

Complementing the Human Resource Management infrastructure of the Doblevia cooperative using TENCompetence

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Abstract — The Catalan cooperative Doblevia aims at improving their human resource management infrastructure by incorporating functionalities to support the lifelong competence development of their employees / cooperative members. The TENCompetence system seems to be a good candidate to achieve their requirements. This paper exposes how Doblevia has carried out a plan to introduce this system in their organization. It also explains the main findings obtained after a preliminary evaluation. An analysis of these findings is performed to understand which impact and benefits this change can represent in a SME cooperative like Doblevia.

Index Terms— competences, cooperative, TENCompetence

I. INTRODUCTION

A challenge of the current employment society is to have the opportunity of improving the lifelong learning of professionals so as to be more competent and efficient. In this context a Catalan cooperative called Doblevia is interested in offering a more flexible human resource management infrastructure to facilitate their staff competence development. A competence is the “*combination of knowledge, skills and attitudes appropriate to the context. Key competences are those which all individuals need for personal fulfillment and development, active citizenship, social inclusion and employment*” [1]. In a competence-based organization first it is necessary to offer a platform to support lifelong learning. And second the organization needs to have mechanisms to verify if their employees have acquired the necessary competences (for example in order to promote them).

In these circumstances the TENCompetence project emerges with the aim of building an European network for lifelong competence development [2]. In this project an eLearning environment has been developed with the aim of supporting individual learners, teams and organizations in their pursuit of competence development and competence practice. This is a four-year project in the European Commission’s 6th Framework Programme, priority IST/Technology Enhanced Learning. In this period of time the project has evaluated its tools in different educational scenarios using pilots as a method of evaluation [9, 10, 11, 12]. The conclusions extracted from these pilots have been used to improve the TENCompetence tools and makes possible the dissemination of this environment to organizations and individual professionals. In the last year of the project a set of organizations have been selected to evaluate if the integration of the TENCompetence tools is feasible within their own settings.

One of these organizations is Doblevia. The application of the TENCompetence solutions in Doblevia represents an importance change in the organization, which did not have any competence development policy for its employees.

The benefits of this demonstrator are mainly internal to the Doblevia organization:

- Provision of a tool that facilitates the work of the human resource manager
- Personnel mastering several competence profiles (so as to enhance the flexibility of the organization)

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- Lifelong learning opportunities for its employees (keep up to date)
- Knowledge sharing among employees

In this paper we focus our attention on how the TENCompetence environment can be established in a cooperative organization in order to support their human resource management infrastructure. Section II describes the Doblevia's context and the objectives that they have using TENCompetence. It also exposes the changes to be implemented in the organization. We detail the integration of the TENCompetence environment in the Doblevia's intranet, complementing its current services. Section III exposes the description of the methodology employed for evaluating the integration of this environment and discussing the main results. Section IV highlights the implications of integrating a competence-based tool from the perspective of Doblevia. Finally, conclusions and future work can be found in Section V.

II. DESCRIPTION OF THE DOBLEVIA BUSINESS DEMONSTRATOR

Doblevia cooperative [13] is a non-profit organization that supplies educational, social and cultural services in Barcelona, Spain. This organization is composed of a team of 140 persons working in management, project coordination, social dynamizing activities, education, monitoring, informing and administrative tasks. Doblevia offers social and educational free-of-charge services. Its employees have to master a broad set of competences that enables them to resolve daily issues, to do relationships with the clients, participants, make memorandums and statistics, etc. Because the internal organization of a cooperative the learning activities are one of the most valuable practices of the personnel. They currently offer training but they are interested in using innovative educational methods and tools to give support in lifelong learning. For this reason Doblevia decided to collaborate with the TENCompetence project as a business demonstrator. Their goal is offering training opportunities for competence development to their employees, which typically have changing job requirements. For instance to understand better the situation, two typical Doblevia staff profiles are: (1) Social education students well-formed but without team management skills. Other is (2) professionals with experience managing teams but without budget and cost management competences.

In the TENCompetence project Doblevia acts as a user organization which will work around competence development plans associated to their three different main competences profiles: Social coordinator, Monitor and Informer.

