Gamification to Promote Challenge-based Learning

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Principal Investigator: Dr. Alvin Chung Man LEUNG

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Abstract:

In this project, we propose to use relevant gamification features that match students' learning goal orientations to motivate them to be more engaged in challenge-based learning (CBL). According to goal orientation theory, students have different learning goals, namely, mastery, performance, and avoidance. They put different effort in learning which subsequently leads to different learning outcomes. Gamification is a way to motivate students to put more effort in activities through game elements. However, different gamification features (e.g., badges, points, leader boards) may have differential effect if they are applied to all students without consideration of their learning goal orientations. To maximize students' learning intention, we propose to use an appropriate mix of gamification features and learning goal orientations. We believe that the appropriate mix can motivate students to be more active in CBL. CBL is a pedagogy that challenges students with real-life problems. Relevant real-life problems may stimulate students' interest to learn more in class and apply what they have learnt in class to resolve the problems. In the process of problem solving, they become more engaged in learning and improve their learning skills over time. CBL is divided into three stages, namely, engage, investigate, and act. Previous research shows that with active involvement in various stages of CBL, students develop better skills in problem solving and deliver more innovative solutions to resolve real-world problems. CBL can enrich existing discovery enriched curriculum (DEC) and train students to be more creative. In this project, we propose to use appropriate gamification features that maximize the outcome of CBL. We plan to implement the project in CB2500 Information Management, which is a core course for all students major in business. Students will be challenged by real problems faced by commercial firms. For example, how to salvage declining customers in shopping malls due to growing popularity of online shopping? Students will apply techniques such as social analytics and business intelligence to analyze the problems and propose information management practices to resolve the problems. We will pair up some outstanding student teams to participate in business case competitions via Innovation Commons of EDGE.