Designing Technological Pedagogical Content Knowledge (TPACK)



The Technological Pedagogical Content Knowledge (TPACK) has emerged as a major framework to unpack teachers' ICT integration practices in the past decade. Building on the Pedagogical Content Knowledge (Shulman, 1986), the TPACK model is likely to be a powerful framework for future research and development of teacher's knowledge in the increasingly technology-pervasive world. This sharing review the research conducted to date and emerging models of TPACK. This is followed by the sharing of research on fostering Singaporean teachers' growth of TPACK. Based on the work in Singapore and elsewhere, four design principles that may bring TPACK research further are consolidated.

Dr. Chai Ching Sing is an Associate Professor at the Learning Sciences and Technologies Academic Group of the National Institute of Education in Singapore. He served as a school teacher and head of department after he completed his overseas study in Taiwan with scholarship from the Ministry of Education. He joined the National Institute of Education after completing his Master degree in Nanyang Technological University 2001, and subsequently finished his Ed. D with the University of Leicester in 2006. His research interests are in the areas of Technological Pedagogical Content Knowledge (TPACK), teachers' beliefs, design thinking and students' learning with ICT. He has published more than 100 journal articles, with around 70 articles in journals listed in the Social Science Citation Index. He has also co-authored several monographs including the recently published "Design Thinking for Education: Conceptions and Applications in Teaching and Learning", a Springer-published book. In the past few years, he has been actively involved in a Future School project funded by the National Research Foundation and the evaluation of ICT Masterplan 3 commissioned by the Ministry of Education. Currently, he works with schools in designing ICT integrated lessons for various subjects including Chinese language, primary science and social studies. He is currently one of the associate editors for Computers and Education.

