Workbook strategy in engineering education

Yaşar Demirel

Virginia Polytechnic Institute and State University
Blacksburg, United States of America

ABSTRACT: Mismatches between the learning and teaching styles are common because the majority of students are visual and sensing learners, yet most instructors are intuitive and reflective learners. Beside that, textbooks also have their own styles, and their contents, depth of coverage of materials and organisation may affect the teaching and learning. In order to reduce mismatches and achieve effective teaching and active learning, a workbook strategy is presented here, which integrates the following four elements: classroom analysis; the use of a workbook beside the textbook; group work; and the use of blackboard information technology. The workbook strategy provides all the essential verbal and visual learning elements of the course material in an organised manner, and relates the fundamentals to applications. Therefore, it makes the content of a textbook more extractable and visible, and leads to deeper understanding and problem-based learning. Most students who are exposed to the workbook strategy have found it to be very effective in their learning.