

Non-specialist teachers of mathematics

What is the role of non-specialist teachers of maths and how can they be supported to strengthen the maths department?



What are non-specialist teachers of mathematics?

A non-specialist teacher of mathematics is a teacher who teaches maths, despite their Initial Teacher Training (ITT) being in a subject other than mathematics. Due to difficulties in maths teacher recruitment and retention, non-specialist teachers of maths are an increasingly important component of secondary school maths departments.

What does the 2023 Ofsted report, 'Coordinating Mathematical Success', say about non-specialist teachers of maths?

In schools with less experienced or non-specialist teachers, there is a need to develop a shared understanding of curriculum progression and features of effective practice.

Discussion of the findings

In some schools, we saw misconceptions being introduced by teachers. These errors usually occurred in lessons taught by less experienced or non-specialist teachers, who lacked the subject knowledge or subject teaching knowledge to go 'off script' when responding to pupils' questions or when they observed misconceptions.

Secondary, 'Pedagogy: new learning'

Secondary schools should make sure that non-specialist teachers receive the necessary professional development, including subject knowledge and subject-specific pedagogical knowledge, to teach mathematics effectively.

Recommendations, systems at subject and school level

How does the Secondary Non-specialist Teachers SKTM Programme support non-specialists?

Maths Hubs offer effective professional development for those who teach maths outside their usual subject area, with a Specialist Knowledge for Teaching Mathematics (SKTM) Programme designed specifically for Secondary Non-specialist Teachers.

Specialist knowledge, in the context of an SKTM Programme, is a blend of subject knowledge and pedagogical content knowledge. The Secondary Non-specialist Teachers SKTM Programme supports participants to develop their subject and curriculum knowledge of maths, while also exploring a range of pedagogic approaches that align with the principles of teaching for mastery.

This SKTM Programme empowers participants to bring teaching skills from their areas of expertise into the maths classroom. It builds on the support already being provided by participants' schools, offering maths subject-specific and pedagogical knowledge and professional support. As a result, teachers are able to support students to think, reason and discuss their maths to deepen understanding. Teachers are empowered to play an important and valuable role to help strengthen the maths department and improve outcomes for students.

The teaching resources in the programme are really thorough, well-planned and visually engaging. They are a pleasure to use in online and face-to-face sessions, and all of my participants have been really grateful for the insight into and experience of using up-to-date visual maths teaching strategies.

Susan Okereke, Local Leader of Maths Education (LLME) for London South East+ Maths Hub

As a non-specialist, this programme has enabled me to use the correct terminology and assisted in the way I structure my lessons.

Simon, participant

I find this really helpful [...] it's the ways to deliver the content that I find most useful, and correcting my misconceptions.

Phil, participant



The non-specialist teacher's confidence in his maths and his teaching of maths has improved. During lessons, subject-specific language is being used by students and they are expected to explain their methods using this language. Manipulatives and representations are a regular feature of the teacher's lessons and this has supported students.

Karen, head of maths department

