

Gamified Learning: a generic concept for knowledge conversation in a playful way

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Abstract

Games fascinate people. If people are observed during a game session, an ongoing motivation is remarkable. Increasing the motivation and inducing a positive behavioral change of people pursuing a goal are becoming more and more important. As a consequence the interest in gamification continues to grow. Gamification is used in various fields like education and business, in order to increase the motivation of people.

Our first gamification concept was developed as part of a master's thesis. The gamified solution was aimed at students of the bachelor's program 'Business Informatics' at the University of Applied Sciences Nuremberg. The theoretical contents of the lecture 'Knowledge Management (KM)' should be presented to the students in a playful way. The aim of the gamification concept was to motivate students to learn a theoretical content. Since, most gamified solutions focused on online examples, a board game was designed for the KM models. The prototype was tested in a technical test and then used in class. The technical test should figure out whether guidelines and rules are clear for the target group. Since there were no comprehension problems or difficulties, we decided to apply the game in the course without changing it. The time slot of 90 minutes consists of game round and evaluation part with a questionnaire. The most important result of the final evaluation was that 21 of 24 students had fun and could be motivated by the board game. As the board game reached its goal and we could collect first positive experiences, we created variations of the board game and tested them with several target groups. We have three different learning contents (variants) of the board game: KM models, Business Process Management (BPM) and IT Management. The board game with KM models could be tested with experts at the International Conference on Knowledge Management (ICKM) in Vienna. The results of the final evaluation at the conference were comparable to the results in the class. All participants (10) had fun playing and were motivated by the board game. The board game with BPM was tested with students of the bachelor's program "Business Informatics" at the Technische Hochschule Ingolstadt in the class 'BPM'. The board game, with the content IT Management could not be evaluated so far.

Despite the significance of gamification there seems to be a gap of a comprehensive analysis of research regarding gamification in the field of BPM. Hence, we followed the gamification approach in this field. At first we redesigned the concept of the BPM course at the Technische Hochschule Ingolstadt. The course was attended by 28 students. Students should develop in teams a game for knowledge conversion of each BPM

lifecycle activity. The final evaluation with 20 students detected, that students were motivated and had fun depending on the concept of the game. Nevertheless 11 students would rather prefer a theoretical knowledge transfer. It was found that gamification should not replace the whole lecture, but rather should be part of it.

Our previous experiences and insights lead to our following research questions, which should be examined in a doctoral thesis:

1. How does gamification affect learners' (learning) motivation in the BPM cycle?
2. How can gamification be used in the activities of the BPM cycle?

To answer these research questions, a gamified solution was developed. Since the aim of motivating learners (students, experts) could be achieved through a board game and the learners liked a board game very much, a board game was developed again. The activities of the BPM cycle were selected as learning content. The gamification solution includes 15 game mechanics. In order to offer flexibility, e.g. in the choice of BPM cycle activities, we designed for each activity separate game boards. The game was built like a rally. By choosing the activities to play, learners can design their own rally track. During the rally, learners will receive information about each activity as well as answer questions about the activities. In order to be able to analyze the effects of gamification on selected aspects, 2 groups of students are selected. Both groups attend the course BPM and are in the same semester of the bachelor's program 'Digital Business' at the Technische Hochschule Ingolstadt. The experimental group will repeat the course content using the rally. In contrast, the control group will repeat the course content without the gamification solution. For both groups a knowledge test (pre and post) as well as further evaluations are carried out. Both groups will have the same organizational conditions (time slot, room, team building). The first results will be presented at the conference.

Our long-term research aims on identifying and implementing gamification support for activities in the BPM context. This abstract should be considered as work in progress.

Keywords

Gamification, Serious Games, board game, BPM lifecycle, Business Process Management, learning, motivation, knowledge conversation, knowledge transfer, knowledge acquisition