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EDUCATION

Doctor of Philosophy, Science Education, Kasetsart University, Thailand, 2006

Bachelor of Science, Biology, Kasetsart University, Thailand, 1997

Teacher Certificate, Professional in Science Teaching, Kasetsart University, Thailand, 1998

ACADEMIC/ TEACHING EXPERIENCE

School Teacher, Phibun Prachasan School, Bangkok, Thailand, *November 2000 – May 2008*

- Biology
- Chemistry
- Basic Science
- Science Process Skills and Science Projects

School Teacher, Chaleumprakiet Somdejprasrinakaran Samutsakorn School, Samutsakorn, Thailand, *August 1999 – October 2000*

- Biology
- Basic Science
- Mathematics

Research Assistant, Kasetsart University, Faculty of Science, Bangkok, Thailand, *April 1999 – July 1999*

RESEARCH EXPERIENCE/ FELLOWSHIPS

Teaching Research Fellowship, Thailand, *2001 – 2005*

Social Constructivist Teaching and Learning Genetics for Disadvantaged High School Students in Welfare Schools.

Microbiology Research, Huaykakeng National Park, *1996 – 1997*

- Categorization of *Acetobacter* sp.
- Study the plasmid DNA of *Acetobacter pasturianus* after preserved them with a variety of preservation

SPECIAL TRAINING

Science Education Program, Centre for Science and Technology Education Research (CSTER), the University of Waikato, New Zealand, *June 2003-June 2004*

Science Teacher Trainee, Horwang School, Bangkok, Thailand, *1998*

Salmonella sp. and Shigella sp. Identifying, *April 1997*

WHO National Salmonella and Shigella Centre at Ministry of Health

ACADEMIC HONORS / AWARDS AND FUNDS

Supported Grant for International Conference Presentation from Faculty of Graduate Studies, Mahidol University, 2010

Young Researcher Grant from Thailand Research Fund and Commission of Higher Education, Thailand, 2009 – 2011

Research Grant from Mahidol University, 2009 - 2011

Research Grant from National Research Council of Thailand, 2009 - 2010

Supported Grant for International Conference Presentation from Mahidol University, 2008
The Institute for the Promotion of Teaching Science and Technology Scholarship, Kasetsart University, *2001 – 2005*

The Institute for the Promotion of Teaching Science and Technology Scholarship, Kasetsart University, *1996 – 1998*

SEMINAR PRESENTATIONS

“Development of a Social Constructivist Teaching and Learning Module on DNA for Thai High School Students” in 23rd Biennial Conference of the Asian Association for Biology Education, National Institute of Education, Nanyang Technological University (NTU), Singapore, *October 2010*

“Welfare School Administrators’ and Junior High School Science Teachers’ Opinions on Needs of Teacher Development” in Young Researchers meet Senior Research Scholar Conference, Petchburi, Thailand, *October 2010*

“Science and Technology Education for Disadvantaged Students in Thailand”, International in Science Education Conference 2009, Singapore, *November 2009*

“A Case Study on Teaching and Learning DNA”, Asia-Pacific Educational Research Association International Conference, Singapore, *November 2008*

“The Effects of ‘Chemical Components of DNA’ Unit on Disadvantaged Thai High School Students”, the International Conference on Science and Mathematics Education, Quezon City, the Philippines, *October 2008*

“A Case Study of Social Constructivist Teaching and Learning Genetics for Disadvantaged High School Students in a Welfare School in Thailand”, ICASE Asian Symposium 2007, Pattaya, Thailand, *November 2007*

“Social Constructivist Teaching and Learning of Genetics for Disadvantaged Students in Welfare Schools of Thailand”, Asia-Pacific Educational Research Association International Conference, Hong Kong, *November 2006*

“A Case Study of Conceptual Development in Genetics of Disadvantaged Thai High School Students”, International in Science Education Conference 2006, Singapore, *November 2006*

