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A tool to aid institutions recognize their employees competences acquired by informal learning

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The TRAILER project

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Abstract. People do not learn only in formal educational institutions, but also throughout their lives, from their experiences, conversations, observations of others, exploration of the Internet, meetings and conferences, and chance encounters etc. However this informal and non-formal learning can easily remain largely invisible, making it hard for peers and employers to recognise or act upon it. The TRAILER project aims to make this learning visible so that it can benefit both the individual and the organisation. The proposed demonstration will show a software solution that (i) helps the learners to capture a wide range of 'informal' learning taking place in their lives, and (ii) assists the organisation and the learner in recognising this learning (to the benefit of both). This software tool has recently been used in two phases of pilot studies, which have run in four different European countries.

Keywords: non-formal learning, informal learning, tagging competences, software tool.

1 Background (Pedagogy)

The Information & Communication Technologies (ICT) advances cause knowledge management flows about innovation-acceptation-consolidation-obsolescence that regard to both institutions and individuals. In learning contexts, ICT has changed the perspective from the different educational stakeholders that demand an increase of personalization, more connectivity with other peers, unlimited access to resources and information sources, a plenty flexibility in the way, place and time they access, and a natural and necessary coexistence of the formal and informal learning flows. Nowadays, this convergence among formal, non-formal and informal learning causes an international debate about the validity and evolution of the traditional teaching and learning models, especially in regard to the professional training processes [1, 2].

Informal learning takes in place in the context of everyday experience in both workplace and higher education, emerging from the activity rather than being planned. Developing the digital literacy skills needed to be part of this participatory culture is a key challenge facing education today. These skills are way beyond simple notions of ICT literacies and are more about harnessing the affordances of social and participatory media.

One of the main challenges regarding informal learning is the recognition of the acquired competences throughout these informal channels. This is specially relevant because it enhances and produces positive benefits for managers and companies; it may develop task skills and know-how and communicates “social” norms and preferred patterns of behavior; it gives employees the opportunity to learn and keep their skills up-to-date, while being part of the overall workplace culture rather than just its training regime, etc. [3]. In this context, TRAILER represents a dialog layer between the institution and the involved persons (informal learners) allowing informal competences identification, tagging, sharing and recognition for a symbiotic exploitation of this unknown knowledge of both institutional and personal development.

2 Background (Technology)

TRAILER defines a methodology to make informal learning experiences transparent to learners and institutions so that both sides may benefit. The methodology comprises a framework, described in Fig. 1, with several components and interfaces to make possible the interaction required. A PLN groups the tools that the user interacts with in their informal learning [4]. These could include Social Networks, LMS, and Remote Labs, among others. One of the tools included is the TRAILER portfolio that has an interface called Informal Learning Collector (ILC) to facilitate the gathering of informal learning activities (ILA). In addition, there are several institutional tools like: a Competence Catalog that facilitates a way to categorise informal learning experiences taking into account learner or institutional perspectives; an Institutional Environment that facilitates the analysis of the published information in order support dialog with the learner and to facilitate decision-making concerning learning issues within the institution (e.g., accreditation processes); and a Repository to store the information to be analyzed and facilitate the generation of reports that could be useful to both institution and learners. Taking into account that the ILA can be carried out with very different tools (defined in different programming languages and with different data formats), it is necessary to design a service-based architecture to support this diversity. In such architecture the PLN includes browser-based activities, widgets, games, remote labs; the ILC is based on Moodle; the ePortfolio is developed using Liferay; and the institutional environment on a PHP development. These components exchange information through REST and JSON-RPC interfaces.

