. trade federation or trade union)
- Further education college
- Higher education institution
- Independent practitioner
- Offender learning organisation
- Private training provider
- Sixth form college
- Subject association/specialist
- Other

If Other - please specify:

MEI is a charity and a membership organisation. It is an independent curriculum development body for mathematics. It is a major provider of mathematics teaching and learning resources, and of mathematics CPD for secondary school and post-16 mathematics teachers.

MEI developed and manages the DfE-funded Further Mathematics Support Programme. MEI plays a key role in the management of the National Centre for Excellence in Teaching Mathematics. MEI was responsible for developing, and provides resources and CPD for, a suite of GCE Mathematics qualifications and two Core Maths qualifications run by OCR.

Q4 Which standards would you like to comment on? (Please highlight one or both).

- Numeracy (please complete part 2)
- Literacy (please complete part 3)

Part 2: Draft National Standards - Numeracy

Please click [HERE](#) to view the new draft national standards for numeracy as a single PDF document. This will open in a new window and can be viewed online or downloaded. Please read the document and then answer the remaining questions.

Q5 To what extent do you agree that the structure and layout of the draft numeracy standards is appropriate? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q6 Please explain your reasons and/or suggestions for improvement:

We strongly support the view expressed in the statement on page 1 of the consultation document:

“Being numerate goes beyond simply ‘doing sums’; it is the ability to use numbers and/or data, and make decisions based on number and/or data to make good decisions and solve problems in work and in other real life situations.”

It would be better worded as: *“Being numerate goes beyond simply ‘doing sums’; it is the ability to reason using numbers and/or data to solve problems and make good decisions in work and in other real life situations.”*

In the present format we are concerned that the examples of contexts where mathematical content is used in areas like ‘citizen and community’, ‘domestic and everyday life’ and so on are not clearly connected to the content statements.

Although some of the content statements do include examples of context, e.g. *“calculate costs in whole pounds of more than one item (e.g. two tickets at £6, change from £20)”*, these are in a minority.

The view expressed in the quote above would be better addressed if all content statements were directly linked to a collection of suggested contexts.

A stronger assertion of the need for practical contexts could be achieved by starting with a set of skills, as given in the examples, and linking them directly to the mathematical content, as shown below.

| Skill | Maths content |
|--|--|
| Work out the real cost of items when prices are given excluding VAT (taken from L2 examples p18) | Understand and work out percentage increase and decrease in multiples of 5 percent, 10 percent and 25 percent (taken from L1 page 13). |

| | |
|--|---|
| Use measuring equipment, e.g. weighing scales, rulers (taken from the Entry L3 examples P10) | Read and use simple scales to the nearest labelled division |
|--|---|

This would strongly encourage context-led teaching and learning, which would help to engage students.

Increasing the profile of context and skills in the document would lead to a qualification with practical, functional skills at its heart, rather than one dominated by mathematical content.

Q7 To what extent do you agree that the content of the draft numeracy standards is sufficiently comprehensive? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q8 Please explain your reasons and/or suggestions for improvement. Please be as specific as possible, e.g. referring to particular levels and/or sections as appropriate.

The list of examples given at each level seems appropriate, but there seems to be a mismatch between these and the mathematical content. For example, the level 2 statement on page 18 “compare financial services offered by banks, building societies and brokers, e.g. loans, credit facilities”. To do this effectively, students would require an understanding of compound interest, which is not mentioned in the mathematical content.

The level 2 statements: “compare products and service prices and working out ‘best buy’ e.g use a comparison website to compare and identify best buys” and “use spreadsheet data to carry out analyses of sales per week, per salesperson, goods purchased per month, etc.” both require an understanding of compound measures, which is not featured in the content.

Increasing the profile of the context and skills, as suggested in Q6, would facilitate the inclusion of appropriate mathematical content and add greater clarity to some of the content statements (see our response to Q10).

Q9 To what extent do you agree that the language and terminology within the draft numeracy standards is clear? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q10 Please explain your reasons and suggestions for improvement:

It is not always clear what constitutes progression between the levels. For example, consider from level 1:

“ Read and understand mathematical information and key mathematical terms used for different purposes and independently select relevant information from **given graphical**, numerical and written material.”

and from level 2:

“Read and understand mathematical information and key mathematical terms used for different purposes”

“Independently select and compare relevant information from **a variety of graphical**, numerical and written material.”

Does this suggest that at level 1 students have a **single** item of material, moving to a **variety** of items at level 2, or that the students need to **select** from a variety, rather than being **given** the materials?

