

# Tackling the challenge of poor numeracy skills

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# Ofsted's survey programme:



- 'Good practice in involving employers in work-related education and training' (September 2010)
- 'Learning from the best - examples of best practice from providers of apprenticeships in underperforming vocational areas' (October 2010)
- 'The second year of Diplomas: an evaluation of the strengths and weaknesses of the Diplomas for 14- to 19-year-olds' (November 2010)
- 'Removing barriers to literacy' (January 2011)
- 'Tacking the challenge of low numeracy skills in young people and adults' (April 2011)

Tacking the challenge of low numeracy skills in young people and adults



# Scoping the numeracy survey



- Numeracy within full or part vocational provision
- Numeracy in employment: apprenticeships and Train to Gain
- In-class and drop-in numeracy support
- Numeracy as part of the foundation learning tier
- Discrete numeracy and Learndirect
- Visited 20 FE colleges, including a land-based specialist college; 14 independent learning providers and employers; 16 providers of ACL, including local authorities; 6 prisons; 3 Probation Trusts

# Themes for the visits



- Identifying and meeting needs (initial assessment; take-up of provision)
- Curriculum management (strategic management; staffing; staff development; curriculum planning)
- Classroom practice and resources (direct observation of teaching and learning; interviews with learners and staff)
- Outcomes for learners (achievement data; interviews with learners and employers)

# Key findings 1



- Numeracy provision was most effective for learners on vocational programmes when it was a compulsory element
- Only half the providers of vocational provision assessed all learners and used the results well to plan numeracy provision and individualised learning
- Weaker providers did not assess the numeracy needs of all their learners on vocational programmes and they did not have a clear strategy for promoting numeracy
- Partnership work led to new discrete provision; family learning was a particularly successful route to numeracy
- Take-up of provision in the prisons and probation trusts visited was low

## Key findings 2



- Teaching and learning observed were more effective when set in practical everyday and vocational contexts
- Weaker teaching focused on memorising seemingly arbitrary rules related to mathematical topics needed for the external tests.
- Goals in learning plans reviewed related to numeracy topics related and not to learners' personal goals

## Key findings 3



Common features of effective numeracy teaching and learning included:

- setting numeracy problems in purposeful contexts
- showing learners how to build on their previous knowledge and skills to develop their understanding
- providing opportunities for learners to work out the most appropriate approaches to problems
- encouraging learners to tackle their misconceptions by analysing incorrect answers
- developing learners' conceptual understanding of numeracy
- enabling learners to apply mathematical techniques in their training, at work or in their personal lives.

## Key findings 4



- Thirty-one of the 46 providers where records were sampled had fewer than half of their tutors with the required qualifications at level 5 in teaching numeracy.
- Tutors did not have sufficient opportunities to develop their specialist expertise in the teaching of numeracy or their own knowledge in mathematics above level 2.
- Numeracy was not self-assessed separately to literacy and very few Skills for Life strategies had separate objectives for numeracy.

# Recommendations - Providers



- Give numeracy strategic priority
- Ensure the results of initial assessments are used to plan individualised learning, especially in vocational provision
- Make sure learners work towards the qualification that is right for their career plans
- Promote numeracy to employers
- Improve teaching and learning so that:
  - goals in learning plan link numeracy to personal aims;
  - they are set in meaningful contexts, with less reliance on worksheets
  - learners understand the numeracy they are using
- Ensure tutors have expertise in teaching mathematical concepts and have the mathematics they need

## A good numeracy tutor - publication



- Planning individualised learning
- Teaching strategies to overcome learners' fears
- Addressing misconceptions and developing understanding of mathematical concepts
- Involving all learners and developing their independence
- Making numeracy purposeful
- Assessing learners' progress
- Identifying the need and levels of participation
- Tutor workforce, self-assessment and quality improvement

## Challenges that remain

- increasing further participation in numeracy
- Raising further the profile of numeracy

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