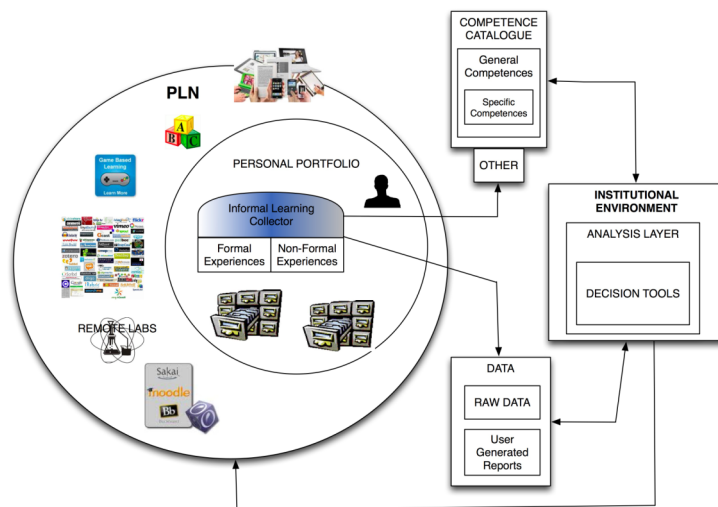


Fig. 1. – Description of TRAILER components

3 Results and outcomes achieved

TRAILER project is in a piloting phase, undergoing in 4 countries and involving 5 institutions. Table I shows the participant project partners and characterizes the cases that already occurred.

TABLE I – CHRONOLOGICAL P1 WK REPORT (S - SCHOOLS AND C – COMPANIES)

Pilots	Particular aspects (✓), Partners perceptions (●) and Participants Reactions (❖)
NL – OUNL – S ✓ PhD students ✓ Context: Education ✓ Typical age: 26-40 ✓ Sample: 18 S on WK - 86% 14 S done preQ - 78% 13 S done FG - 72% 14 S done posQ - 100%	✓ Developed in 2 groups ✓ Lasted 1.5 h ✓ Pre questionnaire in the beginning of the WK ✓ Participants were first asked to login on both environments (ILC & Portfolio) and change passwords • WK protocol too tight for 1.5 h...if we had not done all the tasks collectively via step-by-step instruction, the WK would have required at least 2.5 h. • Installing the bookmarklet was not that obvious to about half of the participants • The public/private option took quite some time to explain • The aims video was well received • In the 2 nd WK most participants got OAuth error messages (that flash very briefly) when trying to post ILAs to the portfolio ❖ Participants were a bit confused by having two environments to work with ❖ Participants asked how seriously should they take the tasks for that week ❖ Participants asked why they couldn't delete an activity from the portfolio
PT – ISEP – S ✓ 1 st year students ✓ Context: Engineer. ✓ Typical age: 18-25 ✓ Sample: 15 S on WK - 50% 15 S done preQ - 100% 3 S on FG - 20% 4 S done posQ - 27%	✓ Developed in 2 groups ✓ Pre questionnaire in the beginning of the WK ✓ Lasted for 2 h • Low attendance because of extra activities • Related to the OAuth Confirmation: this page doesn't show immediately the buttons "I authorize" or "No, thanks", instead shows the message "We know nothing about that" ...after a few minutes the 2 buttons appeared and after that, all the procedure went on with no problems! ❖ Some participants demonstrated lack of motivation during the WK, others were more enthusiastic.
PT – Evoleo – C ✓ Typ. degree or MSc ✓ Context: Engineer. ✓ Typical age: 26-40 ✓ Sample: 10 E on WK - 83% 10 E done preQ - 100% 9 E done FG - 90% 9 E done posQ - 90%	✓ Pre questionnaire in the beginning of the WK ✓ Lasted for 2 h • It was important to stress out that showcases show collections of activities, for which they can choose the people they want to share with; and to distinguish this from: what the "boss" sees automatically in the Institutional context (when made public by the user) is only a list of competences (not activities). ❖ Participants asked why they couldn't delete an activity from the portfolio? ❖ Related to the showcase: what is made public/shared? ❖ Related to the "peer recommender": issues related to whether or not, the information should be visible within the TRAILER community or only within the Institution (they should have the two possibilities). Other was related to the access to other peers' competences and other peers' peers...
ES – USAL – S ✓ 3 rd year students ✓ Context: Education ✓ Typical age: 18-25 ✓ Sample: 72 S on WK - 65% 27 S done preQ - 38% 10 S done posQ - 37%	✓ Related to ILC, students entered the platform before explaining ways of collecting activities ✓ Related with the Portfolio, the first task we have done was to edit the personal profile, just to have, first of all, an idea of the information's you can introduce and share in order to "personalize" the environment. • Students demonstrated good disposition and interest in the pilot experience • The format of the video was well received.
ES – Mindsock – C ✓ Typ. degree or MSc ✓ Context: Commun. ✓ Typical age: 26-40 ✓ Sample: 10 E on WK - 83% 10 E done preQ - 100% 10 E done posQ - 90%	✓ Participants were very interested to learn about the platform. ❖ Why are the ILC and the Portfolio separated? ❖ The competence list was impossible to navigate and find the right one due to the size and unintuitive titles ❖ The apparent disappearance of the tags in the portfolio ❖ Participants thought that the idea for such a tool is a great one since it helped them realize that they were participating in a lot more IL than they thought ❖ However, the platform would need a lot of simplification in order to be usable on a daily basis.