The TENCompetence environment was installed in a computer room of the organization. Once the participants have a first contact with the tools they can decide whether they want use them wherever they prefer (in the work, in their personal computer, etc.). Thanks to the web environment of TENCompetence their participants will have the opportunity of training themselves in their free-time.

A. Objectives of the Doblevia Business Demonstrator

The main goal of Doblevia is improving their human resource management infrastructure, achieving the following tasks:

- Distributing and managing new and expert knowledge within the workplace. This knowledge has to be linked with the responsibilities and functions expected in the employees according to the different competence profiles required by the organization (monitor, social coordinator and informer).
- Offering training to personnel to learn specific (new, complex and changing) job requirements (e.g., training a monitor that wants also to be a social coordinator, or simply training a new monitor so that his or her proficiency level increases).
- Increasing their knowledge resource repository, improving their exploitation, management and dissemination. Providing tools to self-organize learning and promoting the voluntary knowledge exchange (e.g., one team design activities or seminars with the objective of developing their competences, Doblevia wants to collect these activities and share it with another team).
- Motivating their personnel. The employee has to know that they can practice new competences according to their own needs and improve their expertise to be promoted.

B. The Business Demonstrator scenario

The plan for integrating the TENCompetence environment in the Doblevia's cooperative was:

- Determine the competences associated with the three main competence profiles (Social coordinator, Monitor and Informer).
- Elaborate a set of competence development plans and embedded activities and resources.
- Populate the system with the competence development plans.
- Execute the demonstrator pilot.
- Evaluate the demonstrator pilot.

a.) The competences that define the minimum requirements for the three competence profiles of this demonstrator pilot are:

Competence profile “Informer”:

- Being able to manage the flow of information between customer and service (to inform the potential audience, being able to identify incidences and suggestions)
- Being able to manage the offered services (participants database, statistics, documentation)
- Capacity for dealing with (new) clients and participants
- Coordinating with the rest of the team

Competence profile “Monitor”:

- Being able to perform different types of socio-educative activities (propose, plan, execute and evaluate)
- Being able to document different types of activities and their results
- Group work
- Being able to act in unexpected situations

Competence profile “Social coordinator”:

- Project management (design, planning, development and evaluation)
- Managing objectives (formulation and evaluation)
- Methodology (design and implementation)
- Being able to perform different types of socio-educative activities (propose, plan, execute and evaluate)
- Being able to create content
- Elaboration of reports
- Application of quality standards
- Incidences and suggestions management
- Proposing strategies of community development

b.) Each one of these competences has to be associated a set of activities that enable the development of such competence. For example a guide for the monitor which explains how to prevent possible labour risks, a test to check their knowledge about quality standards, etc. Different types of activities were created according to the three different competence profiles.

c. d. and e.) are exposed in the following sections.

C. TENCompetence tools used

The TENCompetence environment enables Doblevia’s employees to practice their competence development regarding the profiles required by the organization. In this context the Personal Development Plan tool (PDP) has been used to practice self-directed learning activities and measuring their competence expertise [3, 4]. The organization also used this tool to monitor the development of the competences. The PDP tool provides an editor for creating competences profiles, competences and activities of each competence. The activities can contain a set of documents and links. The author of an activity has the possibility of adding Units of Learning (UoL). To create a UoL the author has to use the authoring editor ReCourse [7]. ReCourse is a tool which enables to create UoLs following the IMS Learning Design specification (IMS LD) [5]. This editor also enables adding assessment tests following the Question and Test Interoperability specification (QTI) [6]. The enactment of the UoL is controlled by the IMS LDRuntime [8], these are a set of tools for publishing, visualizing and interacting with the UoLs. An expert of Doblevia created a set of activities related with the competences profiles presented in the previously section. Both types of activities were included in the competences: simple activities, for instance an activity which contains a manual. And complex activities with a UoL with a QTI test to provide self-assessment activities. These last ones were created using ReCourse.

The PDP tool was integrated in the Doblevia’s human resource infrastructure to support the competence development and practice. Doblevia has an Elgg 0.7 web portal (see Figure 1) which they use as a social intranet for sharing information such as: calendars, portfolios, blogs, communities, forums, etc. It also includes its own Curriculum Vitae (CV) manager to facilitate the task of the persons in charge of human resources. For using the PDP tool, an employee has to log-in in the Doblevia’s intranet and press over the button “Formació” (Training), (see the button in the number 1 in Figure 1). After pressing the button the user views a screen with two icons: the PDP tool (see number 2 in Figure 1) and a user guide of the tool (see number 3 in Figure 1).

