Sharing of Good Teaching and Learning Practices -

A Collection of Departmental Learning and Teaching Committee Newsletters
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Through previous issues of newsletter, the Departmental Learning and Teaching Committee (DLTC) has shared cases of good teaching and learning practices and it seems to be a good time to refresh our colleagues’ memories with a “collection” in case they have missed some of them or they would like to have a review. We would also like to take this opportunity to share this collection with our students, for students’ feedback is key to enhancement in learning and teaching.

The DLTC will continue to identify good learning and teaching practices for sharing. If you have any comments on teaching and learning practices and experience, you are welcome to send us your views anytime.

Dr Daniel Lun
Chairman
Departmental Learning and Teaching Committee (DLTC)

Bonnie shared her experience when teaching “EIE432 Web Systems and Technologies” in 2010/11 Semester 1.

Bonnie mentioned that the class size of EIE432 was small with around 30 students registered for the class. She had taught these students since their first year at the University and had become familiar with most of the students. A new component, project, was added to the subject while the laboratory experiments/practical works were simplified so that they became easier to be handled by the students. Students worked in pairs on the project and they were given the requirements of the project in week 1 such that they had sufficient time to complete the project which was due the last week of the semester.
With the support from the subject lecturer, a tutor and a postdoctoral fellow at laboratory sessions, the setting of dead-lines to check the progress of the projects as well as the provision of timely guidance, students were able to finish the laboratory experiments and projects without much problem.

Overall, the students found the laboratory experiments useful and felt a sense of achievement for being able to complete the laboratory experiments and projects. Moreover, different levels of difficulty were set for the practical works. Those students who aim higher and want to learn more could attempt the more difficult part which was not required for all students, while the other students could choose to do only the mandatory part for the fulfilment of the basic requirement. In this way, students could make a choice on the level of coursework in accordance with their abilities and expectation.
From Bonnie’s experience, we found that the following might be conducive to students’ learning:

(i) coursework of the subject was designed in a way which instilled in the students a sense of achievement and avoided creating frustration to students;

(ii) students were given a choice on the level of assignment they would like to achieve in accordance with their abilities and expectation;

(iii) sufficient tutor support was in place for tutorial and laboratory sessions; and

(iv) students had the chance to realize the usefulness of the things they learnt and did in the subject.
subjects taught in 2014/15: eie2261 logic design, eie415 multimedia technology, eie4431 digital video production and broadcasting

y.l. shared his experience when teaching “eie431 digital video production and broadcasting” in 2010/11 semester 2.

the class size of eie431 was small with around 20 students registered for the class. 3 laboratory sessions were arranged for the students to provide them guidance for completing a movie project which required the students to make a dvd containing a video programme produced by the students. the students found the laboratory sessions useful and felt a sense of achievement for being able to complete the movie project. also, daily examples of video production and broadcasting system were used in the teaching materials to explain basic concepts to students which the students found easier to understand.
From Y.L.’s experience, we found that the following might be conducive to students’ learning:

(i) coursework of the subject was designed in a way which instilled in the students a sense of achievement and avoided creating frustration to students;
(ii) students had the chance to realize the usefulness of the things they learnt and did in the subject; and
(iii) daily examples were used to explain basic concepts which the students found easier to understand.
Dr Bruce Sham


Bruce shared his experience when teaching “EIE344 Fundamentals of Embedded Systems” in 2010/11 Semester 2 with us.

The class size of EIE344 was small with around 15 BSc in IMT students registered for the class. Students were given timely feedback to their coursework on WebCT, usually within one week after their handing in of the assignments. This arrangement enabled the students to know their progress of studies and directions for improving their areas of weaknesses.

Moreover, a simulation tool was provided for the BSc in IMT students so that they could learn the subject matter without the need to handle hardware.
From Bruce’s experience, we found that the following might be conducive to students’ learning:

(i) students were given timely feedback on the work they had done and so they knew their progress of studies and the directions for improvement; and

(ii) a simulation tool was provided for students so that they could learn the subject matter without the need to handle hardware.
Subject Taught in 2014/15: EIE3105 Integrated Project, ENG2002 Computer Programming

Frank shared his experience when teaching “ENG236 Computer Programming” in 2011/12 Semester 1.

