

READY, STUDY, SHARE: AN INQUIRY INTO THE DIDACTIC APPROACH OF GAMIFICATION WITH A SPECIAL VIEW TO THE POSSIBLE APPLICATION IN HIGHER EDUCATION

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Abstract:

In this article I study gamification as a didactical method and the possible application of gamification theory in higher education. Recently it became important to create a scientific basis of gamification in order to be able to differentiate between the various approaches and interpretations as the general concept started to diversify in the last two years. Gamification is also seen as a new marketing tool (Zichermann, 2010), a new trait of the employee in the 21st century (McGonigal, 2011), and a method to reach a higher level of motivation and engagement in the workplace (Zichermann, 2011) or at the school (Kapp, 2012). Unfortunately these theories handle gamification as a completely new phenomena and do not try to make a comprehension with previous didactical methodologies or concepts. This article intends to map the theory of gamification in a didactic approach by making comparison with other didactical theories, and put some remarks regarding the similarities and the differences of the concepts which will help to dispose gamification on the canvas of science. The article also address the current pedagogical situation in higher education with a special view to the most significant tendencies and analyse how the application of gamification would affect the problems and conflicts induced by them. The article concludes by framing possible directions to study the application of gamification theory in higher education and suggest to research these topics intensely.

Key Words: Gamification, didactics, learning theory, pedagogy, education

Introduction:

However the literature of gamification is not too extended, the interpretations of the definition itself vary widely and mainly determined by the sector which the author came from. It could be threated like a marketing tool (Zichermann, 2010), as new life-style and a key employability factor in the globalized era (McGonigal, 2011), and as a method to reengineering the performance evaluation systems on a group-based, identity-oriented approach to reach a higher level of engagement in organizations (Fromann, 2012). The practice-oriented literature can also be divided into two parts. The first mainly derives from the marketing interpretation explaining the psychological background and shows the know-how as well as the significant milestones to create gamified applications (Zichermann, 2011). The second focuses on the possible application of gamification theory in education, leaning on the scientific results of didactics, and the summary of the previous ad hoc experiments in the field (Kapp, 2012). This article will follow the latter interpretation, as I intend to study the possible application of gamification theory in higher education. So the mainly focus will be the didactic approach, with a special view to the motivation and the engagement in the learning process.

As Mr. Kopp and others have adequately explained the general theory of gamification, this article hereby not aims to criticize and compete the previous results of the field, but to specify the theory of gamification to the context of higher education. The article is structured in four parts. The first intends to establish a scientifically justified basis of gamification, using the traditional definitions and concept of didactics. The second seeks to place gamification in the context of higher education and shows the way for those who want to gamify higher education. The third traces the possible barriers and threats and makes suggestions to how to avoid them during gamifying higher education.

The fourth part summarizes the essence of the article by underlining the main points and flashes some of the research topics which could help us to further understand the specifics of gamification in the context of higher education.

Main Text:

Gamification as *novum organum* in didactics

If we try to analyse gamification with the traditional didactical toolset, we will more likely understand the specifics of the theory than when we try to address it with common phrases and the newest contemporary interpretations. The didactical value of gamification comes from its complexity. Gamification is not only a better didactical method, it affects different parts of the learning process and makes a completely new layer on most of the current definitions, not replacing but complementing them.

As we study the literature of the theories on learning, we could find separate fragments of the key elements of gamification. The role of creativity and playfulness (Rousseau, 1762; Pestalozzi, 1801), the significance of learning in small packages step-by-step (Skinner, 1968) and the superiority of positive reinforcement compared to punishment (Skinner, 1968) have already appeared in many scientific works. Even the theoretical background of the continuously increasing challenges can be found amongst the five suggestions of B. F. Skinner to make teaching and learning more effective (Skinner, 1968). The novelty of gamification is to select the suitable pieces and make a coherent, clear-out and simply useable concept, which is presumably capable of replacing the current pedagogical paradigm and establish a new basis for the science of learning in the 21st century.

The uniqueness of the theory can also be seized that unlike most of the theories in the field, gamification has strong roots in the industrial sector, and the theory tries to keep pace with the practice and not vice versa. However this feature is not without precedent, in this case this relation determines the main characteristics of the theory, especially the marketing-orientation and the early invention of the wide opportunities of commercialization. Despite gamification also becomes a marketing tool which builds on the same psychological foundations as the learning method, handling the basic drive to achieve higher and higher objectives a main factor in the new strategy of customer relationship (Zichermann, 2011), making a difference is essential. The marketing-approach has a strong external aim (to raise the profit), while the didactic approach has only one final internal objective: make the learning process more effective. The battle between the two schools will be settled by the orientation of the first initiatives and their success in international corporations and the possible future adaptation in higher education. As currently the practice is miscellaneous, and the theory is also treated like a new method of internal development which fosters the level of motivation and engagement in the organization, and a marketing tool to address and keep the customers more efficiently, the future of gamification is yet undecided.

