ROYAL STATISTICAL SOCIETY

DATA | EVIDENCE | DECISIONS

Response to consultation by the Education and Training Foundation on version 1.0 of Functional Skills maths subject content

Q1 **Organisation name**
The Royal Statistical Society

Q2 **Are you responding on behalf of the organisation listed above?**
Yes

Q3 **Please indicate the type of organisation where you work (please tick one):**
Subject association / specialist

Q4 **Which Subject Content would you like to comment on? (Please tick one or both).**
Maths

Q5 **To what extent do you agree with the overall approach taken for the maths Subject Content?**
Neither agree nor disagree.

Q6 **What changes overall would you suggest?**
No answer.

Q7 **To what extent do you agree with the Purpose and Learning Aims as set out for**

Entry levels	agree
Level 1 and Level 2	disagree

Q8 **What changes would you suggest to the Purpose and Learning Aims?**
We suggest that students will need to be fully able to apply the statistical problem solving cycle by the end of Level 2, and that this should be reflected in the Purpose and Learning Aims. For example, 'to demonstrate the student's ability in mathematical skills, and their ability to solve realistic problems through mathematical thinking, application of all stages (where appropriate) of the statistical problem solving cycle, and appropriate reasoning and decision making' (suggested changes are underlined)

The outline/summary of a level 2 functional maths student says that they can work in unfamiliar as well as familiar situations. A simple mention of application of the statistical problem solving cycle (which consists of problem analysis, data collection and data sourcing, data processing and presentation, and data analysis and interpretation) could apply here.

Q9 **To what extent do you agree with the Learning Outcomes as set out for**

Entry levels	agree
Level 1	agree
Level 2	disagree

Q10 What changes would you suggest to the Learning Outcomes?

We have agreed with the purpose and learning outcomes of entry levels and Level 1, but have some concerns throughout on these subjects as there is no reference to use of technology – ICT, and spreadsheets. We address this in the next section on 'assessible content' of the qualifications.

We have suggested that the statistical problem solving cycle needs full inclusion in functional skills at Level 2. This would need to be reflected in the learning outcomes. In the proposed version, the problem solving cycle may be applied by reference to the requirements, but would not necessarily be applied, and we believe implementation would benefit from making an explicit requirement for the statistical problem solving cycle to apply in full.

Learning outcome 3 could specify that learners analyse the problem (step 1 of the problem-solving cycle). Sourcing or collecting data (step 2) could also be added as part of the proposed use of 'methods and measures appropriate to the specified purpose.

Learning outcome 6 could specify that learners 'Process and present data clearly and accurately, and explain results' rather than just 'present and explain results clearly and accurately'.

Learning outcome 7 could specify a full application of the cycle, for example: 'Demonstrate decision making skills and apply the statistical problem solving cycle, through problem analysis and organisation of a problem, through independently sourcing or collecting appropriate data to solve the problem, through data processing and through presentation and comparison of results in graphical, numerical and algebraic forms, and through interpretation of the results.'

Q11 To what extent do you agree with the Assessable Content as set out for:

Entry level 1	disagree
Entry level 2	disagree
Entry level 3	disagree
Level 1	disagree
Level 2	disagree

Q12 What changes would you suggest to the Assessable Content?

There is no mention made of the use of technology, ICT or spreadsheets throughout the assessible subject content. We note that your employer consultation found that 'larger employers place greater importance on collecting and representing data using ICT, including spreadsheets'. We support that data handlng should be included as a demonstrated skill from Entry Level 1 upwards, and we suggest to add and include explicit mention of 'the use of technology, ICT or spreadsheets where appropriate' as part of demonstrating that students can handle information and data. This could apply at all levels under 'information and data' requirements, from Entry Level 1 upwards.

Q13 Do you have any final comments about the draft Subject Content for maths?

For setting new technical education standards and for understanding what is required in subject content, we suggest exemplification is needed to demonstrate more clearly the progression from one level to the next. The Functional Skills content document says that there will be a new core curriculum with exemplification to support teachers and learners. However the document out for consultation contains assessable content for awarding bodies. We suggest including exemplification in the Subject Content document once sufficient examples have been developed, as this would increase the likelihood of consistent and comparable qualifications.

The Royal Statistical Society (RSS) is a professional body for statisticians and data analysts, and a charity which advocates the key role of statistics and data in society. The RSS' strategy supports education and statistical literacy, and this consultation response was advised by the RSS' Education Policy Advisory Group.

Submitted by RSS' policy & research manager, 7 September 2016