The subject was practical in nature and it required students to spend time on learning the programming skills. Software was provided to students such that they could practise both at laboratory and at home. He had 3 tutors and 2 research students assisting him in the laboratory sessions and they were able to give guidance to students on their practical work.
Frank thought that it was important to keep the students, especially those non-EIE/IMT students, motivated since these students might not find the subject directly related to their own disciplines.

In order to do so, he explained to these students the practical use of the subject matter in their professional areas, and trimmed the syllabus and the number of assessments to make the subject more manageable by all the students. Before quizzes/tests, he would provide the past papers and solutions to help students do revision. The quizzes/tests, especially the first one, were also designed to be not too difficult to avoid creating frustration to students. In addition, Frank believed that it was crucial for a subject lecturer to have close interaction with students. He did so by setting up his own online discussion forum and promptly responding to students’ questions raised at the forum. He also thought that teachers should have high “EQ” so he stayed calm and remained positive when being confronted by students.
What we learn...

…it was important to keep the students motivated...

From Frank’s experience, we found that the following might be conducive to students’ learning:

(i) quizzes/tests, especially the first one, should not be too difficult to avoid creating frustration to students;
(ii) keep the students motivated by letting them realize the usefulness of the things they learnt and did in the subject;
(iii) have close interaction with students and stay connected with students by various means such as discussion forum; and
(iv) stay calm and remain positive when being challenged by students.
Dr Chris Chan


Chris shared his experience when teaching “EIE261 Logic Design” and “EIE311 Computer System Fundamentals” in 2011/12 Semester 1.

He told us that before quizzes/tests, he would provide students with past papers and solutions to help them do revision. He was also patient when answering students’ questions. Apart from delivering the lectures, he would also run the tutorials himself, leaving only those tutorials which covered relatively easier topics to the tutors/research students. If necessary, he would arrange additional tutorial sessions to provide extra help for weaker students. Moreover, since he had been teaching the two subjects consecutively for a few years, he became familiar with how the classes should be conducted and therefore the classes had been run smoothly.
What we learn...

...be familiar with the subject matter and the way the classes should be run...

From Chris’ experience, we found that the following might be conducive to students’ learning:

(i) be patient when answering students’ questions;
(ii) arrange additional tutorial sessions to provide extra help for weaker students; and
(iii) be familiar with the subject matter and the way the classes should be run.
Subjects Taught in 2014/15: EIE528 Digital Data Transmission, ENG3004/ENG307 Society and the Engineer

Simon shared his experience when teaching “ENG307 Society and the Engineer” in 2011/12 Semester 2 and “EIE528 Digital Data Transmission” in 2011/12 Semester 1.

ENG307 is a non-conventional engineering subject which requires students to form groups of 4-5 people and study cases from the perspectives of eight dimensions in engineering setting throughout the course. Each group will take turn to present an engineering case from a selected perspective while other students have to attentively listen to the group’s presentation in order to submit a weekly report which comments on the reasoning and arguments put forward by the presentation group. Most students found such coursework requirements challenging but at the same time instructive. They were able to learn from each other.
At the end of the course, Simon received a letter of gratitude from a student who had attended his class of ENG307 thanking him for being meticulous and instructive in teaching which helped built up a bridge between engineers and the society within the students’ hearts. The student mentioned that “we pay attention, for the first time, to the others’ critical but too often neglected aspects of an engineer”, “got new insights every time I listened to the presentation performed by our peers in each lesson”, and “feel my growth and please accept my sincere gratitude for your inspiring teaching”.

For EIE528, Simon handed out lecture notes to students at the beginning of the classes. During lessons, he did not dwell on the details of the notes, such as the equations of the subject matter. Instead, he picked out some essential concepts and theories and explained them to the students by citing real-life examples and applications. He also asked students to answer questions during each lesson to make sure that they really understood the concepts and theories.
From Simon’s experience, we found that the following might be conducive to students’ learning:

(i) learning and teaching approaches as well as methods of assessments should be carefully designed when teaching non-conventional engineering subject;
(ii) hand out lecture notes to students at the beginning of the classes and only explain some essential concepts and theories by citing real-life examples and applications during classes; and
(iii) ask students to answer questions during each lesson to make sure that they really understand the concepts and theories.
Prof. Kenneth Lam

Subject Taught in 2014/15: EIE565 Advanced Multimedia Technology

Kenneth shared his experience when teaching “EIE312 Linear Systems” in 2011/12 Semester 2.

