

Newsletter Issue 3

eKnow IT Platform — A Virtual Learning Environment Gamified

The starting point for our gamification initiative with e-learning was to select a Learning Management System (LMS) because it was imperative to start from an established, mature base, and focus on the case studies and gamification mechanisms.

The choice was the Moodle LMS, for several reasons, being an open source the most important, as the entire code base is available and can be modified in case of need – a flexibility that allowed the creation of a plugin for gamified e-learning (GEL) and also change Moodle components to implement additional interactive features.

Complementary key issues were the basis for the learning philosophy inherent to Moodle and the accessibility policy, meaning that websites built with this characteristic in mind are flexible in meeting different user needs, preferences and situations. Though these methods can increase usability for everyone who uses the Web, the most significant specific effort is to prevent discrimination against people with disabilities.

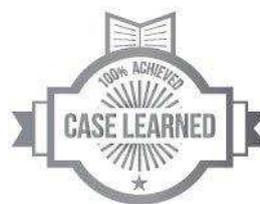
The learning philosophy inherent to Moodle is a "social constructionist pedagogy" - from a constructivist point of view, people actively construct new knowledge as they interact with their environments. Constructionism asserts that learning is particularly effective when constructing something for others to experience, e.g. a spoken sentence, an internet posting, a painting, a house or a software package. Social constructivism extends constructivism into social settings, wherein groups construct knowledge for one another, collaboratively creating a small culture of shared artefacts with shared meanings. When one is immersed within a culture like this, one is learning all the time about how to be a part of that culture, on many levels. It also considers the motivations of individuals within a discussion and/or learning.

There is a clear difference between this philosophy – let's also call it "proactive" – vs. just publishing and assessing the information you think students need to know, via an LMS. Moreover, with e-learning the LMS is used remotely and social interaction can become minimal.

Building on the top of this proactive learning philosophy we added specific gamification features to Moodle, aiming to increase the engagement with the case topics, but most importantly with a learning & knowledge community – hence one of the main features is a two level interaction with the cases. The first level is a base case, with an overall introduction and presentation of a modality or multimodality case study. It can be seen as an "initiation" to the case / subject. After completing this case successfully the student will be automatically enrolled in a second level course that is meant to be a global forum, a continuously open course with focus in keeping the same community connected and engaged in creating, organizing and sharing knowledge.

Therefore the global forum is for all Alumni that "graduated" from a similar case study or category.

Other traditional gaming features used are scores and badges. The scoring system considers three different dimensions: activity, performance and karma. The activity of the student awards him/her points from actions like login or access to the case study material.



"The eknowIT learning platform represents a true disruptive leap in vocational training. With lower costs, when compared to conventional classroom training, all parts involved share the responsibility for course's "end result".

The student is encouraged to become an active element of collective learning. Added the understandable advantages of diversification and "up to dateness" training offer."

Pedro Ponte
Professional | Port Authority of Setubal



In contrast, the performance score is connected to evaluations such as quizzes. Karma is a different dimension as it awards points based on the contributions and social interaction of the student e.g. uploading new information to the case study discussion board, and also voting the other participants' comments. The composite score of a student is a weighted sum of these three dimensions, with karma having the highest weight.



The classes (courses or case studies) and teachers also have scores and rankings, consisting simply of the sum of the class students' scores, and each teacher's students' scores.

Badges are the quasi traditional mechanism to mark a milestone in the student progress in his/her learning path –

e.g. the first time a student contributes to a forum/discussion board, a “forum starter” badge is awarded, becoming visible in the student interface, inside the GEL plugin.

Finally some graphic elements in the user interface where conceived hinting at a ‘game like’ design e.g. specific avatars and logos for each type of case transport modality (sea, road, train) and, naturally, the scoreboards and the badges.



One of the usual issues with gamification is the notion that introduces competitive behaviour in contexts that usually have none, or don't have it explicitly. The actual aim of GEL has a light competitive orientation while the main focus is higher student engagement, stimulate cooperation and “good Karma” from sharing knowledge

and increasing case discussion – therefore creating a “coopetitive” support system for the e-learning and case studies environment.



Our main motivation for applying some gamification concepts to e-learning actions was the realisation that online e-learning courses suffer **high abandonment rates**, particularly when performing a course is optional or voluntary.

The secondary motivation was to **keep a live contact** with the student, particularly concerning its progress path. There is no teacher in online learning to tell us how we are doing, and a scoring mechanism embedded in it and notification messages can, at least partially, fill this role.

Finally, another goal was to **capture new knowledge** from the discussion that arises due to the blended nature and later keep alumni engaged – the capture is stimulated with mechanisms that score student participation, comments and providing new content for course forums. This is not limited to the duration of the course, with the global forum including a large group of alumni.

In conclusion, the emotional and social connections are important to the learning process, an informal yet serious system is less intimidating and more enjoyable. While these elements are important, the continuous presence of global forums for professionals is key to sharing knowledge and best practices therefore enabling continued discussions and long term learning.

Sandra Justo | CEGE/ISEG
Nuno Cunha | Aavanz

“As a professional in the field of Logistics and Supply Chain, the cases presented are an excellent opportunity to learn about specific problems arisen and the solutions adopted.

The knowIT platform allowed me to have an interactive learning experience, where traditional features like scores, badges and even avatars are clearly innovative and captivating.”

Manuel José Gomes
Student | Postgraduate in Retail Management and Logistics



Intermodality and Short Sea Shipping

2016, April 27th

ISEG – School of Economics & Management

Rua do Quelhas 6 | 1200-781 Lisbon | Portugal

Final Conference Programme

09:00 Check in

09:30 — 09:40 Welcome Session

09:40 — 10:00 Intermodality and the eKnowIT project
Speaker: J. Augusto Felício, President, CEGE/ISEG

10:00 — 10:20 The shippers perspective
Speaker: Pedro Galvão, President, Conselho Português de Carregadores

10:20 — 10:40 The Shortsea Promotion Center Portugal perspective
Speaker: Rui Raposo, President, Associação Europeia de Armadores da Marinha de Comércio

10:40 — 11:00 The maritime transport perspective
Speaker: Belmar da Costa, President, Associação Europeia de Agentes de Navegação

11:00 — 11:20 The ports perspective
Speaker: José Luís Cacho

11:20 — 11:40 Coffee-Break

11:40 — 12:00 The railway transport perspective
Speaker: Mário Lopes, President, ADFERSIT

12:00 — 12:20 The authorities perspective
Speaker: Paulo Andrade, President, Instituto da Mobilidade e dos Transportes

12:20 — 12:40 Intermodality challenges
Speaker: Vítor Caldeirinha, President, APSS

12:40 — 13:00 **European Commission Funding**
Speaker: Julien Tami, INEA/EC

13:00 — 14:30 Lunch (not included)

14:30 — 15:30 Intermodal training
Using case studies in training | José Montes, UNIOVI
The importance of training | Ainhoa Puebla, PAG
Case studies overview | Holger Kramer, ISL

15:30 — 16:30 **Round Table - Case Study discussion**
Moderator: J. Augusto Felício, President, CEGE/ISEG
Commentators: Eng.º José Gonçalves Viana
Alm. Alexandre da Fonseca

Entrance is free, but registration is required
Attendance Certificate available (upon request)

Contacts: 963 903 252 | info@eknowit.eu

