CASE STUDY GAMELEARN: A CONCEPT FOR SUPPORTING EXTRACURRICULAR COMPETENCE DEVELOPMENT FOR STUDENTS

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Abstract
The development of competences by students is an important issue for universities and companies hiring graduates. For extracurricular competences - competences which could not be included in students’ curricula the learning motivation as well as the quality of accessed information represents a challenge. The paper analyzes within the Gamelearn case study an original concept aimed to support and motivate students of the Faculty of Engineering in Foreign Languages (FILS) to develop extracurricular competences. The paper is using the case study method, including observations, descriptions and where needed surveys. The concept of developing extracurricular competences focuses on three dimensions: know, can, want in other words on knowledge, ability to use knowledge in practice and motivation to do so. It involves an evolution similar to computer role playing games (RPG) where students begin as apprentices in different extracurricular fields and can evolve up to the level of master in those fields if they perform certain actions ranging from viewing video materials and reading articles and books to building something. The concept requires professors to define certain levels of competence development in their fields of expertise and define the way students advance through the levels. The paper ends with conclusions about the most important findings of the case study as well as requirements for a future implementation in a learning platform.

Keywords: Game based leaning, competence development.

1 INTRODUCTION
Universities try to focus on covering professional competences as good, as they are able, while enlarging their curricula to avoid neglecting methodical and social competences. But it seems an impossible task to adapt the balance of these competences to fast shifting requirements of the labour market. Last date research results on a small sample of 100 respondents in Romania indicate that social competences have even a slightly higher importance (66% of the sample considered them very important) than professional competences (53% of the sample considered them very important) [1]. A decade ago a research project with 2135 enterprises in Germany conducted by the German Industry and Commerce Chamber placed the importance of professional competences on place 5 after team work, independent self-reliant work, willingness and communication [2].

In many faculties, including FILS it is impossible to address by curricular means the development of social competences in the same degree as professional competences, even if the teaching staff is aware of their importance on the labour market. Thus the question arise how to cover important competences in the case when curricula cannot answer this need. The paper gives one possible solution to this problem, by proposing a game based concept of extracurricular development, in order to both motivate students to develop such competences and to give them an adequate tool to do it.

2 METHODOLOGY
The paper represents a case study used as a scientific method according to the concept of Specht, Dos Santos and Bingemer [3] and relies on observation as well as conceptualisation.

The method to develop the Gamelearn concept is structured in four steps: to define the fields, the materials, the logic and the whole game as defined by Mustata et al in previous research [1]. An overview to this implementation steps is given in Fig. 1 below:
The concept complies with advantages of game based solutions already identified in previous research: it has an overall good e-learning potential [4], it enables materials with great relevance [5], it offers better visualization through the use of computers [6] and it is more adaptable to individual needs of students regarding speed, rhythm and other preferences [7].

After having the first implemented version of Gamelearn it can expand to other fields required by the labour market where the faculty has the needed core competences to cover it. Implementing the starting fields potentially offers a great amount of experience that can be used later for the expansion to new fields.

3 THE GAMELEARN CONCEPT

We will analyze the concept according to the development and implementation steps described in the methodology.

The Fields: The Gamelearn concept needs to start from a few basic fields corresponding to needs signalled by the labour market and the alumni. The starting field identified were Entrepreneurship, Soft Skills like Creativity, Leadership and Communication, as well as special technical skills like Web Design and Programming in different languages, that are covered by curricular means for students from some programs, but need extracurricular development for all other students. The professors defining these starting fields are the five members of the Gamelearn research project.

The materials and the logic: Each professor needs to define materials which enable the development of a selected competence through seven levels from apprentice levels (level 1 and 2), through advanced levels (level 3 and 4) and expert levels (levels 5 and 6) to the master level (level 7). At the end of each level the students will find a password to unlock the access to the materials of the next level. The successful ending of the master level must be acknowledged by the professor that defined the competence.

The aim of the materials from the apprentice levels is to give a good overview about the needs and the boundaries of the selected competence. This can be done by watching selected public short films similar to TED Talks, or reading simple short papers about the topic. Next to giving an overview they also achieve another objective: to enhance students' motivation.

The aim of materials for the advanced levels is to develop some knowledge and skill for simple tasks related to a competence. After advancing through these levels the students will be able to cover the easy parts of a complex project related to the chosen competence.

The expert levels require reading more complex materials like books and to develop the skills for doing more complicated sub-tasks of a complex project.
The master level needs the test of reality: the student must implement a complex project on his/her own in the domain of the selected competence and lead it to success. For example in Entrepreneurship it means to start a company and lead it past the break-even point.

The game: Gamelearn will be implemented on a server of the faculty, with each students having free access to Login as level 1 apprentice for any desired competence. After covering all tasks corresponding to a level, the students gain a level-up and the password to unlock the password-protected materials needed for the next level. The game interface needs to be simple but attractive in order to support students’ motivation.

4 CONCLUSIONS

One potential threat of such case centred projects is self bias [8]. In order to avoid self bias emerging from the project team, the concept needs further testing by students and adaptation before its final implementation. The experience gained after implementing the starting levels will be used to continuously improve Gamelearn as a platform for extracurricular competences development for the students of FILS and maybe also expand its reach for other students beyond the boundaries of the faculty.

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REFERENCES


