



# Development of a Training Course for Trainers on Gaming and Gamification



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## 1. Introduction

The Development of this Training Course for Trainers of adult education builds on the aim to highlight the need for quality pedagogical training on a new technologically digital Era where education has less to do with reproducing information passively and has more to do with the development of creativity, critical thinking, problem-solving and decision-making. Regarding adult education, these considerations are even more evident. Many times, adult education is seen as less important training for unmotivated learners and with high dropout rates. Most of the times, trainees of disadvantaged cultural, economic, and family backgrounds tend to reveal more academic difficulties, and those are accentuated over the years.

The main goal of this Training Course for Trainers is to improve training with new pedagogical scenarios combined with technology to enrich the training process and simultaneously to ensure more significant learning commitment and high retention rates.

To meet this need, the partnership collaboratively designed a blended (face-to-face and online) training model based on Games and Gamification for trainers working with adult learners. The training model is, in itself, a gamified game. Will have a sequence of sessions where one creates a global context and a narrative to generate an immersive learning experience. In the training sessions while working on the contents through games users will have (Seaborn and Fels, 2014): (i) Points (numerical units indicating progress), (ii) Badges (visual icons signifying achievements), (iii) Leaderboard (display of ranks for comparison), (iv) Progression (milestones indicating progress), (v) Status (textual monikers reporting progress), (vi) Levels (increasing difficulty tasks), (vii) Rewards (tangible, desirable items), and Roles (role-playing elements of character). All these game elements throughout individual challenges and group tasks (for peer collaboration, because collaboration is one of the basics of gamification).

We want to develop an innovative pedagogical scenario that allows the trainers to experience new training strategies while building their learners knowledge, producing a self-reflection that is fundamental for the process of teaching.

We believe that the innovative pedagogical scenario that underlies Game-based learning and Gamification is what it takes to face the challenges of training in this new Era and also involve adult learners to answer their needs.

## 2. Reasons for the training plan

This training course aims to promote appropriate methodologies for the development of the 21<sup>st</sup> century trainer, namely through Mobile Learning, Flipped Learning, Gamification, Game-Based Learning, Augmented Reality and Digital Storytelling, using mobile devices as pedagogical resources that enhance these innovative pedagogical scenarios, never forgetting an active and reflexive practices.

With the exponential use of mobile devices in the daily basis for many citizens, their educational integration is not only a possibility but also a need, this fulfilling the pedagogical potential that the inclusion of these technologies in schools can bring. The popularity of mobile devices among learners has increased so much that trainers feel the challenge of innovating practices by integrating mobile technologies into pedagogical projects (Monteiro, Bento, Lencastre, Pereira, Ramos, Osório, & Silva, 2017). This need to develop an online mobile environment empowers mobile learning (Lencastre, Bento & Magalhães, 2016).

Thus, the use of mobile devices in learning complements the construction of learners' knowledge and meaning (Attewell & Savill-Smith, 2014; Mascheroni & Ólafsson, 2014; Simões, 2014). Moreover, this use of mobile devices supports a new dynamic in the classroom and the development of informal learning (Wexler, 2008; Sharples, 2014), being an added value in the teaching and learning processes. In this context, one of the most significant challenges of the adult education system is the integration of these mobile devices in training, but mainly when new

pedagogical learning scenarios reflect and design their effective and proficient use (Wexler, 2008, Sharples, 2014).

The new mobile devices are minicomputers, with incredible potential for multimedia communication and wireless of excellent quality (Carvalho, 2012). Thus, according to this proposition, it leads us to think and reflect on the potentiality of using mobile devices in the learning context.

Learning from the assumption that learners have a great familiarity with mobile devices (Traxler, 2005), we note that there is a possibility of improving learning outcomes using a pedagogical, technological, convergent, portable, multimedia and interactive resources through a mobile device. This is because we believe that the new devices will change the way trainers are accustomed to teaching and learners to learn (Pachler, Bachmair, & Cook, 2010). In fact, these mobile devices extend the possibilities of access to information and communication, through resources in various formats (text, image, sound, video), attributes that are increasingly referenced as enhancers of their use (Kukulska-Hulme, 2012).

Teaching strategies should promote learning that integrates several senses: imagination, intuition, collaboration and emotional impacts (Kress & Van Leuwwen, 2001). Image, video, music (multimedia) add sophistication to teaching and learning since they provide the experience and interactivity, thus connecting senses, feelings and reason. By engaging the trainers in this process, they become an active part of the training process. The higher the involvement of trainers in creative manipulation, in research, in interaction with knowledge, in the discovery of new forms of expression of culture, the higher the educational effectiveness of this process.

