Gamification in Educational Contexts: 
A Critical View on Mechanisms and Methodology

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ABSTRACT
Gamification as a tool or procedure to add entertaining and motivating elements to usually non-entertaining environments such as schools or workplaces is becoming more and more popular. E-learning platforms like Moodle provide tools and sets of functions to add elements of gamification. An important factor, especially for education, is technology: individual achievements and progress can be recorded, measured, tracked and visualized and, therefore, identified and honored through bonus points, awards or rankings. This is where gamification can add some challenge and excitement to learning.

KEYWORDS
Education, E-Learning, E-Teaching, Game-Based-Learning, GBL, Gamification, Gratification, Moodle, Motivation, Rewards, Social Learning Environments, SLE

INTRODUCTION
One of the most enigmatic terms of recent years is gamification. The conceptual similarities to video games are no coincidence—motivating elements bind people, sometimes for months, to PC games and simulations and let them become subjects of sets of game rules and learn complex techniques to master mission after mission in order to reach a goal they have recognized as valuable. In the past forty years, computer and video games have become widely used and game-genres have expanded from simple shooting or maze games to complex virtual worlds, attracting all genders and people from all walks of life. This basic perception makes games, their elements, interface and narrative structure also interesting for non-game purposes and opens a wide field of possible applications that are also applicable to business communication, human resources, public space and lastly also for means of education.

This essay deals with the question of what gamification really is and with which intention it is used in the context of teaching. It is based on the latest definitions of gamification, recent studies and meta-studies that tried to show its effectiveness and methodology, and finally the selected best practise attempts. Although the amount of papers on gamification is constantly rising, the number of actual studies is still relatively small. Here the focus will be laid on educational purposes—gamification in economic environments or within frameworks of behaviour change may only be mentioned for a wider scope. What is “gamification” in terms of tools and processes? What does it mean to teachers and students as a method and professional approach and how is it able to contribute to the further development of already existing skills of students? What consequences does it have when learning processes are suddenly “just fun” or maybe become too “playful”? What does the “help” of technology do to the professional distance between teachers and students? How valuable are individual praise
and feedback compared to digitally submitted gratifications, labels and badges? Do they cause a new form of competitive stress?

Following these questions some of the basic terms will be discussed and results of recent research will be surveyed, before the applicability in schools and universities and the effect on teachers and students as well as their interpersonal relationships can be further elaborated.

Finally, it is necessary to discuss whether gamification is indeed a totally new technique or simply a method to work with or to motivate people with, which has been on the block for a while but has now been modernised and laced with technology.

BACKGROUND

21st Century Learning: Seamless Learning?

The seamless learning approach as recently described by Wong and Looi (2011), refers to learning both in physical and virtual worlds and across fields and dimensions like formal/informal learning or individual and social learning. Examples of such transdimensional learning experiences can include learning with and across different technical/non-technical devices independent of time and place, augmenting different forms of reality by being grounded on activities that were strictly connected to leisure time in the past, but become more and more used also for non-entertaining purposes.

Teaching and learning is no matter of face-to-face communication anymore. Schools no longer have to be visited in person; learning platforms like Moodle or Ilias have become a daily tool for students at colleges and universities and are gaining ground in schools as well. “Class rooms”, learning inside and outside groups of people who gather in fixed places, vivid “social processes”, are being extended into the virtual world. Social learning environments (SLE) as archives of information and communication platforms are first of all, technically speaking, places where people meet online, structured by Web 2.0-technologies. Introduced around 2004 these offer far more possibilities to interact and participate than the former Web 1.0-standard was capable of. SLEs allow the users not only to receive information, but also actively work with content, alter it and create new contributions that can afterwards be shared with the network (Venkatesh, Castro, Lewis, Das, & Thomas, 2014, p. xxvi) of other users. The modern internet has evolved into a participative network from formerly being just a one-way-distribution channel of digital content, being it videos, audio files or texts and pictures.

These new functions have tremendously influenced the user experience and thus have shaped new expectations: for online-platforms to no longer just be an archive of texts, pictures and the like, but rather interactive social rooms (Wood, Teräs, Reiners, Gregory, 2013). These are supposed to enable a collaborative, social and also a fun way of learning together, as a SLE includes some social elements that provide an open environment for students to work, co-create, communicate and learn collaboratively. But, like with most technology-enhanced environments, SLEs need motivated and engaged users to be effective (Simões, Mateus, Redondo, & Vilas, 2015, p. 38) and it is social skills like reciprocity and cooperation between students and the communication of high expectations and prompt feedback that need to be encouraged through online learning environments (Urh, Vukovic, Jereb, Pintar, 2015). “Good e-learning management means organizing, planning, staffing, leading and controlling all important elements of e-learning. Important elements in e-learning are: pedagogical, technological, design, administration, human, financial and gamification elements” (Urh, Vukovic, Jereb, Pintar, 2015).

Users today form very heterogenic audiences so new methods and tools have to appeal to a large number of individuals at the same time (Marklund, 2013, p. 85).

To enable students to learn and develop skills for problem-solving and knowledge construction in the real world, it appears to be vital that tasks and assessments be authentic. “In other words, students should be engaged in similar processes of thinking, problem solving and delivering required
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