Pilots have two distinct and asynchronous phases: P1 is focus on learners and P2 is focus on institutions. P1 began with a Workshop (WK) where TRAILER was presented and the tool was explained step by step, each followed by a hands-on task. Participants were then asked to try the tool for one week, keeping in mind the performance of some particular tasks: collecting evidences, defining competences and making showcases. Finally they were invited to participate in a Focus Group session (FG) where they could share their opinions and make suggestions. Before the WK and the FG, participants had to answer an on-line questionnaire (pre & post), related to their informal learning (IL) perceptions. After analyzing partners' reports on how the WK was delivered and their perception of participants' reactions, problems and comments, we are able to point out some common features and some particular aspects that might have conditioned their participation (Table I). Even though not every WK occurred exactly in the same conditions, this didn't appear to affect the outcomes. Participants groups were somehow different: some were much more motivated than others, but it is still soon to be able to set up a pattern. Some participants' doubts and concerns show common figures that must be take in consideration, namely: Why the ILC and the Portfolio are separate? Why is not possible to delete an activity from the Portfolio? Exactly what is made public?

4 Demonstration outline

The demonstration will follow a two-phase process; starting by addressing the learners in capturing and organizing their IL, and finishing demonstrating how the organizations may recognize this learning and what they can benefit from. Learners are asked to collect evidences of their IL activities in the ILC, describe and associate them with competences. These competences include those defined within a general list of competences (based on ISCO-88) and those previously defined by the organization as competences relevant to their own business activities. As the learners can collect IL evidences in a random manner, the Portfolio provides a way to organize these activities in showcases and decide which are to be shared with others (within interest groups: professional, personal, or others). Learner may always decide whether or not to publish a competence, which, by doing so, becomes visible to their superiors. Also, the latter might be interested in knowing their learners competences, in order to support decisions that benefit both. This information is available to them through their institutional environment. Based on that information, better sustained decisions, like "Has the organization competences to endeavor a certain project?"; "Has the organization the need for external contracting for a specific task?"; "How the organization can manage the learners' activities to their best interest?" are expected to be addressed using the TRAILER tool. This tool also provides a way to find people with similar competences within the TRAILER community, which represents an opportunity to explore and exchange ideas and to explore collaboration opportunities.

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5 Specific Technology & Environment needed at conference

Please specify here what is needed to set up the demo at the conference site. This section does not count against the page limit and should not be printed in the proceedings, but is valuable for us to plan the technical setup in advance. Among these aspects are:

- internet, wireless*
- space, projection*
- number of demonstrators (min, max)*
- unusual hardware (please indicate if you bring it with you)*

The proposed demonstration will be structured as follows:

- A first general presentation of the tool followed by a practical, hands-on session where participants can interact with it.
- A second part that focus on showing what the organization or the learner can benefit from the previously collected and shared information.

The demonstration requires the following facilities and equipment:

- One room with wireless Internet connection and one video projector.
- Attendees should be encouraged to bring their own notebooks and laptops. As a contingency measure, the room should be equipped with at least 5 computers with Internet connection.
- The demonstration accepts a maximum of 15 and a minimum of 5 attendees.