Access to information is now at a distance from an application on a tablet or the smartphone, but it also makes source validation an increasing problem that trainers sometimes have difficulty in solving.

However, if we see in the great ease of space and time in access to information a considerable advantage, we also realise that the role of the trainer has changed radically and we believe that it acquires new characteristics in the current processes of teaching and learning.

Learners have no difficulty in searching and finding information, but they have enormous problems in selecting the correct information and in its proper analysis, with the trainer emerging with a new regulatory and guiding role throughout this new process.

If on the one hand, we find a new learner due to a new type of (mobile) technology, on the other side, we see the trainer with difficulties in adapting to this new reality.

Thus, we conclude that **Developing a Training Course for Trainers** is a real need to prepare the trainer for a "new learner" who knows how to use this new mobile technology educationally.

### 3. Participatory design

Participatory design (Schuler & Namioka, 1993), also called collaborative design, is a diverse collection of principles and practices aimed to engage all stakeholders – researchers, designers and end-users - in the design process to help ensure that the end product meets the needs of its intended base user.

According to Jacucci and Kensing (2006), the central tenet of Participatory Design is the direct involvement of people in the co-design of the systems they use. The authors also refer that this tenet is based on the recognition that when people are involved in shaping their social, technological and material environments, the better suited these environments are to everyday realities and requirements, the more people are able to claim authority over their work and leisure lives.

Up until recently, the majority of users believed they were forced to adapt to the ideas and principles not intuitive or adequate to them. To fix this, Participatory Design was a creative approach which aimed to actively include the end-users into the design process.

As opposed to other design approaches, in which researchers and developers design 'for' end users, Participatory Design can be seen as a relocation of end-users into the world of research and development.

Thus, this document was designed in a participatory way because we wanted to understand better how partners think about our mutual problem, and because there could be, as it is an international project, any cultural disconnection between our training proposal and the end user expectations.

A Participatory Design Session is a great opportunity for researchers to meet and identify with the end-user. The user is invited to enter the designing process and by listening to them, we can avoid making mistakes we are often tempted to make as a result of designing for ourselves instead of designing for the user.

So, the partnership decided to involve the target group (trainers of adult learners) in the process because their contribution to the design, their requests of what would be good, tells us if the plan can be more successful. On the other hand, adult trainers are experts, and when involved in solutions, are in a better position to put into practice the program designed. Thus, in the participatory design process it was decided to address two primary concerns simultaneously: (a) collect sensitivities on appropriate topics; and (b) involve trainers facilitating the development of research activities and, in particular, the implementation and testing of training in real settings. This second point seems quite crucial since it was a belief that the possibility of successfully implanting and testing new pedagogical models depends very much on early adoption and such adoption can only be achieved in real context if we have the active support of stakeholders. We are also fully aware of the challenges in bringing stakeholders to the design team and managing their role (Scaife & Rogers, 1997).

First, all partners collected existing training plans in their countries that talked about Games and Gamification. Then, in collaboration, the training plan was designed listening to partners, adult trainers, future trainees, their expectations, their knowledge and their opinion.

#### 4. Learning Outcomes

- To develop pedagogical skills to use mobile devices in the educational context.
- To promote the use of mobile devices by trainers and learners.

- To reflect on Innovative Learning Scenarios.
- To design new environments in learning spaces.
- To encourage the application of innovative pedagogical models such as Flipped Learning, Gamification, Game-Based Learning and Digital Storytelling with the use of mobile devices.
- To design activities considering the proposed pedagogical approaches.
- To implement planned activities using the proposed pedagogical approaches.
- To create digital resources for the use of mobile devices in an educational context
- To use collaborative digital platforms.
- To reflect on the new appraisal models.