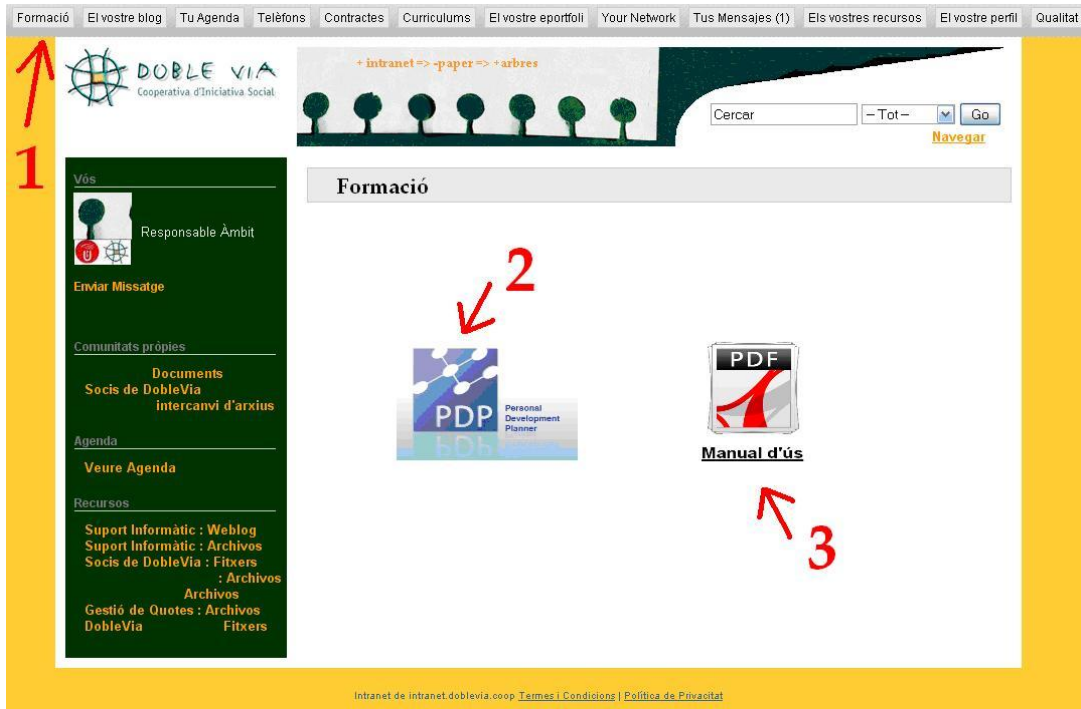


Figure 1. Doblevia's web portal with the PDP tool.

When the users select the PDP, they have to enter their username and password. After it, the PDP shows the different competence profiles contained in the tool. The participant has to select the competence profile which s/he wants to practice. Each competence profile has a set of competences. The user has to create their personal competence plan, this is the set of competences that the participant wants to practice. For each competence of the plan (see Figure 2, number 1) the participant has to select their proficiency level using the self-assessment bar (see Figure 2, number 2) of the PDP tool. This bar shows 8 levels of proficiency according the European Qualification Framework [15], the author of the competence has edited previously the necessary required level to achieve this competence (for instance in the picture the required level is 4).

