

*Gamifying Informal Learning: A Case Study of Designing Educational Escape Game to Communicate STEM*

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This paper presents a case study at Petrosains in working with the concept of gamification to design an informal learning activity in a form of an escape room at the science centre. This paper has three purposes: (1) It aims to share the documented work carried out by the team at the Centre of Learning and Innovation (CLI), Petrosains who were involved in curating the exhibition at the Petrosains Science Festival 2018. The exhibition is designed with the narrative aim of highlighting the concept of voice-controlled assistant and space science delivered through gamified informal learning to challenge participants using computational thinking; (2) To share the potential values of designing gamified informal learning activity targeting at new audiences (youth and adults); and (3) To discuss how science museums/centres can learn from the participants engaging and learning in a game based environment using the design thinking approach. It concludes with an overview look at the case study and the use of the model for future game based learning development to communicate STEM (science, technology, engineering and mathematics).