Work-embedded Learning for Employees who Work for Child Allowance Agencies

Michaela Herrmann
Teleteach GmbH, Geretsried, Germany

Abstract—The application “LernCULtur” is designed to support the employees of child allowance agencies in their work and provide an environment for them to learn in their own pace as well as getting information on demand.

Index Terms—learning on demand, online learning, work-embedded-learning

I. WORK EMBEDDED LEARNING - WHY?

By law, the Bundeszentralamt für Steuern (BZSt) is responsible for child allowance. Their main job is to enforce a correct application of the laws in the field of child allowance by publishing instructions, training materials and templates for different kinds of papers. The ever-changing laws in the field of child allowance and the potentially high fines in case of mistakes all make further education of the employees important. In addition to regular education, the supervision provides a free software for self educated learning called “LernCULtur Familienkassen”.

With its six categories (Basics, Course, Cases, Information, Glossary, Regulations, Forum) the application “LernCULtur Familienkassen” is a hypermedia tool to work on real life cases.

LernCULtur was first provided to child allowance agencies in 2003. Since 2012, LernCULtur is provided in a browser version. This web-app allows users to access all the content from anywhere with just an internet-connection and any of the currently popular browsers (FF, IE, Chrome).

A. The Structure

The main aim of the application is the optimal integration of learning on demand into the work process for a very heterogeneous audience, including the relevant information retrieval in the subject area of tax right within german public administrations. The suitable integration of the work process with information retrieval and e-learning was identified as one of the most important success factors.

There are app. 16,000 "Familienkassen" in the public sector in Germany, most of them are rather small organisations (1-2 employees), but there are also some large ones with very specialized staff of 100 or more people. As a result, the level of knowledge as well as the demand for training and information is very different throughout the user base. Since every “Familienkasse” is an organisation on its own, the technical infrastructure at the users site cannot be affected.

B. The Requirements

The system had to be designed to make keeping it up to date easy– where books and standard learning software failed to keep up with the short-lived information we wanted LernCULtur to be dynamic enough to change the content daily if necessary.

C. The Users

When asking our potential users, we discovered that some of them only had very few cases of child allowance in their agency whereas others had much more. This means that we are working with a very diverse pool of users with some having a lot of experience from earlier cases and some only jumping into the subject every few weeks. To design LernCULtur for a self-paced learner would be a good way to meet the requirements of all different levels of proficiency.

D. The Content

While digging deeper into the subject, one might discover that the field of child allowance is very diverse, ranging from very simple cases to extremely difficult ones that require more research. The variety of cases is a problem for linear learning systems, so we thought of our users as self-paced learners who can now choose from the different modules to get the specific information they need.

To memorize all the complex details does not make much sense. Therefore we made it possible for users to look up the required information when working on a special case and directly apply it to the practical work instead of gaining knowledge for a test that they will probably never need again.

II. WORK EMBEDDED LEARNING – HOW?

A. The Idea

An adequate strategy had to be chosen in order to support all kinds of users, since the classical CBT/WBT approach, which is very course oriented and targeting a “learning-on-stock”, didn’t seem to achieve sufficient success. Moreover, the suitable support of the work process with information retrieval (editorial or user-generated content) and e-learning parts was identified as one of the most important success factors.

In order to achieve all these different goals, a very modular approach was designed and implemented. We introduced a specialized concept of "information objects", leading the "learning object" approach towards a broader foundation. Every single page in the system is an information object.

An information object should be as context free as possible, in order to make its re-use (within the system) possible. However, brought into a didactical context, the information objects become small learning objects.

Beside breaking the content down to this atomic information objects, we separated the information objects from the structural information. In particular, the same information object can be included several times at
different places in the system (but there has to be a unique “content home” for every information object, which defines its main occurrence).

B. The Structure

“LernCULtur” contains information important for the usual work of the employees as well as learning material for them to work through whenever they have spare time and as long as they want. The parts of informing and learning are not separated but designed as one user experience with fluent transitions.

The new forum adds possibilities for user generated content. Whenever a question arises that might not be answered by the given information, the user can just use the functions of the forum to ask others. Once they gain enough proficiency in a field they might use their knowledge to help others and answer their questions, and when a certain subject gets a lot of attention it might eventually be integrated into the system as a new content.

In addition, editorial content and user generated content from the forum are linked with key-words. This allows us to quickly provide more information to a given topic by following our keywords.

C. The Technical Solution

All this modular information and learning material is managed by a content database, in which additional metadata about the information objects is stored. On the metadata side, we used the LOM data model and its extension possibilities as a starting point. Furthermore, we choose to use the content packaging format of SCORM (1.1) as the technical interchange format.

Out of this modular information and learning material, several content areas were built, each of them addressing different needs. The structure that combines the information objects into larger units, so called “composed information objects”, is completely independent of the information object itself. Any content object in the system can be re-used throughout the whole system.

D. The Didactic Side

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As stated above, the systems main structure are several content areas, which are reached by a tabbed navigation in the user view.

The first and, concerning the learning part, most important content area of LernCULtur includes small reusable (“CBT-like”) e-learning-sections (“Praxisfälle”, which means “learning cases”; these are “real life” situations that are presented to the learner in a didactical manner). Guided tours and background information have their own main area (“Informationen”), since they are usable as overview charts for the work flow.

An encyclopedia area (“Fachlexikon”, encyclopedia for the subject matter area) gives generic definitions of relevant terms. These are very often provided as background information (“see also”) within the learning cases by linking to them.

Reference texts as well as all relevant legal texts (“Vorschriften”, legal information such as law texts and regulations) are also collected in a distinct area.

With the design of LernCULtur we followed the principles of learning and merged the practice of daily business with the information needed most by our users. This ensures that connections between information can be made easily by the learners and that they will start integrating the system into their work faster.

E. The Feedback

According to our evaluations, most users of LernCULtur use the software to look up information they need at least once a week. One of the most frequently visited parts of the program is the section “regulations”, containing all the paragraphs referring to their work in an up-to-date form. More than half of our users visit LernCULtur at least once a week to get help with their work.

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Michaela Herrmann is with the Teleteach GmbH, Geretsried, Germany (e-mail: michaela.herrmann@teleteach.de).

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