The objective of this study is to construct and evaluate a Computer Assisted Instruction (CAI) programme for waste water and BOD analysis. The computer programme uses multimedia presentation in order to attract uses' attention and increase instruction efficiency.

The programme was developed to easily interact with users by combining various media and data of multimedia including pictures, sound and animation. An authoring software programme was utilized to construct this CAI programme. An evaluation of this constructed CAI programme was then undertaken by pre-post test. An operations sample was taken from 25 students in the Faculty of Science and Technology of Thammasart University. The efficiency of programme utilization was evaluated using questionnaires completed by the sample students. In addition the CAI programme was also evaluated by waste water and computer system experts.

The results of the study indicate that the pre-post test scores of subjects were significantly different at the level of 0.01 (t-test = 9.573). It is also found that for each lesson the pre-post test scores of subjects were also significantly different at the level of 0.01. These findings show that this CAI programme is efficient enough to increase the learning capacity of students and thus is suitable for application.