“The Genetic Concepts of Disadvantaged Thai High School Students”, NSTA/ICASE International Conference in NSTA 54th National Conference on Science Education, Anaheim, California, U.S.A., *April 2006*

“Teachers’ and Students’ Perception about Genetics Teaching and Learning in Disadvantaged Thai High Schools”, 44th Kasetsart University Annual Conference, Bangkok, Thailand, *February 2006*
“Teachers’ and Students’ Perception about Genetics Teaching and Learning in Thai Welfare Schools”, 5th National Symposium on Graduate Research, Bangkok, Thailand, *October 2005*

PUBLICATIONS

Book

Ratanaroutai, T. (2010). Education for Disadvantaged Students in Thailand. In L. Yew-Jin (Ed.), *The World of Science Education: Handbook of Research in Science Education Research in Asia* (pp. 357-370). The Netherlands: Sense Publishers B.V.

Journals

Ratanaroutai, T.* & Pathom-aree, W. (2010). A case study on teaching and learning DNA. *US-China Education Review*, 7 (8), 37-42, 27.

Artdej, R., **Ratanaroutai, T.***, Coll, R.K. & Thongpanchang, T. (2010). Thai Grade 11 students’ alternative conceptions for acid-base chemistry. *Research in Science and Technological Education*, 28 (2), 167-183.

Ratanaroutai, T.* & Yutakom, N. (2006). Teachers’ and Students’ Perception about Genetics Teaching and Learning in Disadvantaged Thai High Schools. *Songklanakarin Journal of Social Sciences and Humanities*, 12(3), 313-327.

Ratanaroutai, T.*, Theeragool, G. & Yutakom, N. (2006). Genetic Concepts of Disadvantaged High School Students in Thailand. *The Kasetsart Journal (Social Sciences)*, 27(2), 234-245.

Proceedings

Ratanaroutai, T. & P.-a., W. (2008b, 27-29 October). *The Effects of “Chemical Components of DNA” Unit on Disadvantaged Thai High School Students*. Paper presented at the International Conference on Science and Mathematics Education 2008, Quezon City, the Philippines.

Ratanaroutai, T. & P.-a., W. (2008a, 26-28 November). *A Case study on teaching and learning DNA*. Paper presented at the Asia-Pacific Educational Research Association (APERA), Singapore.

Ratanaroutai, T. (2007, 6-9 November). *A Case Study of Social Constructivist Teaching and Learning Genetics for Disadvantaged High School Students in a Welfare School in Thailand*. Paper presented at the ICASE Asian Symposium 2007 "Science Education for All: Towards Sustainable Development Regardless of Resource", Pattaya, Thailand.

Ratanaroutai, T. & Yutakom, N. (2006, 26-28 November). *Social Constructivist Teaching and Learning of Genetics for Disadvantaged Students in Welfare Schools of Thailand*. Paper presented at the Asia-Pacific Educational Research Association International Conference, Hong Kong.

Ratanaroutai, T., Yutakom, N., & Theeragool, G. (2006, 22-24 November). *A Case Study of Conceptual Development in Genetics of Disadvantaged Thai High School Students*. Paper presented at the International in Science Education Conference, Singapore.

SERVICE -- PROFESSIONAL

Classroom Action Research, 2007 - Present
The Teachers’ Council of Thailand

SERVICE -- UNIVERSITY

Guest Lecturer, Institute for Innovation and Development of Learning Process, Mahidol University, *July 2006 – May2008*

AREA OF EXPERTISE

Teaching and Learning Genetics and Biology for Disadvantaged Students

Science Teacher Professional Development

Development of Teaching and Learning Activities, Instructional Materials, and Assessment in Biology

DOWNLOADABLE INSTRUMENTS

[Acid-Base Diagnostic Test \(ABDT\) in English version](#)

[Acid-Base Diagnostic Test \(ABDT\) in Thai version](#)

REFERENCES

Available upon request.