Gamification in higher education

As the close environment of the learning process in traditional higher education are the continuously functioning and developing colleges and universities, changes in the globalizing higher education space must not be underestimated if we talk about managing the learning process and the motivation of the participants. From the several tendencies which could be mentioned in the globalizing higher education, four must be noted here as the main and most influential phenomena in higher education nowadays and the near future.

First of all, a new generation has started to enter in the higher education, which is often referred as Generation Z, and can be distinguished from other generations by the secure and natural use of internet and social networking. The significance of the new attributes of the generation have already been recognized and connected to the theory of gamification, with a special view to the general psychological needs (Frommann, 2012). Researches also shown that the members of this generation require new information in different batches and different format then the previous ones, and usually cannot pay attention as long as the members of Generation Y and X (Frommann, 2012).

The second trend is the continuously increasing internationalization of higher education. By internationalization, this article means the convergence of processes and policies, which is also the general definition in context of internationalizing higher education (Altbach-Knight, 2007). In recent years, the number of international joint and multiply degree programmes have substantially emerged,

the curriculum and the methodology of teaching have started to show similar patterns, and the scientific communities have more forum to discuss actual questions than ever. These tendencies support the implementation of new didactic methods and pedagogical concepts (such as gamification) as the theories have to adapt to a lesser diversified environment. The international funding of mobility programmes had also fostered the formalization of interpersonal professional relationships as a side-effect, which further strengthened professional networks. The structure of the courses (first, second and third cycle) in higher education has also shown similar trend, but it must be noted that top schools have started to create new titles exactly to respond to the common and wide use of the previous ones and prevent the depreciation of the degrees.

The third trend is the ever increasing volume of international mobility, which must be differentiated from the internationalization of higher education. As the OECD study on the „*Internationalisation of Higher Education*” pointed out in 2004, some new forms of cross-border education do not expect the students to travel abroad, instead offer the programme of the host university at the home university (programme mobility) or at an affiliate of the host university in the home country of the students (institution mobility). However the level of international mobility breaks records from time to time, financial background will soon mark the boundary of opportunities. For example if we look at the available information on the „*Erasmus for All*” programme, which will be the framework of the educational policy of the EU in the next financial period, we can find hints to the abovementioned financial scrutiny. It seems that the European educational policy intends to move forward to a self-supporting international system in higher education on the long run, which relies greatly on the networks (knowledge alliances, sector skill alliances) based on relations in various economic sectors. The relevance of this phenomena in the changes of the social and economic context of higher education can be explained by the new stakeholders and the new situation they may form with their extended influence. This process may also effects the battle between the two approaches of gamification, as the theory has strong roots in the industrial sector as it was already mentioned. The increasing number of mobility influences the didactics, by cutting off the rough edges of the used methods in order to be able to provide a suitable learning environment to the international audience.

Last, but not least, the number of inter- and multidisciplinary courses are continuously increasing in the higher education of the 21st century. As motivation is mainly determined by personal interest and that could vary widely between disciplines, changes in the character of the courses influence the motivation of the people involved. This could easily cause delays in the fulfillment of the courses, and may cause disappointment in future jobs if the segment where the employee works does not cover the preferred disciplines, but the least preferred ones from the previously studied inter- or multidisciplinary course. The problem of the unbalanced motivational levels could be treated more easily by using gamification to engage the learners in the learning process, complementing the missing professional motivation with motivation to win the competition of points, levels or minor achievements.

Gamification could be useful for not only the students, but the professors and other staff as well. At this point a difference must be made. The gamification of higher education has an organizational dimension which intends to raise the level of engagement of those working and forming the everyday life of colleges and universities, and a didactic dimension which focuses narrowly on the educational situation and the learning process of the students. The first is practically the same as the general application of gamification theory, the latter has a much tighter and much specialized scope. It must be underlined that either of the dimensions represent a didactical situation, and either of them intend to reach higher motivational level and engagement. This article naturally mainly focuses on the latter dimension.

As this part of the article explained, the theory of gamification adequately answer to the challenge of the decreasing level of motivation of students in today's higher education, by handling the new educational needs of the Generation Z and offering an optimal didactical method to handle diversified international student groups which build up from people with different social and cultural background. However the application of the theory could not only used for the sole purpose of increasing motivation and the level of engagement in the learning process, it could also be used as a new performance-evaluation system.