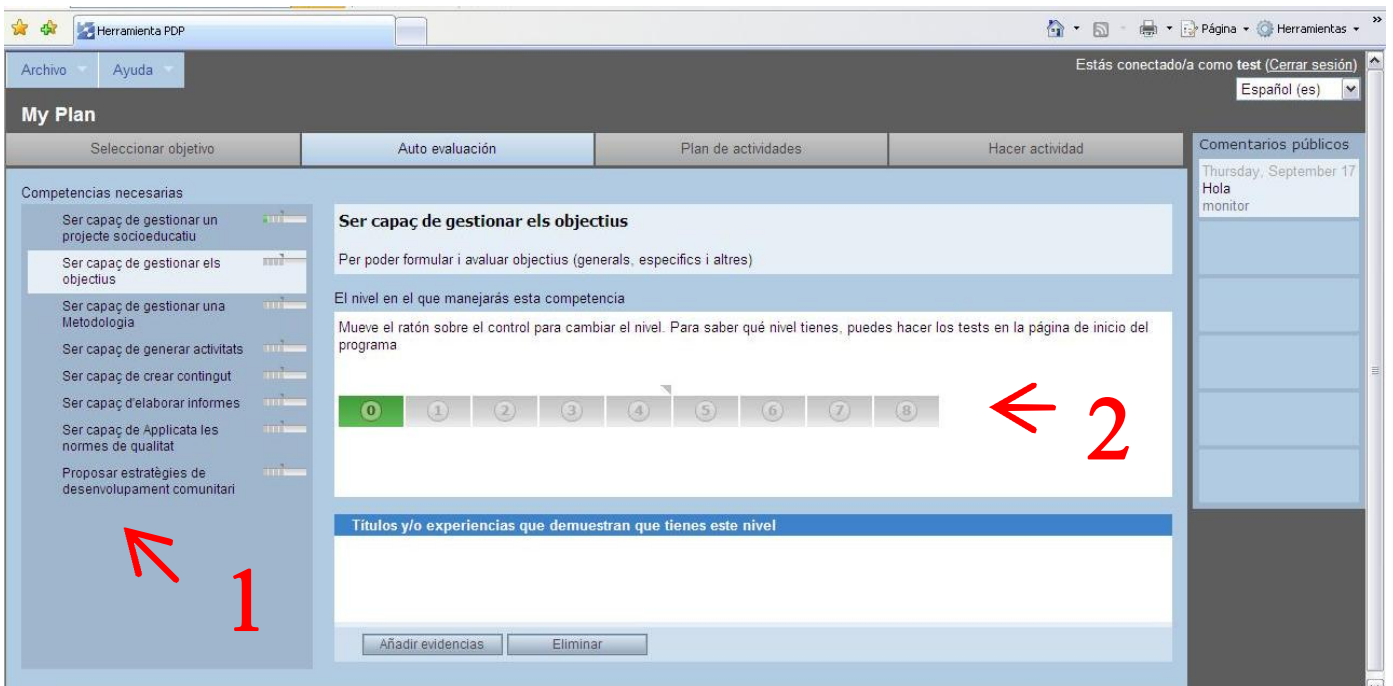


Figure 2. Self-assesemnt bar in the PDP tool

After using the self-assessment bar for each competence the users select the activities that they want to practice. As a final step the user can practice the activities.

III. EVALUATION

A. Methodology

In order to understand if the PDP tool fits the Doblevia's expectations, 2 sessions were performed to collect data from a representative group of employees. Taking into account the competences profiles created for the business demonstrator, two members of the human resource staff selected those participants from Doblevia personnel who have more experience in these profiles.

In the first session 3 participants evaluated the tool. The group was composed by 1 director, 2 social coordinators/monitors. 2 other employees participated in the second session, 1 informer and 1 social coordinator.

Every session was divided in two parts:

- a) In the first part the participants had to answer a pre-test. The objective of this test was to understand:
 - (1) the expectations that the participants had about a tool to developed their competences;
 - (2) the type of competence profiles which they develop in their work;
 - (3) the employees' interests in achieving new competences.
- b) In the second part the participants interacted with the PDP tool. Each user had an account to the Doblevia's intranet and an account to the PDP tool. The participants had to create their own personal competence plan previously selecting a competence profile. They could create their plans, selecting the competences offered, and they were motivated to practice different types of activities: an activity with a user-guide, a QTI test, a simple activity, etc.

In each session the human resource manager of Doblevia of this paper applied an observational method [14] to collect comments, problems and ideas of the participants interacting with Doblevia's web portal and the activities contained in the PDP. Quantitative and qualitative data were collected during the two sessions. Quantitative data were collected with closed-questions in a pre-test (answered before interacting with the PDP) and post-test (answered after interacting with the PDP). Qualitative data were collected using open questions in the pre-test and post-test. After interacting with the PDP, an interview with each participant was done. Finally, the experience finished with a discussion with all the participants. The results obtained from the tests, interviews and discussions groups were analyzed to detect tendencies in occurrences of facts, possible problematic points, etc. The qualitative data collected are more significant in this experience than the quantitative data due to the reduced number of participants. Doblevia has not been able to involve more people due to internal limitations (time availability of employees at the time of running the demonstrator).