Below are some further examples of unclear statements:

g) use and interpret +, −, ×, ÷, and = in practical situations for solving problems (page 4 E2 and E3)

This statement needs examples of the practical situations appropriate for E2 and E3 in order to exemplify progress.

h) read and understand the vocabulary used in describing numbers and quantities (page 4 E2 and E3)

This statement requires examples of the vocabulary appropriate for E2 and E3 in order to exemplify progress. The term “vocabulary used” occurs in several other statements, without specific guidance on what vocabulary is appropriate at the level.

l) **understand** odd and even numbers (page 5 E2)

What is meant by **understand** here? As this is at Entry 2 and in the patterns section, **recognise** odd and even numbers may be more appropriate.

z) read/orientate a map in 45 degree increments

If this is referring to the compass directions (N,S,E,W, NE,NW,SE,SW) then it would be useful to remove any confusion by stating so directly.

x) Use probability to identify the range of possible outcomes of combined events (page 15 L2)

In the statement above no limit is given to the number combined events. If the intention is that students should be able to choose and use an appropriate systematic approach, then guidance on what approaches are considered appropriate should be given. This may require the statement to be changed to something like, *select and use appropriate approaches to identify all possible outcomes of combined events.*

bb) apply statistics to describe situations e.g. populations (page 15 L2)

Guidance on which statistics the students are expected to apply would be helpful in avoiding confusion.

dd) Read and understand key mathematical terms used in describing number, common measures, shape and space and information and data, e.g. integers, value, spatial, relationships, convert, assess, coordinates, geometric (page 15 L2)

ee) Use appropriate written formats to communicate explanations e.g. tables with charts. (page 15 L2)

A definitive list of vocabulary and appropriate written formats would be helpful in avoiding confusion about the requirements for statements, dd and ee shown above.

The glossary of terms used across the standards would benefit from the addition of specific examples.

We feel that our suggestions in responding to Q6, would resolve many of the points above.

Q11 Do you have any final comments about the draft numeracy standards?

There are no specific statements in the mathematical content which require the students to have a working knowledge of ICT, or of using practical equipment. Raising the profile of statements from the examples, such as those below, would help to promote the use of ICT and other appropriate tools. This would help to make the focus of the standards clearly functional.

- use spreadsheets to carry out 'what if' scenarios e.g. to vary a sample size to see how the mean/median/mode will vary
- use a calculator to confirm or provide accurate solutions to an appropriate level of accuracy
- use measuring instruments that are essential for work, e.g. a laser-measure for building work, a micrometer in engineering, working out fluid rates in the health and care industry
- interpret basic numerical data specific to a relevant occupational sector, e.g. engineering, manufacturing, hospitality and catering, health
- use an online tool or app (e.g. GeoGebra or Desmos) to create and analyse graphs
- use an online photo editing tool to resize images using proportions or percentages

There are positive elements in this document, in particular the examples section. The maths content is in the main appropriate, and when taken in the context provided by the examples, is relevant to the needs of students.

Restructuring the document with a greater focus on skills and context, as suggested in our response to Q6, would help to emphasise the functional nature of the standards.

General comments:

- These standards are very important, yet the reform has been driven by an unreasonably short timetable. Doing it well should be more important than doing it quickly! Serious research and consultation involving employers, students, experienced teachers of functional skills maths and maths education experts is needed to develop credible, evidence-informed standards. The standards will influence the mathematics education of thousands of people. It's vital to spend time getting them right. The period for their development should be extended.
- The new GCSE and A level mathematics qualifications are presented in a way that makes it clear that problem solving and reasoning are at their heart. The current draft Standards for Numeracy fail to communicate this effectively.

Part 3: Draft National Standards - Literacy

Please click [HERE](#) to view the new draft national standards for literacy as a single PDF document. This will open in a new window and can be viewed online or downloaded. Please read the document and then answer the remaining questions.

Q12 To what extent do you agree that the structure and layout of the draft literacy standards is appropriate? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q13 Please explain your reasons and/or suggestions for improvement:

Q14 To what extent do you agree that the content of the draft literacy standards is sufficiently comprehensive? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q15 Please explain your reasons and/or suggestions for improvement. Please be as specific as possible, e.g. referring to particular levels and/or sections as appropriate.

Q16 To what extent do you agree that the language and terminology within the draft literacy standards is clear? (Highlight one)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Q17 Please explain your reasons and suggestions for improvement:

Q18 Do you have any final comments about the draft literacy standards?

Thank you very much for your time and interest.

Please either:

1) Email this completed questionnaire back to Adrian Smith at Pye Tait Consulting, via a.smith@pyetait.com

Or

2) Submit your answers on the website, via: www.pyetait.com/fsreform/stadardsdraft1