Developing an online challenge-based learning platform

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This poster provides an overview of the early development of a platform to facilitate online challenge-based learning that has potential for widespread global application. Challenge is a highly scalable platform that can personalise education for a massive global audience. Two challenges delivering learning activities and interactive content with gamified incentives to promote learner engagement have been developed and piloted. The primary concepts underpinning the student learning experience are individual and group-based problem solving, globally relevant challenges, personalisation and gamification of outcomes.

Keywords: challenge-based learning, gamification,

Snapshot of Challenge-based learning

Challenge-based learning facilitates a multi-disciplinary approach to solving real world problems. The key focus of challenge-based learning is that rather than being content driven it takes an inquiry approach to identifying and analyzing a problem, finding and developing a solution and publishing the results (Johnson et al., 2009).

Curtin University's Challenge Platform
Challenge is designed to support:

- self-directed learning,
- self-organizing international teams,
- open-ended problem solving that requires complex thinking
- cross-disciplinary engagement,
- automated documentation and assessment of learning, social network validation processes,
- peer evaluation and feedback,
- expert judging and a variety of levels of recognition and awards.

Challenge enables individuals to build up a private, safe and trusted longitudinal record of digital engagement and to make progress at the individual level while working alone or with others. Individuals can participate numerous times in any number of different challenges and can gain a collection of micro-credentials that stand as evidence of meeting university-level progress and achievement. The platform is designed for delivering learning activities and interactive content with gamified incentives that seek to promote learner engagement. A data collection and analysis capability is being developed to gather data about user actions, behaviors and achievements at a highly granular a ('high resolution') level to enable aggregations at higher levels based on domain models of the expertise being exhibited in the user's actions, performances and products. The platform is not specifically a game, nor a game platform in and of itself, but it uses elements that are game-inspired.

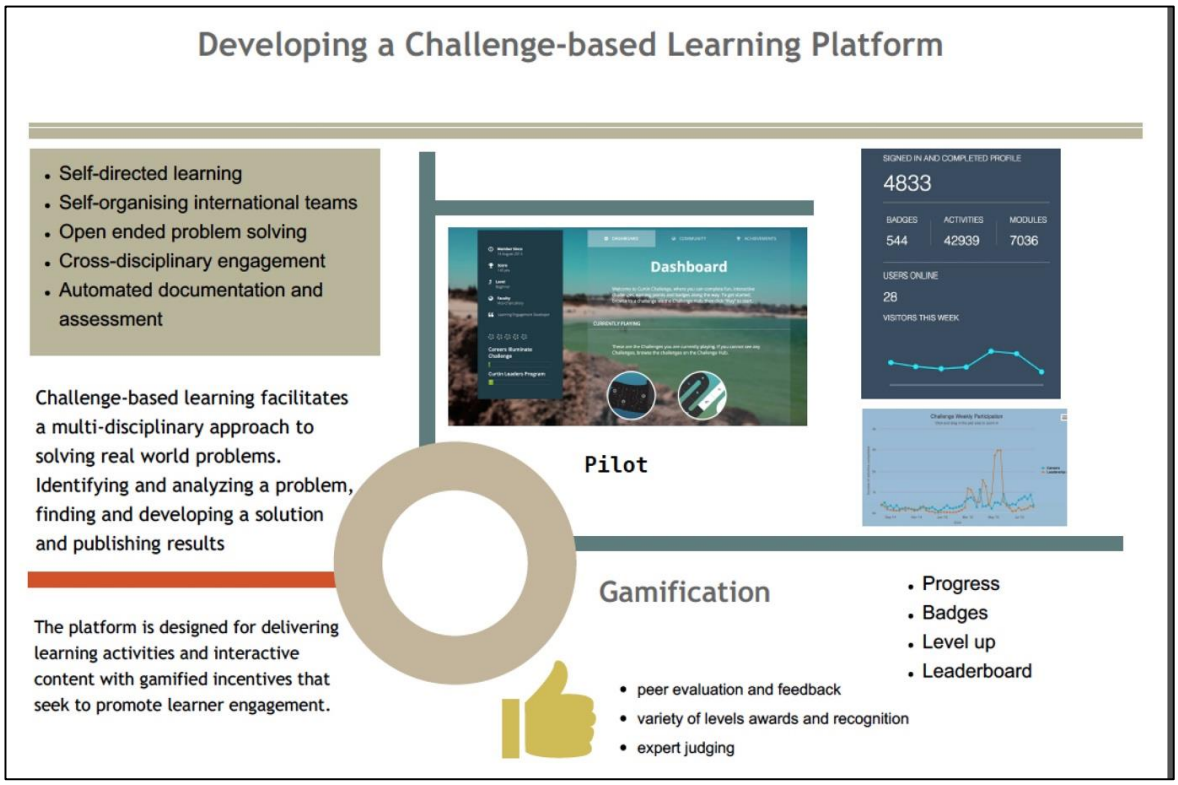
Current Challenges
Two Challenges have been developed and piloted; *Leadership Challenge* and *Careers Illuminate Challenge*. Students participating in a challenge earn points towards badges, are able to level up to become a community mentor and expert, and completion contributes to the Curtin Extra Certificate. A Challenge under development has self-forming teams choosing a real world problem associated with one of the United Nations sustainable development goals, creating a solution and presenting the solution to a panel of experts.

Pilot

In the ten months since the Challenge platform was launched over four and a half thousand students have engaged with one of two Challenges. Over forty two thousand activities have been completed and over five hundred badges have been issued to students. The administration dashboard provides data at a granular level to identify issues with activities and student progress enabling staff respond swiftly in addressing instructional design problems and student engagement.

References

Johnson, Laurence F.; Smith, Rachel S.; Smythe, J. Troy; Varon, Rachel K. (2009). Challenge-Based Learning: An Approach for Our Time. Austin, Texas: The New Media Consortium.



Gibson, D.C., Scott, K., & Irving, L. (2015). Developing an online challenge-based learning platform. In T. Reiners, B.R. von Konsky, D. Gibson, V. Chang, L. Irving, & K. Clarke (Eds.), *Globally connected, digitally enabled*. Proceedings ascilite 2015 in Perth (pp. 629-630).

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