

This paper summarises discussions held at a seminar on early years mathematics on 11 May 2016 at the Royal Society. The seminar was attended by representatives from across the early years and mathematics communities. The full list of names is at the end of this document. This was the second early years mathematics event convened by ACME, the first of which was held at the Royal Society on 24 February 2016.¹

1. Introduction and aims of the seminar

ACME Deputy Chair, Anne White, explained that ACME was facilitating a series of meetings for organisations involved in policy and practice in early years mathematics. The focus of the seminar was professional development (PD) and the aims were to build on discussions around workforce development from the previous meeting in February, identify next steps and consider who might lead on them.

2. Key issues and challenges in PD

The group discussed the key issues and challenges in professional development for early years mathematics practitioners. The key points emerging from the discussions included PD models, financing PD, qualifications and subject-specific knowledge.

PD models and finance

The group discussed the view that current PD models lack the joined-up approach needed to develop a qualified workforce. Various models are offered by many providers, with delegates noting the National Day Nurseries Association (NDNA) Maths Champions,² PD offerings from the Pre-Schools Learning Alliance (PSLA)³, TACTYC (Association for Professional Development in Early Years) and PACEY (Professional Association for Childcare and Early Years)⁴ and the government-funded Maths Hubs.⁵ Several Maths Hubs are developing early years projects, although it was pointed out that this funding did not cover accreditation. The group discussed an example of a PD research model for early years mathematics, which includes practitioners working with PD providers in a democratic way and non-hierarchical way, and working through government-funded Teaching School Alliances. The participants discussed how the model had elements of good practice, which could be replicated going forward.

The group highlighted that teachers often do not receive an academic accreditation despite putting significant time and effort into their long-term personal development.

A number of participants pointed to what they considered to be as a gap in practitioners' understanding about the relationship between mathematics, play and child development and that this was not considered enough in the Department for Education's Early Years Workforce Strategy, which has professional development as a focus.⁶

A participant stressed that early years practitioners would not be energised by changes to the workforce strategy and they highlighted that the Workforce Strategy was something for NDNA Maths Champions,⁷ PSLA⁸ and Maths Hubs⁹ and other early years organisations to translate and lead on.

¹ <http://www.acme-uk.org/media/34365/acmeearlyyearsroundtable.pdf>

² <http://www.ndna.org.uk/>

³ <https://www.pre-school.org.uk/>

⁴ <https://www.pacey.org.uk/>

⁵ <http://www.mathshubs.org.uk/>

⁶ <https://www.gov.uk/government/speeches/sam-gyimah-vision-for-early-years-workforce-...-millies-mark>

⁷ <http://www.ndna.org.uk/>

⁸ <https://www.pre-school.org.uk/>

⁹ <http://www.mathshubs.org.uk/>

Qualification requirements

The group discussed the GCSE requirements for level 3 early years educators. Recent policy changes mean that they must attain grade C in GCSE English and mathematics. It was noted that many practitioners might not see the acquisition of these qualifications as important, necessary or accessible. Some members of the group thought that ensuring that Functional Skills mathematics qualifications were seen as equivalent could be a solution to the skills gap.

Subject-specific education

A participant suggested that mathematics should be threaded throughout all PD qualifications. This led to a discussion about the language of mathematics and the misunderstanding that early years mathematics is all about 'numbers and counting'. There was widespread agreement that early years practitioners do not always recognise when children are doing mathematics.

3. Potential opportunities in terms of research, policy and programmes

The group discussed potential opportunities and policy levers to influence early years mathematics education, including the development of new qualifications, further research, building on existing and developing new early years networks and a centralised listing of early years resources of quality.

Qualifications

Anne White expressed optimism that the new GCSE Mathematics will provide challenge to schools that had previously been teaching children 'tricks and tips' rather than in-depth subject knowledge. She also welcomed the proposition of a new post-16 Core Maths qualification and saw this as a positive opportunity to develop a relevant post-16 qualification in mathematics for future early years educators.

Research

The Study of Early Educational Development (SEED) tracks 2-11 year olds and its researchers have completed more than a thousand nursery visits. The first cohort profile publication is due out this year and it is expected to provide evidence that early years learning and teaching in mathematics is not at a high enough standard.¹⁰ ACME agreed to monitor the report and to respond as appropriate.

Networks

The group discussed the 4Children network meetings that are held regularly around the country and often have a large number of attendees. This was seen as a good networking opportunity for Maths Hubs specialists to make the connections to those groups that need their support.

The group discussed a previous network hosted by the Association for Teachers of Mathematics (ATM) and BEAM (Be A Mathematician) called the Early Childhood Mathematics Group (ECMG). The group consisted of early years practitioners, lecturers and advisors who were interested in the mathematics education provided for young children. The group wondered if the ECMG could be reinvigorated and thought that this could be a future topic for discussion.¹¹

Resources

The group discussed the wealth of available resources to support early years mathematics and discussed whether to create a list of top ten 'must-reads'. The recently published guide on Mathematics in the Early Years published by PACEY (Professional Association for Childcare and Early Years) was noted.¹² The group acknowledged that there were some downsides to creating lists of resources including material overload, possible lack of understanding (if the materials are not designed with input from practitioners) and that the lists will only be found by practitioners who are actively looking for them.

¹⁰ <http://www.seed.natcen.ac.uk/professionals>

¹¹ <https://www.atm.org.uk/write/MediaUploads/Journals/MT175/Non-Member/ATM-MT175-09-09.pdf>

¹² <https://www.pacey.org.uk/news-and-views/news/archive/2015-news/october-2015/mathematics-in-the-early-years-book-now-launched/>

4. Participant list

Name	Organisation
Sue Gifford	ACME member, University of Roehampton
Rose Griffiths	University of Leicester
Theresa Johnson	Professional Association for Childcare and Early Years (PACEY)
Martin Little	National Centre for Excellence in the Teaching of Mathematics (NCETM)
Jennifer Panting	ACME Secretariat
Melanie Pilcher	Pre-School Learning Alliance
Sue Robb	4Children
Madeleine Robinson	National Day Nurseries Association (NDNA)
Anna Skinner	Teacher and professional development provider
Carole Skinner	Consultant
Helen Wheeler	National Children's Bureau
Anne White	ACME Deputy Chair, Improve Maths
Liz Woodham	NRICH
Maulfry Worthington	TACTYC Association for Professional Development in Early Years

It was decided that there should be a follow up meeting to discuss some of the ideas around resources. 4Children offered to host the meeting at their offices.