Four interactive micro-modules were developed by the Department of Geography and Resource Management for students' understanding and self-learning about the basic concepts of remote sensing. The four modules explains the basic concept and process of remote sensing and covers topics including an overview of the process of remote sensing; understanding the electromagnetic radiation; energy interaction with atmosphere; energy interaction with earth features. Each module lasts for about 20 minutes. The designed modules provide animated learning materials supplemented with narration. Lots of visual elements such animated graphics, figures and video extracts were used to enhance the learning experiences of students. Students can access the materials online using desktop computer or mobile devices and can go through all the materials step by step.

There are two major characteristics of the micro-modules. First, other than watching the materials passively, interactive activities are designed to involve students to learn actively. After explaining a theory or a concept in the modules, students are required to explore through these activities and to gain a deeper understanding. The short quiz in form of multiple choice questions in the end of each module also allows students to check with their understanding. Second, some real life examples were incorporated in the learning materials to emphasize the prevalence of the technology. Through these examples, students can visualize the abstracts from their daily life. This can raise their interests in remote sensing and they are willing to explore more.

The modules were distributed the students in two courses with 80 students in total. One is a university general education course while another one is in the master taught program. A simple questionnaire survey was conducted to ask for their experiences and satisfaction after using the micro-modules. The first part of the questionnaire is about students' learning experiences on the contents and the interactive activities about the modules. The survey tries to understand a range of learning objectives from the basic role of micro-modules as supplementary course materials to enhancing students' interests or even motivate them to learn more. 21 students sent back their comments and feedbacks. The ratio between undergraduate and postgraduate is around 7 to 3. All of them found the contents are easy to understand and more than 80% found the materials are interesting and the level of difficulty is appropriate. And 76% would like to use the micro-modules in their future learning. The second part is about students' satisfaction in different aspects of the modules. Among all aspects, students are mostly satisfied with interactive activities, quiz questions and graphics and animation. Improvements should be made on aspects including length, speed and narration in the future making of micro-modules. Overall, over 95% would recommend the modules to others.

The micro-modules act as teaching tools to facilitate the e-learning initiatives. The next step is to formulate a comprehensive teaching strategy or plan to effectively deploy the modules in teaching.