EmPOWER PROGRAMME

HERIOT WATT UNIVERSITY

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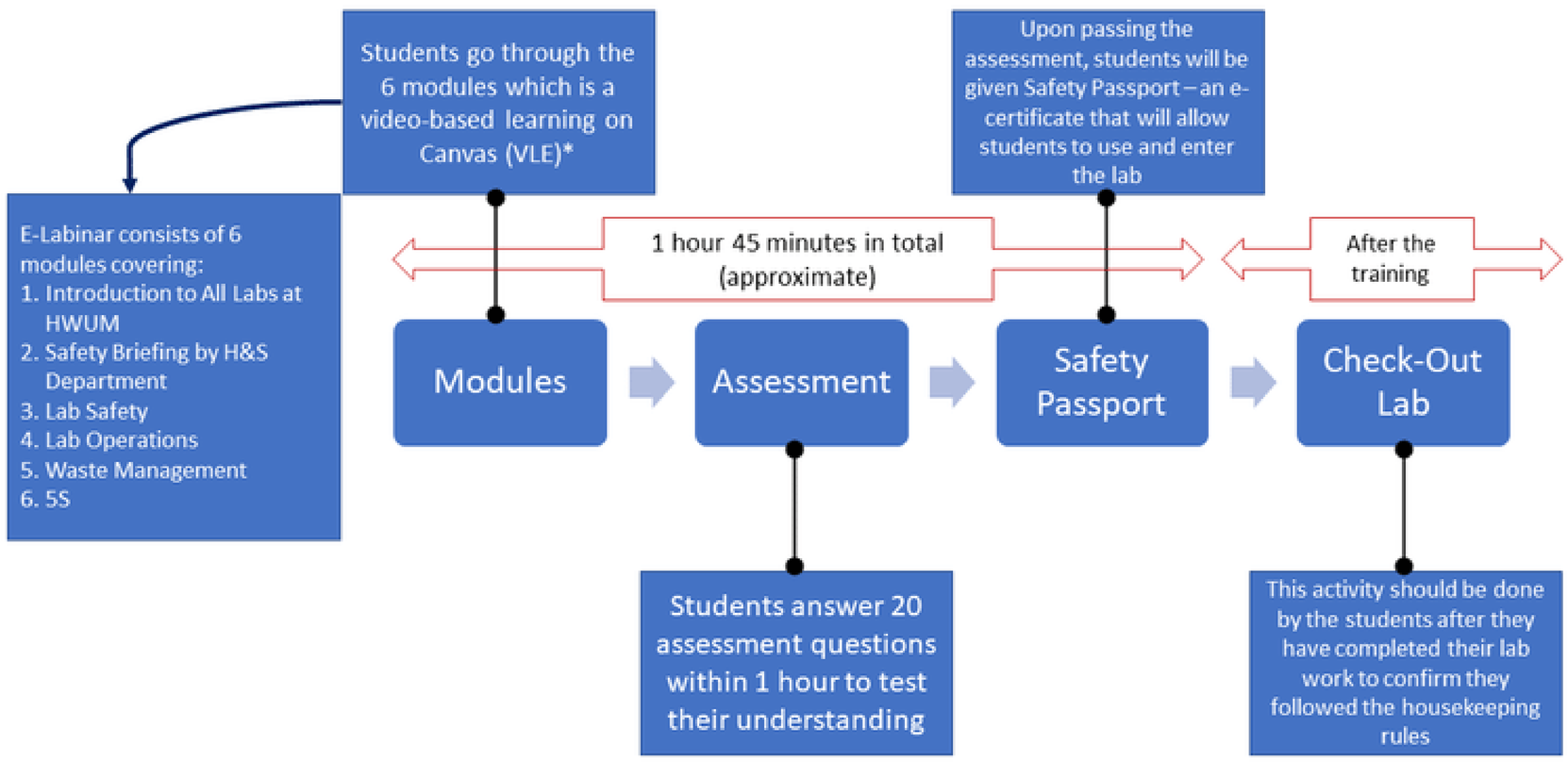
"TECHNOLOGY TO THE RESCUE" REIMAGINING LABORATORY TRAINING IN HERIOT-WATT MALAYSIA THROUGH E-LABINAR.

Project Overview

The delivery of Labinar, which is an instructor-led and on-campus laboratory training module for lab-based engineering courses, in Heriot-Watt University (HWU) Malaysia has been stopped temporarily due to the COVID-19 pandemic and subsequent campus closure. As a result, lab users were not able to equip themselves with the necessary Health & Safety knowledge, lab operations and the like, when lab spaces eventually reopened. The lab team pilots a project that transform Labinar into an online module which utilises the self-directed learning approach and incorporates elements that address the diversity and hybridity of the lab user's interests and identities.The objectives of this project are to (1) Support lab users' learnings with regards to proficiencies in Health & Safety, lab operations and management, as well as competencies to handle lab inventories and equipment, (2) Provide an accessible, flexible, and sustainable platform for lab users from any locations and time zones to access the learnings, (3) Foster engineering professional practice.

Methods



Initial Findings

Net Promoter Score (NPS) calculated for:
overall experience with the module = 60 (promoters)
instructional videos = 40 (promoters)
assessment questions = -20 (detractors)

Feedback addressing:

- **Balance between the audio and background music for some instructional videos**
- **Types of assessment questions**
- **Length of assessment questions**

Recommendations

Inspiring learning and 'Inclusivity' are values that drives the careful design of the E-Labinar's pedagogy. Recognizing the diversity and hybridity of the lab user's interests and identities [1], the E-labinar will be using various learning technologies and gamification strategies in the self-directed learning modules. The literature suggests that gamified learning interventions may increase student engagement and enhance learning [2]. In addition, the E-Labinar will be hosted on HWU's new and modern looking Virtual Learning Environment (Canvas) and utilize assistive tools inside the modules to support the diverse needs of the community undertaking the lab training [3]. Putting students' success and retention at the forefront of E-Labinar's pedagogy, EmPOWER points will be awarded to students for their success in engaging with the training modules.

References

[1] Zhang, D., Zhao, J., Zhou, L., & Numamaker, J. (2004). Can E-Learning Replace Classroom Learning? Communication of the ACM, 47(5), 75-78.
[2] Patrick Buckley and Elaine Doyle, 2016. Gamification and student motivation, Interactive Learning Environments, 24:6, 1162-1175, DOI: 10.1080/10494820.2014.964263
[3] Laurel M. Garrick Duhaney and Devon C. Duhaney, 2000. Assistive Technology: Meeting the Needs of Learners with Disabilities, International Journal of Instructional Media (vol. 27, issue 4).