The duration of the sessions was of an average of 2 hours.

B. Results from the experience

The main findings extracted from the pre-test were:

- (a) Practicing competences to improve their knowledge, abilities or skills. They can use these competences to learn how to solve problems or specific situations in their job.
- (b) Sharing of knowledge between people of the same profile.
- (c) Offering ways to achieve evidences (certificates, grades and others).

After the interaction with the PDP tool the data collected from the post test reflected that:

- The PDP tool has to offer private rights to the users. They would not agree to use the tool if for instance the human resource personnel can use it to check the personal training of an employee, at least until they do not finish the development of a competence profile.
- The tool offers the sufficient training functionalities, so as it allows the employees to develop the required competences to be promoted. They can practice competences to achieve a new job.
- The most valued activities were the self-assessment activities with QTI tests. The tests (an example of this type of activity is showed in Figure 3) allow them to verify automatically if they have achieved the goals to acquire the competence. They appreciated the feedback that each question showed and the final report result of the test.
- The majority of the participants think that the graphical interface of the PDP tool has to be improved. They propose that the interface has to guide better the user, and a reduced number of buttons will improve the usability of the tool. For instance: the PDP should have to guide the user doing the different steps adding numbers: 1) select goal, 2) self-assessment...). The step of generating their personal plan of activities has too many options.

- 4 participants appreciate positively the learning experience based on TENCompetence tools and 1 participant indicated that was a negative experience. This participant thinks that before using software tools, the organizational strategy /change regarding competence development should be clearer and better organized.
- The participants have been working in one competence profile. It is important to mention that they 4 out of the 5 participants selected a competence profile related to a better company position (instead of similar profiles). The other participant decided to reinforce the competences of their current profile to keep up to date.

Figure 3. Example of QTI test used in Doblevia

The main findings extracted from the interviews and the final discussions were:

- The participants agree on using the self-directed learning activities that the PDP offers from the distance. But they want some face to face activities associated to these competence profiles.
- They think that a useful functionality would be that other colleagues or superiors could recommend activities added to the already provided.
- The employees of the same team should have rights to see in the PDP the progress of the members of the team.
- In order to use the system from the distant, they would appreciate having supporting staff or tutors guiding them and giving feedback when they practice the activities in de PDP.
- The participants commented the flexibility of the approach basically because it is web-based, and asynchronous personalized solution to support their lifelong learning.

IV. DISCUSSION: IMPLICATIONS FROM THE PERSPECTIVE OF DOBLEVIA

The study of the integration of a competence development tool has enabled to Doblevia to understand what new changes they have to introduce in their organization and their intranet.

An important element in an organization is the information contained in the curriculum of the employee. In the Doblevia's web portal there is a section for managing the curriculums of their personnel. In this page (see Figure 4) the human resource personnel can access to the employees' picture, and information about the current work position of the employee, their level of studies and personal data.

