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Science and mathematics education are essential for solving current social, economic and ecological challenges. It should therefore be accessible to all, rather than just providing graduates for the future workforce. Inquiry-based education is a challenging method of encouraging curiosity and openness for the unknown in science and other subjects. It is often recommended, but not always adopted in practice.

In this anthology of articles from the EU-funded S-TEAM project (Science-Teacher Education Advanced Methods), we present some new ways of thinking about teaching and learning processes for inquiry based science education. Science teachers and teacher educators need to reflect on their own practice in order to develop their own approaches to inquiry, and this book will stimulate and inform their reflection.

Although all the articles focus on science education, the book also addresses educational topics of urgent topical interest, such as student disengagement, and is aimed at a wide audience. The idea of ‘science for all’ is a major theme running through the book. ‘Science for all’ is an idealistic but necessary goal, which signals the importance of science in society and the role education plays in empowering students and others, through the application of science and mathematics to real-world situations. This book will therefore open up important debates about how we should conduct science and mathematics education in the 21st century.