## 5. Syllabus

### I - Presentation

- the trainers and learners through an autoscropy
- the online platform
- the training model and the gamification associated with it: what it is and how it works
- the configuration of the mobile devices to be used in the training and procedures of use
- the clarification of Flipped Learning methodology, syllabus and goals
- evaluation

### II - Learning with mobile devices

- The concepts of BYOD (Bring Your Own Device) and Mobile Learning in an educational context: definition and context
- Legislation
- Potentialities of use
- Limitations of use

- Available resources
- Benefits of an effective curriculum flexibilization
- Models of collaboration and sharing practices
- Creating an e-Portfolio using the online platform

### III - The Flipped Learning model

- What is Flipped Learning
- Advantages of the Flipped Learning model
- Presentation of the e-Portfolios - badges earned
- Application of the Flipped Learning model through a Role Play with the trainees
- Planning an activity to be implemented by the trainees with their learners
- Creating resources with EDPUZZLE

### IV - The trainer of the 21st Century

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- How and why to search online
- Searching Engines and Online Research Applications
- Legislation on the use of mobile devices in an educational context
- The profile of the 21st Century trainer
- Planning an activity to be implemented by the trainees with their learners
- Creating resources with KAHOOT

## V - Gamification and Game-Based Learning

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- What is Gamification and Game Based Learning
- Gamification vs. Game-Based Learning
- Advantages of using Gamification and Game-Based Learning pedagogical models
- Planning an activity to be implemented by the trainees with their learners
- Creating resources with SOCRATIVE

## VI - The Learning Spaces

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- The classroom and the online learning spaces: characteristics
- Different learning spaces and different methodologies
- Implications of spaces and their organisation for learning purposes (practical examples)
- Designing a new learning space with the classroom resources (Participatory Design with the trainees and their learners)
- Designing a learning space with LENSOO CREATE

## VII - Augmented Reality

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- What is Augmented Reality
- Practical examples of educational exercises with the use of augmented reality
- Advantages of using augmented reality
- The practical case of QR Codes
- Planning an activity to be implemented by the trainees with their learners
- Creating resources with QUIVER and THINGLINK

## VIII - Evaluation using mobile devices

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- How and why to evaluate
- New forms of continuous assessment
- Interactive quizzes and critical thinking
- Reflection on the new evaluation models
- Planning an activity to be implemented by the trainees with the learners
- Creating resources with MENTIMETER

## IX - Digital Storytelling

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- What is Digital Storytelling
- The potential of Digital Storytelling
- Practical examples of Digital Storytelling
- Planning a Digital Storytelling about the Training Course
- Creating a Digital Storytelling about the Training Course to be presented in the last face-to-face session using ANIMOTO or BITEABLE apps

## X - Presentation and evaluation

- Presentation of the e-Portfolio (a report of the activity implemented by the trainees with their learners) - badges earned
- Leaderboard and Progression
- Reflection on the implementation of the planned activity
- Presentation of the Digital Storytelling

## 6. Autonomous work

Implementation of the planned activities between each face-to-face session. Activities implemented by the trainees with their learners.

## 7. Methodology to be used in the training course

In all training sessions, there will be moments of lecturing, explaining the concepts, using a flipped learning model with the support of gamification. All materials and interactions will be available from the first session in the online platform developed with the trainees. Between each face-to-face session, there will be autonomous work, to be applied by the trainees with their learners in real educational settings. The first moments of each face-to-face session are based on the evidence of the application of contents in real contexts and own pedagogical reflections, with the purpose of fostering pedagogical changes, new rhythms and periodicities about their training practices.

## 8. Training assessment through Gamification

The trainees are assessed according to the following criteria:

- Attendance and punctuality.
- Participation and commitment.
- Individual critical reflections.
- Quality of autonomous work.

Regarding the participation and assessment, in each training session three tasks are available, out of a total of 18, with the following criteria:

For a completed task, each trainee gains 1 point up to a maximum of 7 points per lesson plan design, 2 points up to a maximum of 10 points per resource creation, and 3 points up to a maximum of 15 points per evidence with their class, making a total of 32 points (30%).

Regarding critical reflection (60%), we will take into account the resources created and their lesson plans, as well as the evidences of application with the learners, analysing the deepening of the reflection: coherence (1 point), cohesion (1 point), use of differentiated pedagogical models (1

point), redefinition of learning spaces (1 point) and use of technology (1 point). We will add a final work with a maximum score of 3 points, which requires evidence of application, planning of a narrative, the foundation of pedagogies used, adequate technologies and definition of the learning space.

The evaluation of the trainees is expressed in a quantitative classification in 1 to 10 scale, which represents:

- Excellent - from 9 to 10 points
- Very Good - from 8 to 8.9 points
- Good - from 6.5 to 7.9 points
- Regular - from 5 to 5.4 points
- Insufficient - from 1 to 4.9 points

## 9. Training Course Evaluation

The evaluation of the course will be carried out in accordance with the legislation in each country of the partnership, with contributions from the trainees to a satisfaction survey and reports from the other participants in the process.

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