

# Research Briefing No. 27

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## Minding Gaps in Argument: CPD to Support the Teaching of Scientific Inquiry

### Key findings and implications for Policy Makers

The project

1. Developed a continuous professional development (CPD) agenda to bridge policy-research gaps in the teaching and learning of argumentation;
2. Generated examples of pedagogical strategies and learning resources to support argumentation in science lessons;
3. Reviewed the curricular policy on "How Science Works" with an eye towards using research evidence on HSW in incorporating scientific inquiry, and in particular argumentation, in science teaching.



### The research

The project was based on research on argumentation conducted by Professor Sibel Erduran in the past two decades (e.g. Erduran & Jimenez-Aleixandre, 2012, 2008; Erduran, Simon, & Osborne, 2004; Duschl, Ellenbogen & Erduran, 1999). It involved 5 teachers from 5 Bristol schools investigating means of bridging policy and research in the teaching and learning of argumentation (or evidence-based reasoning) in science lessons. The project was supported by the European Union FP7 Programme and was conducted between 2008-2010.

# Minding Gaps in Argument

Continuing Professional Development to Support the Teaching of Scientific Inquiry

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2009



*Minding Gaps in Argument: CPD to Support the Teaching of Scientific Inquiry*

## Research design

The research was based on collaborative action research strategies. Teachers investigated their teaching with support from researchers and coordinated the evaluation of pedagogical approaches that were in line with policy and research recommendations.

## Further information

Erduran, S., & Yan, X. (Eds). (2009). *Minding gaps in argument: supporting the teaching of scientific inquiry*. Booklet and DVD. Bristol: University of Bristol.

Erduran, S., & Yan, X. (2010). Salvar las brechas en la argumentacion: el desarrollo profesional en la ensenanza de la indagacion scientifica *Alambique*, 63, pp.76-87.

Yan, X., & Erduran, S. (2010, January). Minding the gap in argumentation: teachers' perspectives on bridging policy, research and practice. Presentation at Association for Science Education Annual Conference, Nottingham, UK

Erduran, S. (2012). The role of dialogue and argumentation. In, John Oversby (Ed.), *Guide to Research in Science Education*, pp. 106-116, Hatfield:Association for Science Education.

Erduran., S., & Jimenez-Aleixandre, J. M. (2012). Research on argumentation in science education in Europe. In, D. Jorde, & J. Dillon (Eds.), *Science Education Research and Practice in Europe: Retrospective and Prospective*, pp. 253-289. Rotterdam: Sense Publishers.

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