Research

Ts. Dr. Norazaliza develops more interesting, flexible, interactive and stress-free learning project

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GAMBANG, 26 March 2021 - A lecturer at the Centre for Mathematical Sciences (PSM), Universiti Malaysia Pahang (UMP), Ts. Dr. Norazaliza Mohd Jamil, 37 and her teammates conducted a study entitled Interactive Cake-like MOOC Calculus to make the learning of Calculus more flexible.

According to this Johor native, calculus is one of the branches of mathematics with many real-life applications.

“Calculus is popular among university students, especially those who continue their studies in engineering, technology and science.

“Some students feel that Calculus is a difficult subject so that some suffer from mathematical anxiety due to failing to master the two main skills, namely differentiation and integration.

“Based on this situation, Calculus learning has been blended in the form of Massive Open Online Course or MOOC for short.

“This project reinvigorates the Calculus learning method which is conducted online, open without limiting the number of students, and the learning and assessment activities are combined in one web known as Tagyard.

“This project is in line with current technological advances, namely the world of digital education, and online learning is very much needed, especially in the global pandemic situation of COVID-19.

“This project started with the compilation of teaching materials in 2017. The challenge that I felt was in the next process involving the recording of teaching videos and animation because it took quite a long time to complete,” she said.

She said, later, quiz questions, activities and tests were developed.

“All materials were uploaded in the Tagyard platform and successfully passed the evaluation process at the faculty and UMP levels.

“Finally, this project was successfully completed in 2019.

“This project may not be completed successfully without the help and cooperation of the PSM team members who worked hard to brainstorm, Dr. Muhammad Azrin Ahmad, Associate Professor Dr. Abdul Rahman Mohd Kasim, Dr. Norhafizah Md Sarif, and Puan Hajah Siti Fatimah Haji Ahmad Zabidi.

“The gratitude is also extended to the Centre of Instructional Resources & e-Learning (CIReL), UMP.

Interactive Cake-like MOOC Calculus is an online course that can be accessed through the Tagyard website.

“There are instructional videos, animated videos, activities, and quizzes displayed interactively in the platform,” she said, who has expertise in modelling and simulation.

She added that all materials are arranged systematically according to the order of topics in the subject of Calculus, namely Limit and Continuity, Differentiation, Application of Differentiation, Integration and Application of Integration.

“As every student has different abilities, this platform allows students to learn Calculus in a self-paced manner where the teaching video can be watched repeatedly until the students really understand.

“Students do not need to attend lectures or classes physically because learning can happen anywhere and at any time as long as they have an internet connection.

“Interestingly, students will have a flexible study time and they can complete the course in a few weeks,” she said.

At the end of the course, students will receive a Certificate of Completion and be eligible for credit transfer, especially to UMP students.

This course is the first course at UMP to offer Credit Transfer MOOC (CTM).

She said this project’s ultimate goal is to help students learn Calculus in a more interesting, flexible, interactive and stress-free way.

“This technological approach in learning can eliminate students’ fear towards Mathematics,” she added.

For those interested to enrol on this course, the registration fee is divided into several categories.

The registration fee of RM180 is specifically for UMP students, RM300 for non-UMP students, and RM750 is charged for international students.

The fee to sit for the qualifying test is RM150 for all categories.

The project also won a gold medal in CITREX 2020 organised by UMP, a gold medal at The 31st International Invention, Innovation & Technology Exhibition (ITEX 20), and copyright from the Intellectual Property Corporation of Malaysia on 4 November 2020.

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