

Numbered list of outputs referenced in the Impact Report for the following project:

**Enhancing students' proof competencies in secondary  
mathematics classrooms (RES-000-22-2536-A)**

Andreas J. Stylianides  
University of Cambridge

**PUBLICATIONS**

Journal Articles:

- i. **Stylianides, A. J.**, & Al-Murani, T. (2010). Can a proof and a counterexample coexist? Students' conceptions about the relationship between proof and refutation. *Research in Mathematics Education*, 12(1), 21-36.
- ii. **Stylianides, A. J.** (2009). Breaking the equation "empirical argument = proof". *Mathematics Teaching*, 213, 9-14.

*Note:* The NRICH project republished the article at its popular open-access website having obtained permission from the Association of Teachers of Mathematics, which publishes Mathematics Teaching. The republished article at the NRICH website ([http://nrich.maths.org/public/viewer.php?obj\\_id=6664](http://nrich.maths.org/public/viewer.php?obj_id=6664)) is accompanied with excerpts from an interview given by Andreas Stylianides to the NRICH director, Dr Jenny Piggott, about ideas in the article ([http://nrich.maths.org/public/viewer.php?obj\\_id=6664&part=note](http://nrich.maths.org/public/viewer.php?obj_id=6664&part=note)).

Invited Article in Conference Proceedings (Plenary Lecture):

- iii. **Stylianides, A. J.** (2009). Towards a more comprehensive "knowledge package" for teaching proof. In J. H. Meyer & A. van Biljon (Eds.), *Proceedings of the 15th Annual Congress of the Association for Mathematics Education of South Africa (AMESA)* (Vol. 1, pp. 242-263). University of the Free State, Bloemfontein, South Africa.

Conference Articles:

- iv. **Stylianides, A. J.**, & Stylianides, G. J. (2010). Toward the design of instructional interventions in the area of proof. In A. Gagatsis, T. Rowland, A. Panaoura, & A. Stylianides (Eds.), *Mathematics education research at the University of Cyprus and the University of Cambridge: A symposium* (pp. 203-218). Nicosia, Cyprus: School of Social Sciences and Sciences of Education, University of Cyprus.
- v. **Stylianides, A. J.**, & Al-Murani, T. (2009). "Can a proof and a counterexample coexist?" A study of students' conceptions about proof. In, *Proceedings of the 6th Congress of the European Society for Research in Mathematics Education* (pp. 311-321). France, Lyon.
- vi. **Stylianides, A. J.**, & Stylianides, G. J. (2008). "Cognitive conflict" as a mechanism for supporting developmental progressions in students' knowledge about proof. In, *Online Proceedings of the 11th International Congress on Mathematical Education (ICME), under Topic Study Group 18* (<http://tsg.icme11.org/tsg/show/19>). Monterrey, Mexico.

Chapters in an Edited Volume:

- vii. **Stylianides, A. J.**, & Stylianides, G. J. (in press). Mathematical reasoning and proof (Part 1 of 2: student edition). In P. Palhares (Editor and translator of the chapter from English to Portuguese), *Complements of mathematics for primary teachers*. Lidel.
- viii. **Stylianides, A. J.**, & Stylianides, G. J. (in press). Mathematical reasoning and proof (Part 2 of 2: instructor's guidance). In P. Palhares (Editor and translator of the chapter from English to Portuguese), *Complements of mathematics for primary teachers*. Lidel.

## INVITED RESEARCH LECTURES/PRESENTATIONS

- ix. (2011, April). (w/ G. J. Stylianides). Supporting progressions in students' justification schemes: results from two design experiments in the domain of proof. *Invited research seminar at the joint seminar series of the University of California at San Diego and San Diego State University*, San Diego State University, San Diego, California, USA.
- x. (2011, January). (w/ G. J. Stylianides). Engineering cognitive conflicts that support conceptual change: results from two design experiments in the domain of proof. *Invited research seminar at the Midlands Mathematics Education Seminar Series (participating institutions: the Universities of Birmingham, Leicester, Loughborough, Nottingham, and Warwick)*, University of Loughborough, Loughborough, UK.
- xi. (2010, June). Classroom-based design experiments in educational research: a study on the "cognitive conflict" approach to mathematics teaching. *Invited research presentation at the e-Learning Research Group Seminar Series*, Department of Education, University of Oxford, Oxford, UK.
- xii. (2009, July). Towards a more comprehensive "knowledge package" for teaching proof. *Invited plenary lecture at the 15th Annual Congress of the Association for Mathematics Education of South Africa (AMESA)*, University of the Free State, Bloemfontein, South Africa.
- xiii. (2009, June). The "cognitive conflict" approach to mathematics teaching: The case of proof. *Invited research presentation at the Tshwane University of Technology*, South Africa.

## OTHER RESEARCH PRESENTATIONS

- xiv. (2009, November). (w/ E. Demosthenous). What might be involved in the development of a credible picture of students' understanding of proof? *Presentation at the Conference of the British Society for Research into Learning Mathematics (BSRLM)*, Loughborough University, Loughborough, UK.
- xv. (2009, March). Students' conceptions about the relationship between proof and refutation in mathematics. *Presentation at the 2009 Annual CamERA Research Conference*, University of Cambridge, Cambridge, UK.
- xvi. (2009, January). (w/ G. J. Stylianides). The "cognitive conflict" approach to mathematics teaching. *Presentation at the Mathematics Education Colloquium Series*, University of Cambridge, Cambridge, UK.

## SEMINARS/WORKSHOPS

- xvii. (2010, June). Enhancing students' proof competencies in secondary mathematics classrooms. *Workshop to about 30 secondary mathematics mentor teachers who work with secondary mathematics teacher trainees enrolled in the Secondary Mathematics PGCE Course*, University of Cambridge Faculty of Education, Cambridge, UK.
- xviii. (2010, May). (w/ S. Hennessy). Design-based research. *Workshop to about 30 MEd students enrolled in the Research Methods Course*, University of Cambridge Faculty of Education, Cambridge, UK.
- xix. (2010, April). (w/ K. Russell). Introducing secondary school students to the notion of proof in mathematics. *Workshop to about 40 researchers, teachers, teacher educators, curriculum developers, and policy makers at the 7th British Congress of Mathematics Education (BCME)*, University of Manchester, Manchester, UK.
- xx. (2010 & 2009, February). Design experiments in educational research. *Workshops to a total of about 90 MPhil students enrolled in the Core Research Training Course*, University of Cambridge Faculty of Education, Cambridge, UK.
- xxi. (2010, January). The teaching and learning of proof in secondary school mathematics. *Workshop to about 30 secondary mathematics teacher trainees enrolled in the Secondary Mathematics PGCE Course*, University of Cambridge Faculty of Education, Cambridge, UK.

xxii. (2008, June). (w/ T. Al-Murani). Proof in secondary school mathematics. *Workshop to about 25 secondary teachers, secondary teacher trainees, and researchers as part of the University of Oxford Mathematics Education Seminar Series*, University of Oxford, Oxford, UK.