The performance-evaluation system in higher education is admittedly simple. The application of a five-grade scale is general, which cannot express the exact performance of a student in a subject, just compare it to the expectations of the teacher and the performance of the others. This article does not intend to make recommendations to change the traditional evaluation system to a gamified one, but to foster the parallel application of a gamified one to complement the current. For example: if a student reaches more and more achievements with writing excellent scientific essays in the framework of different subject and disciplines, it may come up more easily which could help the further specialization and career-orientation. Excellent presentational skills, international motivation and interest, off-school learning activities (etc.) can be treated more adequately and can be pooled in the framework of performance-evaluation creating a more complete picture from the personal skills, attributes and interests of the student. So the application of gamification is not only increase the motivational level of the learner, but also offers a more efficient way to evaluate the individual and community-based performance. Furthermore the application of gamification theory could „make bridge” between the disciplines by connecting the relevant achievements and/or skills and frame a more detailed and balanced competence-matrix.

Barriers and threats before the application of gamification in higher education

Higher education is a really specific environment. The science and the scientific method requires rationality and consistency which influence not only the progress of science, but the environment as well. If the theory of gamification cannot show a complex, coherent theoretical basis with adequate didactical background, it could easily be labeled as a new marketing tool or a new way to build customer relationship, and never gets integrated to the science of learning. So the most significant threat before theory is the classification, more precisely the interpretation and the judgement of the scientific community.

As it was noted in the previous part, the application of gamification as a performance-evaluation system can adequately complement the current processes and scales, however the sole use and the sudden implementation hold many threats. Reaching of some particular achievements can turn into external aims, which may increase the level of motivation and engagement, but not the motivation to acquire the learning material. The continuous and content-driven relationship must be assured between the methodology and the content, so the motivation to take part in the competition may not surrogates but complements the professional motivation.

The efficient and effective application of gamification in itself does not necessarily mean a successful learning process. The latter may evolve to a flow-like experience (Csíkszentmihályi, 1975), which could either beneficial or harmful to the attainment of the goals of learning. The solution is once again the content-orientation, which can channel the motivation and engagement in the desirable direction.

Although the most scientific discoveries and innovations come from higher education, the significance of social and economic environment must not be underestimated. In the world of science it may took many years to replace or adapt a mainstream theory, because the plausibility and popularity of different concepts change in parallel with external factors. This cruel dichotomy may also determine the fate of gamification itself, or at least the battle between the two approaches. Only time will tell.

The future of gamification in higher education

Gamification is without doubt marks a new era. The globalized higher education space which can be characterized by the ever growing number of international mobility, the increasing number of inter- and multidisciplinary courses and the internationalization of processes and policies used requires a new didactic methodology. This methodology must also handle the specialities of Generation Z, by taking advantage of the excellent new internet and social networking skills, an pay attention to the weaknesses of the generation, especially in proportioning and communicating the information in a format suitable for the audience. However the methodology must first of all increase the level of motivation, the aim of the learning process must not be externalised, the connection with the learning material must be guaranteed. Otherwise the level of motivation will be increased, but not towards the objectives of the learning, but the achievements and rewards of the system itself. By the

rational, consistent and content-oriented application of gamification, all of these challenges could be met.

Unfortunately the attempts to apply gamification are sparse and mainly focus on the marketing-approach and the organizational dimension. Experiments based on the didactic approach would be vital not only to collect adequate empirical data to confirm the hypotheses, but to reason for the general use of gamification theory in higher education. The author of this article would gladly take part in the process of adapting the theory of gamification to higher education environment and enhance the theory further with a special view to the specifics of current students and trends in higher education. Without the scientifically justified basis and adequate experiments which use qualitative and quantitative perspective as well, the really promising theory of gamification is only an idea for a new beginning in didactics. Experiments must be conducted regarding the application of gamification with various groups of universities and students. The results of the experiments may show differences along the disciplines, the geographical regions, the ranking of the universities, the characteristics of the students (age, cultural and social background, previous studies, etc) and so on. The impact of the implementation of gamification to motivation and engagement could also be analysed across disciplines and between different subject-groups. The comprehensive application of gamification theory in higher education depends on the success of the first attempts which also determine whether or not will the theory manage to launch a paradigm-shift in didactics.

Conclusion:

Nowadays gamification can also be seen as a new learning theory, and a colorful, unique mixture of marketing and pedagogy disciplines. Despite the theory reflects the elements of the learning process and motivation more intensely than previous concepts, the coherence and the scientific classification of the theory is yet undecided. As recent changes in today's societies induce shifts in cultural patterns in a pace never seen before, didactics needs new tools to answer these challenges. Gamification could either be one of these tools, or the holistic approach of the new pedagogy in the first quarter of the 21st century. Ready? Study, share!

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