

# Evaluasi dampak gamifikasi pada student active learning melalui learning management system: Studi kasus fakultas ilmu komputer Universitas Indonesia = Evaluation of the impact of gamification on student active learning through the learning management system: A Case Study of the faculty of computer science, University of Indonesia

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## Abstrak

Keadaan dunia saat ini sedang dilanda wabah penyakit Coronavirus Disease (COVID-19). Hal ini mengakibatkan beberapa aktivitas sehari-hari dilakukan dengan jarak jauh, salah satunya aktivitas belajar mengajar. Keberadaan e-learning khususnya Learning Management System (LMS) diharapkan dapat menjadi salah satu solusi kebutuhan pembelajaran jarak jauh. Dengan kurangnya interaksi tatap muka yang disebabkan pandemi ini, Universitas Indonesia mendukung peningkatan penggunaan LMS Student Centered E-Learning Environment Fakultas Ilmu Komputer UI (SCeLE Fasilkom UI), salah satu LMS yang dimiliki oleh UI. Penggunaan LMS dapat menyebabkan kurangnya fokus perhatian pelajar, kemungkinan berkurangnya efisiensi kelas, dan kemungkinan untuk menimbulkan rasa jenuh pada penggunaannya. Salah satu solusi yang dapat digunakan untuk permasalahan ini adalah dengan gamifikasi. Active learning juga perlu ditekankan pada kelas online di LMS dan di penelitian ini dievaluasi melalui fitur forum SCeLE Fasilkom UI. Evaluasi dari dampak gamifikasi yang direpresentasikan oleh elemen game berupa rating/points, badge dan leaderboard terhadap partisipasi mahasiswa dan active learning dalam kelas online pada LMS menggunakan metode Design Based Research dilakukan pada penelitian ini. Sebanyak tiga mata kuliah di Fakultas ilmu komputer UI tergabung dalam penelitian ini. Penelitian ini dilakukan menggunakan metode Design Based Research dan elemen gamifikasi diintegrasikan secara bertahap di tiga kelas tersebut. Setiap fase berdurasi selama dua minggu dan disertai dengan pengisian kuesioner online pada saat dijalankannya fase tersebut. Hasil penelitian ini menemukan bahwa penerapan gamifikasi berpengaruh terhadap active learning. Hal ini didukung dari pengaruh gamifikasi terhadap jumlah reply pada weekly review dan forum discussion yang dapat dilihat dari rerata partisipasi kelas SIP-MTI (67.60%), E-health (79.17%), dan Kombistek (72.15%).

.....The world condition is currently being hit by an outbreak of Coronavirus Disease (COVID-19). This results in several daily activities carried out remotely, one of which is teaching and learning activities. The existence of e-learning, especially the Learning Management System (LMS), is expected to be a solution to distance learning needs. With the lack of face-to-face interaction caused by this pandemic, the University of Indonesia is supporting the increased use of the Student Centered E-Learning Environment LMS UI Faculty of Computer Science (SCeLE Fasilkom UI), one of the LMS owned by UI. The use of an LMS can lead to a lack of focus for students' attention, the possibility of

reduced class efficiency, and the possibility to create a feeling of boredom in its users. One solution that can be used for this problem is gamification. Active learning also needs to be emphasized in online classes at LMS and in this study evaluated through the SCeLE Fasilkom UI forum feature. Evaluation of the impact of gamification represented by game elements in the form of ratings / points, badges, and leaderboard on student participation and active learning in online classes at LMS using the Design Based Research method was carried out in this study. A total of three courses at the Faculty of Computer Science UI are incorporated in this research. This research was conducted using the Design Based Research method and gamification elements were integrated gradually in the three classes. Each phase lasts two weeks and is accompanied by filling out an online questionnaire at the time of the phase. The results of this study found that the application of gamification had an effect on active learning. This is supported by the effect of gamification on the number of replies in weekly reviews and forum discussions which can be seen from the average participation of the SIP-MTI class (67.60%), E-health (79.17%), and Kombistek (72.15%).