He had been teaching this subject for many years and so he had been acquainted with the kind of questions which most students would encounter in the course and was able to adjust his teaching methodologies based on this experience. Despite his familiarity with the problems that most students would come across in the course, he was still amazed and inspired by the new issues raised by some students each year when he taught the course.
Recognizing that learning the concepts, theories and equations of the subject could be boring to students, Kenneth gave examples of real-life applications to facilitate students’ understanding of the meaning behind the theories and equations. He would also produce flash animations to aid students grasp the abstract concepts. Matlab was used during the lab sessions to demonstrate results and verify if ideas worked. Although EIE312 can be a difficult subject which required students to spend more time and effort on understanding the concepts and theories, students usually felt a sense of achievement when they could get hold of the subject matters at the end of the course.
What we learn...

...explain concepts, theories and equations with real-life applications...

From Kenneth’s experience, we found that the following might be conducive to students’ learning:

(i) explain concepts, theories and equations with real-life applications to facilitate students’ understanding of the meaning behind the theories and equations; and
(ii) produce flash animations to aid students grasp the abstract concepts.
Dr K. H. Loo

Subjects Taught in 2014/15: EIE402 Power Electronics, ENG2003 Information Technology

K.H. shared his experience when teaching “EIE402 Power Electronics” and “ENG2003 Information Technology” in 2013/14 Semester 1.

The former subject has received many positive comments from students. This was the second time K.H. taught EIE402. He had gained experience from his first time delivering the subject and streamlined the number of topics covered this time. By doing so, he was able to teach more in-depth on the knowledge which he thought was critical and students should know well about.
K.H. recalled that the class size of EIE402 in 2013/14 Semester 1 was small, around 30 students in total. Because of the small class size, he could recognize each student and interact with them more closely. Students were also willing to ask questions.

He mentioned that he would spend a substantial amount of time before each lesson to do the preparation work, especially he would try to think from the students’ perspective and prepare for their possible questions.

During lectures, he would use self-designed simulation to demonstrate abstract concepts, and teach students skills which were necessary for carrying out the assigned project.

During laboratory sessions, he would be present at the laboratory the whole time to monitor students’ work and answer students’ enquiries even though the Tutor and research students were there to assist the students. He would use the laboratory hours as the opportunity to interact more closely with the students, in particular to show them the connection between theories taught in classroom and how to apply them in circuit designs.
From K.H.’s experience, we found that the following might be conducive to students’ learning:

(i) concentrate on topics which are critical and students should know well about, instead of covering a lot of topics superficially;
(ii) subject lecturer can have a closer interaction with students;
(iii) prepare well for each lesson and for questions from students; and
(iv) be present at the laboratory the whole time during laboratory sessions to keep check of students’ progress and answer students’ enquiries.
Dr Benjamin Carrion Schafer


Benjamin shared his experience when teaching “EIE3361 Computer System Fundamentals” and “EIE4110 Introduction to VLSI and Computer-Aided Circuit Design” in 2013/14 Semester 2 (and in 2014/15 Semester 2 as well) and the latter subject received many positive comments from students.

EIE4110 is an elective subject. Benjamin felt that students taking the subject were really interested in the subject matter. A majority of the students were particularly hard-working and motivated because they thought they could learn something tangible out of this subject.
In EIE4110, students were required to form groups of 3 to complete a group project. The project was designed to be challenging, and yet it was still manageable for the students. Benjamin gave adequate instructions about how to create a game with specific features. It turned out that students welcomed the design of this group project.

Benjamin mentioned that he would explain the expectations of the laboratory work in the lectures. When students did the practical work at laboratory, they were given lab sheets and were asked to fill in some information which helped them follow the procedures. After completing the practical work, Benjamin would give a de-briefing on the lab work done and provide feedback to students so that they could know how well they had performed and see the link between lectures and practical work.

Benjamin would also hand out articles and show students videos which introduced them to the latest technology in the field. Students appreciated the real-life examples reflected in these articles and videos.
From Benjamin’s experience, we found that the following might be conducive to students’ learning:

(i) designing a project/assignment which is practical, challenging and yet manageable by students so that they can have a sense of success and achievement;

(ii) explaining the expectations of the laboratory work in the lectures, providing guidelines for laboratory work, giving a de-briefing on the lab work done and providing feedback to students so that they are sufficiently prepared, know their performance and see the link between lectures and practical work; and

(iii) showing videos or articles to students which enthuses them with the latest advanced technology in the field and real-life examples.