In this issue, we feature the first in a series of teaching and learning projects spearheaded by some of our Teaching Enhancement Grant (TEG) recipients for 2013 and 2014. While the projects vary in their approach and implementation, our authors have been unstinting in their efforts to enhance not just their students’ knowledge and understanding of the subject matter, but also in nurturing skills that will make them motivated and effective learners.

For instance, Dr Walter Patrick Wade (Centre for English Language Communication) discusses the benefits of adopting an integrated approach to developing students’ critical thinking (CT) skills, where acquiring such skills is as integral to achieving the module’s learning outcomes as attaining discipline-specific knowledge. He also examines how an integrated approach facilitates student development of literacies in modern communication environments (p. 2). In his paper, Dr Charles Gullo (Duke-NUS Graduate Medical School) examines the effectiveness of using concept-driven sorting tasks to test whether deep learning had occurred among medical students who have completed their immunology course. He discusses the results and some of the challenges encountered (p. 6). Meanwhile, to help physics majors overcome the difficulty of “visualising the picture behind the mathematics” (p. 11) and gain a better understanding of core concepts in their quantum mechanics course, Mr Andreas Dewanto, Dr Yeo Ye and Mr Kenneth Hong (Dept of Physics) incorporated a visualisation tool called Mathematica into the syllabus. They discuss whether integrating Mathematica into their course was beneficial to their students’ learning and its effectiveness in helping them achieve the module’s learning outcomes for subsequent cohorts. In Dr Mrinal Musib’s (Dept of Biomedical Engineering) case, he wanted to find out whether incorporating the flipped classroom approach in his module “Introduction to Biomedical Engineering” would culminate in active and deeper learning for his students. He reflects on some key lessons learnt from its implementation and offers suggestions on how it can be refined for future cycles of the module (p. 18).

We are also pleased to have Mr Chang Sheh Lit and Dr Nidhi Sharma (Dept of Physics) share their experiences in using strategies from Physics Education Research (PER), namely peer instruction and problem solving through cooperative grouping, in three of their tutorial groups. They tested the effectiveness of these strategies against tutorial groups that were conducted using conventional tutorial instruction. In their paper, they discuss the benefits and limits of their study as well as improvements that can be made to this alternative form of tutorial instruction (p. 27).