General

ChM. Dr Wan Norfazilah develops LabQuest, innovative board game to enhance students' understanding of ISO standards

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GAMBANG, 20 June 2025 – A group of researchers from Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA), led by a Senior Lecturer from the Faculty of Industrial Sciences and Technology (FSTI), ChM. Dr Wan Norfazilah Wan Ismail, has successfully developed LabQuest, an innovative board game that adapts the principles of ISO 9001:2015 and ISO/IEC 17025:2017 standards in the form of a real laboratory management simulation.

The research was assisted by several FSTI lecturers, Dr Shariza Jamek and Dr Siti Umairah Mokhtar, as well as a language teacher from the Centre for Modern Languages (PBM), Mohd Shafeirul Zaman Abd Majid.

According to ChM. Dr Wan Norfazilah, the research began in December 2023 and was completed in August 2024.

"Students are given the opportunity to manage a lab sector, recruit personnel, provide training, purchase equipment, and perform calibration through an interactive simulation.

"Each game session offers a deeper understanding of the standard requirements that must be complied with and encourages active and enjoyable learning.

"The basic mechanism of LabQuest is similar to that of the Saidina or Monopoly board games, but the ultimate goal is entirely different as players are declared winners based on compliance with ISO 9001:2015 and ISO/IEC 17025:2017 standards," she explained.

She added that, for example, once a player owns a sector, they are allowed to recruit personnel and purchase tools.

"Without space and personnel, the equipment cannot function and operate properly.

"The original idea for developing LabQuest came about after observing that students struggled to understand and apply quality management knowledge based on ISO 9001:2015 and ISO/IEC 17025:2017 standards.

"In 2023, using a Teaching and Learning Grant awarded by the Centre for Innovation and Academic Competitiveness, UMPSA, our team successfully developed LabQuest and used it as one of the interactive activities in class," she explained.

According to ChM. Dr Wan Norfazilah further, as students gained the ability to understand standard requirements through the LabQuest board game, she and her colleagues succeeded in obtaining the Lab2Market Commercialisation Grant from UMPSA for market validation and the viability of

marketing the LabQuest board game beyond UMPSA, including to educational institutions and training centres offering courses related to management.

“This new version of LabQuest will also be expanded to cover more contexts beyond laboratories.

“In line with current technological developments, LabQuest will be developed in the form of a digital game to leverage current technology and expand user access.

“With an estimated price of RM200.00 per unit, this product is expected to have a significant impact on educational institutions and training centres related to quality management,” she said.

In addition to LabQuest, she has developed other research products such as GetDry, a water-repellent spray for fabric and the books Job Hunting Get Hired Modul Latihan Bebas Vape.

This research has garnered various awards, including the Gold Award and Best Category Award at the Invention, Innovation and Entrepreneurship Idea Exhibition (IIEE) 2024, Kolej Poly-Tech MARA, Kuantan, and the Gold Award and Best Award at The International Learning Innovation Competition (PIP2024), Universiti Utara Malaysia (UUM), Sintok.

Most recently, LabQuest won the Gold Award, FSTI Excellent Innovation Award, and the Grand Staff Premier Commercialisation Award at the 15th Creation, Innovation, Technology and Research Exposition (CITREX) 2025, UMPSA, held on 18 and 19 June 2025 at the Sports Complex Hall, UMPSA Gambang Campus.

With its creative and practical learning approach, LabQuest not only educates students interactively but also has the potential to become a world-class industrial training tool.

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