



Evaluating Mathematics Pathways Project
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End of Year Report – Executive Summary

December 2007

Executive Summary

This is the first substantive report from the EMP project. The contract for this work, which is expected to be completed at the end of 2010, was signed at the start of October 2007. A considerable amount has been achieved by the team in a short space of time but longer than expected contractual discussions have caused some initial delays with the fieldwork.

All aspects of the Stage 2 plan have been met (with the exception of the design of survey instruments) and this plan, together with the plan for Stage 3, can be found in the appendices to the main report. The key EMP project activities to date are the following:

- The EMP team has established links with phase II pathways contractors and has made contact with all participating centres via a QCA announcement of the project award;
- The EMP team has established ways of working, code of conduct, research instruments and databases of centres participating in the pilot work;
- Fieldwork has begun with visits to centres participating in GCSE and functional mathematics pilots;
- Preparations for a) linking with stakeholders and b) scrutinising assessment items, qualifications and pathways are well under way.

The EMP team are exploring a very wide-ranging set of research questions. At this early stage in the evaluation a number of important issues are at the forefront of discussions and we want to raise them and indicate the possible impact upon the direction and success of future pathways work. These matters have arisen from meetings with QCA, awarding bodies and stakeholders and/or are emerging from fieldwork in pilot centres. More details in relation to these points can be found in the full report.

- **Separating GCSE mathematics and functional mathematics qualifications** has presented awarding bodies with a difficult transition process to manage and there remains some confusion in centres. It would be helpful to have a brief and clear summary of the new structure and aims of the pathways components made available to all participating centres.
- **The change in structure of GCSE mathematics** has introduced a potential problem relating to the status of functional mathematics, its place in the range of mathematics qualifications and consequent questions regarding its role in the curriculum.
- **Participation in GCSE 2** was not the main focus of trialling work and there is need for direction with regards to expectations regarding GCSE 2 participation. The recent agreement that GCSE 2 grades from the pilot qualifications can count in the candidates 5A*-C count is helpful. QCA and awarding bodies might consider re-emphasising this to all participating centres as soon as possible so that an effective evaluation can be made of how this might impact upon entry strategies, teaching styles, engagement and so on.
- **The perception of the role of GCSE 2** in pilot schools is very mixed and this is perhaps indicative of the lack of clarity about progression and pathways. Teachers find the style of the proposed assessment attractive and are beginning to consider how working towards this qualification might impact on their teaching. It is seen as

particularly suitable for the most able pupils in mathematics as it has the potential to provide stretch and challenge. Teachers are unsure about its relationship with other qualifications being proposed.

- **Pathways:** we have heard relatively little discussion about mathematics pathways and a great deal of talk about qualifications. This discourse privileges assessment over teaching and learning and we want to caution against focusing on the former at the expense of the latter. QCA might like to consider engaging the awarding bodies in considering how their qualifications, and the teaching and learning framed by them, constitute pathways.
- **GCE mathematics:** there is considerable discussion surrounding the future of GCE mathematics. With regards to the GCE pathways pilots we note that, unlike the GCSE pilots, there is a notable imbalance in the size of the two projects and they reflect quite different levels of continuity from the Phase I pathway models. Unless QCA and OCR work together to expand the GCE pilot it will be more difficult to draw conclusions from this pathways pilot.
- **ICT:** There has been some discussion in meetings of the Post-14 Mathematics Advisory Group regarding the role of ICT in the pathways project but there appears to be limited momentum in this area at this time.
- **Support:** Whilst there has been some excellent support for teachers this has focussed very much on assessment materials and processes. Teachers involved with the pilot would like more opportunities to meet with, and explore with each other, implementation issues. We would urge that additional support be provided by appropriate agencies such as the NCETM, possibly through the establishment of a forum for participating centres.
- **Pathway terms:** Given that there is some confusion about purposes and meanings of the various pathways components we think it would be helpful to develop a shared understanding (accepting that language is problematic and there will not be full consensus) of meanings such as functional, applied, context based, etc.