Employing the Living Labs methodology to support experiential improvement of processes and practices in special education

Extended Abstract

Keywords
Living Labs, communities of practice, integration for students with special needs, integrative schooling

1. Introduction – What our approach is about

Our research aims to define an integrated, context-sensitive, adaptable and interoperable environment for improving the processes and practices of teaching staff and special education experts, based on the concept of technology-enhanced experiential learning for competency, skills and performance enhancement. More specifically, we aim to the professional development and upgrading of distinct professions such as special education experts, and teachers.

The establishment and operation of a learning community will be achieved by employing the Living Labs methodology to engage all relevant actors and roles across the classroom "value chain", and to mobilise / adapt / implement the most advanced e-learning technologies into a single immersive simulation framework. This approach may also be considered as a "blueprint" for other areas and application topics.

Our research will implement and validate a collaborative professional development model and learning platform on the aforementioned pilot domains and will deliver three types of output:

- In service training courses;
- Professional training;
- Interdisciplinary system-wide exercises.

For each of the above, many diverse solutions may be adopted. The learning process may either develop in face-to-face meetings or in web based environments within the established Living Labs communities. The overall criterion of success for the proposed environment is the extent to which the results of the research will be embedded in the business processes, human resources and organisational management infrastructures of the schools. To come up with reliable performance measures, we will cater for the design of commonly accepted benchmarks that combine quantitative and qualitative aspects and comply with field standards as these stem from well respected and accredited bodies.

2. Configuring and implementing the Living Lab environment

We envisage to achieve the establishment and operation of the learning community by means of employing the Living Labs methodology. The reason is straightforward: Living Labs represent regional innovation environments focusing on user communities embedded within "real life". Even if the planning of the project is performed in a centralised manner, it will be developed such that it can be continuously adapted and validated through the interpretations and comments given by professionals. As a result of this cooperative approach, participants

will acquire full or partial ownership over the planning and their motivation to implement the pilot application in the real world school environment will increase.

Additionally to the technological aspects, Living Labs allow a deep insight into the human dimension of technology, which is of paramount importance for a successful societal deployment of new technologies. As a consequence of this potential, the Living Lab approach is taken as a natural candidate for the implementation of large scale evaluation, demonstration and validation activities at a European level.

A Living Lab refers to a setting that is created with specific targets and has a clear structure, but in the same time it is dealing with the uncontrollable dynamics of daily life. Therefore, its configuration holds an open character according to which technology is shaped out of specific social contexts and needs, and which users are seen as co-producers. Researchers within Living Labs are restricted to monitoring what is going on "from the inside"; on the other hand, they are part of a Living Lab themselves, and are able to intervene in order to contribute to a better implementation of technological innovations in social practices, and deal with the unpredictable processes by reflecting upon and consequently adjusting their initial methodology.

The problem faced by current Living Labs is that, although similar services and products are usually developed, a coherent framework for cooperation inside a Living Lab is missing. Thus every new Living Lab has to start (almost) from scratch in configuring itself for the selected beneficiaries. Within our research, we build and populate our targeted experiential learning environment according to the following steps of a Living Lab configuration process as summarised in Pierson & Lievens (2005).

- *contextualisation*, referring to the prior exploration of the technological and social challenges implied by the technology or service under investigation;
- *selection*, referring to the identification of potential users or user groups, by means of non-probabilistic or purposeful sampling;
- *concretisation*, referring to a thorough description of the current characteristics, everyday behaviour and perceptions of the selected test users regarding the research focus;
- *implementation* is actually the behavioural validation and operationally running test phase of the LL, from a user-oriented and ethnographic viewpoint; and
- *feedback*, consisting of two research steps:
    - *an ex post measurement* based on the same techniques of the initial measurement, to check if there is any evolution in the users perception and attitude towards the introduced technology or service, to assess changes over time in everyday life in relation to technology use and to detect transitions of usage over time; and
    - *a set of technological recommendations* from the analysis of data, gathered during the previous implementation phase; this outcome of the feedback phase is used as the starting point for a new research cycle within the LL; in this way the iterative feature of research can be made operational.

To come up with reliable measures of the success of the application of the Living Labs approach in the project, we will cater for the design of commonly accepted benchmarks that will combine quantitative and qualitative aspects of the application exercise and will comply with field standards, as these stem from three well respected and accredited bodies namely the National Association of Special Education Teachers (NASET) in U.S.A. and the European Association for Special Education (EASE).

References

1 Pierson J. & Lievens B. (2005), "Configuring Living Labs for a 'thick' Understanding of Innovation", *Proceedings of EPIC Conference 2005*, pp. 114-127.