

Series on Mathematics Education - Vol 3

LESSON STUDY

Challenges in Mathematics Education

edited by **Maitree Inprasitha** (*Khon Kaen University, Thailand*), **Masami Isoda** (*University of Tsukuba, Japan*),
Patsy Wang-Iverson (*Gabriella & Paul Rosenbaum Foundation, U.S.A.*) &
Ban Har Yeap (*Marshall Cavendish Institute, Singapore*)

Classroom Innovations through Lesson Study is an APEC EDNET (Asia-Pacific Economic Cooperation Education Network) project that aims to improve the quality of education in the area of mathematics. This book includes challenges of lesson study implementation from members of the APEC economies.

Lesson study is one of the best ways to improve the quality of teaching. It is the model approach for improvement of teacher education across the globe. This book focuses on teacher education and mathematics education, and on curriculum implementation and reforms.

Key Features:

- Presents the world reform movement by top researchers
- Includes the challenges of lesson study and videos of model lessons (lesson videos will be available at: <http://www.criced.tsukuba.ac.jp/math/apec>)
- Includes the Japanese teaching methods called "problem-solving approaches"

Contents:

The Role of Lesson Study in Overcoming Challenges in Mathematics Education:

Mathematics Education for the Knowledge-Based Society (*Alan J Bishop*);
Mathematical Thinking for Classroom Decision Making (*Kaye Stacey*);
Setting Lesson Study within a Long-Term Framework of Learning (*David Tall*);
Lesson Study: An Essential Process for Improving Mathematics Teaching and Learning (*Akihiko Takahashi*);
Comparative Study of Mathematics Classrooms — What can be Learned from the TIMSS 1999 Video Study? (*Frederick K. S. Leung*);
The Science of Lesson Study in the Problem Solving Approach (*Masami Isoda*)
Preparing Ground for the Introduction of Lesson Study in Thailand (*Maitree Inprasitha*);

Perspectives on Lesson Study and Professional Development:

History of Lesson Study to Develop Good Practices in Japan (*Shizumi Shimizu & Kimihiro Chino*);
What have We Learned about Lesson Study Outside Japan? (*Catherine Lewis*);
Enhancing Mathematics Teachers' Professional Development through Lesson Study ~ A Case Study in Singapore ~ (*Ban Har Yeap, Peggy Foo & Poh Suan Soh*);
Using Lesson Study to Develop an Approach to Problem Solving: Adding and Subtracting Fractions (*Kazuyoshi Okubo & Hiroko Tsuji*);
Prospective Teacher Education in Mathematics through Lesson Study (*Maitree Inprasitha*);
In-service Teacher Education in Mathematics through Lesson Study (*Soledad A Ulep*);



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Implementing Lesson Study in APEC Countries:

Thailand (*Maitree Inprasitha*);
Indonesia (*Marsigit*);
Chile (*Grecia Gálvez*);
Malaysia (*Chap Sam Lim & Chin Mon Chiew*);
Vietnam (*Tran Vui*);
Singapore (*Yanping Fang & Christine Kim Eng Lee*);
Philippines (*Soledad A Ulep*);
Japan (*Takeshi Miyakawa*);
USA (*Patsy Wang-Iverson & Marian Palumbo*)

Readership: Mathematics educators of teacher education colleges, mathematics teachers, prospective teachers (elementary and secondary school) and undergraduate students in mathematics.

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