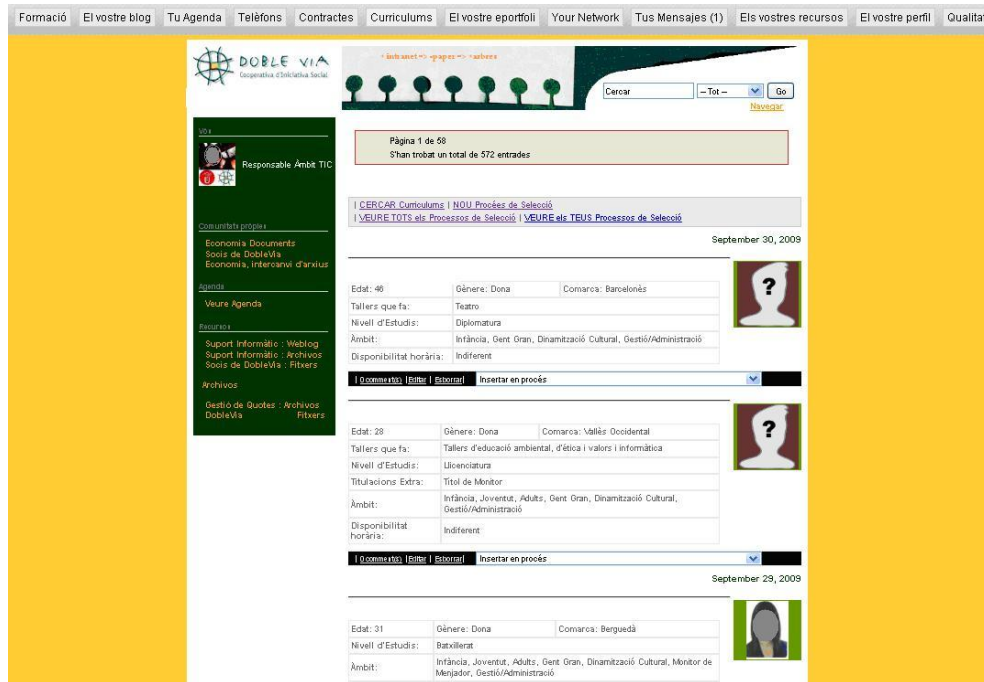


Figure 4. Doblevia's portal web, curriculum application

For Doblevia, a very important issue would be to connect the data of the PDP with the curriculum application. Enabling that the curriculum of the employee could be automatically updated, when indicated by the own employee, with the acquired competences practiced in the PDP tool. This functionality would enable to have a continuous update of the information of the curriculums. The employees would be motivated to practice new competences because they will know that their improvements will be reflected in this section.

The application process for job positions is very important in Doblevia. The human resource staff receives a list of candidates and they have to do a ranking of the best ones. This is a very long process and the staff has to invest big efforts. The TENCompetence environment introduces the possibility of automating all these tasks. It would be an interesting future application if the competences of the required profile can be matched with the competences that the different candidates have and the system selects the best matches automatically.

Other important functionalities for the human resource staff would be:

- To have the possibility of monitoring the rate of activities that seem not to be of interest of the employees. This means that if there are activities which almost never are marked as completed, then these activities have to be re-designed.
- An interesting functionality for the organization could also be one that reports the self-improvement capacity of their employees. An aspect of consideration by the human resource manager to promote an employee would be if they are more capable than others when acquiring new competences.

Despite these are important aspects for the organization, the findings of the preliminary evaluation show that employees want to decide when their personal information can be public to the employer. For instance they do not want to publish information like competences that they began to develop (performing some activities) but they did not finalized, or the time that they spent acquiring a competence.

V. CONCLUSIONS

This paper has exposed how a competence-development environment can be established in a cooperative. The objective of Doblevia is to improve their human resource management infrastructure at the same time that they evolve to a competence-based organization. As a solution they decided to use the TENCompetence environment. To introduce these new changes in the cooperative, a business plan has been developed. The first step was to think the main competence profiles that Doblevia staff has. Once they define the competences of these profiles, they use the PDP and the Recourse tool to create the different activities. The first contact between a group of participants and the PDP tool has given the first findings which demonstrate that it can be used to determine if an employee has the necessary competences to work in a vacant. The tool is received as a good solution for training and acquiring new competences. The new learning possibilities have a positive effect in the motivation of the

employees. After the experience with TENCompetence, all participants are keener now to keep developing competences. For example, they now take more serious the Friday time reserved for competence development activities. The leader of each working group is coordinating these activities without an explicit request from the organization. As a first result, one of the participants has progressed improving in higher profile. Her current job profile was Monitor and she used the PDP to acquire competences of the Social coordinator profile. Recently she was upgraded to a Director job.

The future work of this Business demonstrator includes populating the performing more evaluation experiences with the 10% of the Doblevia's personnel. Once the system will be accepted as the competence-development tool of this cooperative, they plan to contact with a company specialized in doing the specific competence material that Doblevia needs, and then include the new activities in the PDP.

The cooperative wants to work in a programme to promote the use of the tool, making possible that their workers could have a room and allocating part of the employees working hours for practicing the competences in the workplace.

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