

Introduction to KHNP's Informal Learning

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1. Introduction

Korea Hydro & Nuclear Power Co., Ltd. (KHNP) has developed digital learning content for e-Learning, based on existing offline training materials since 2003. As a result, e-Learning content for basic training subjects have almost been developed, and the company is running e-Learning courses separately from offline training. This has allowed KHNP personnel to do self-study to catch up on the fields they are in, without having to leave their work.

Accordingly, KHNP is attempting to bring about numerous changes to the existing courses comprised of only offline training. All basic knowledge included in each training course contains e-Learning content. And offline training is focusing more on solving problems, which will eventually help enhance work performance.

2. KHNP e-Learning Implementation Details

2.1 Gradual Change of Offline Training into e-Learning

Existing offline training is gradually turning into e-Learning-only training or blended learning which is a combination of offline and online training. In 2010, 19% of the existing offline training turned into blended learning. And in 2013, 100% of the offline training will change into blended learning, except for some courses not available for e-Learning.

2.2 Overseas e-Learning Training Project Preparation

Preparation has been made for e-Learning since it was selected as an important part of the nuclear power training project that KHNP signed with the UAE. KHNP is concentrating on three important tasks for the preparation.

First, the company is translating its e-Learning course content into English – the content for 14 courses are in the making.

Second, the company is buying excellent technical content from overseas. Content from a wide variety of basic technology will be purchased in 2011.

Finally, we are preparing to develop a training management system that will enable trainees to use the

e-Learning content and to build information technology equipment for this.

All preparations will be completed in 2011. And the company will make a standard e-Learning model of nuclear technology that can be used for UAE trainees and other overseas training projects.

2.3 Ensuring the Informal Learning System

KHNP recognizes the importance of informal learning and is using the following methods:

- KHNP e-Learning 2.0, UDeL
- u-Library
- u-Laboratory (adopting the Immersive Mixed Reality)
- Mobile Learning

Apart from the four methods above, we are planning to adopt social learning in 2011 to strengthen the informal learning.

3. Blended e-Learning System Establishment Cases

KHNP has established an effective e-Learning system based on its e-Learning experience for about two years between 2006 and 2008. It has combined its formal e-Learning system (formal e-Learning courses offered in the form of a course), which had been in place for two years, with the systematically-developed informal e-Learning based learning methods. This blended learning system is aiming to achieve improvement of work performance, an important factor of employee training.

3.1 Establishment Motive

3.1.1 Just-in-time Learning (JIT Learning)

Just-in-time Learning, training provided to the employees in a timely manner for the performance of their work, is of critical importance to employee training. The key purpose of employee training is not merely limited to the provision of knowledge or skills but extended to the improvement of the employees' work performance. Therefore, it is essential to provide information in a timely manner, including expert advice, relevant cases, data and manuals. KHNP has been endeavoring to devise a learning method to facilitate this purpose.

3.1.2 e-Learning 2.0

The fundamental elements of this JIT Learning include 'Openness', 'Participation', and 'Sharing.' Knowledge and information are open and shared, and participants re-create knowledge and information through active participation in activities. This process can be referred to as "e-Learning 2.0", and the realization of this e-Learning 2.0 is what KHNP has been trying to achieve.

3.1.3 Informal Learning

KHNP has been making constant efforts to establish a unique e-Learning system using pre-existing informal learning systems; this methodology has been gaining popularity worldwide. Picture 1 shows the values distributed by each learning phase and educational estimates, and Picture 2 describes Rosenberg's e-Learning structure.

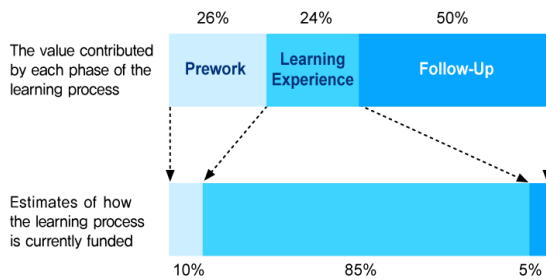


Fig. 1 The values distributed by each learning phase and educational estimates

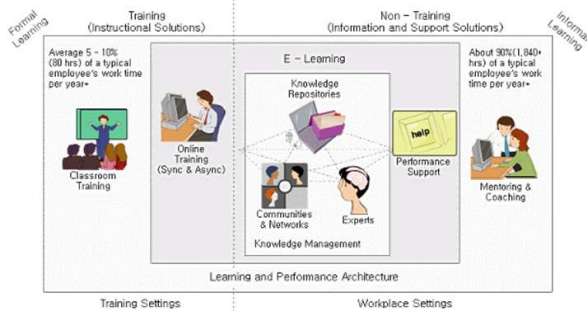


Fig. 2 Rosenberg's e-Learning structure

3.2 Blended System Development Conditions

KHNP had the following initial circumstantial conditions. Based on these conditions, KHNP has developed a blended system.

- 1) Possession of sufficient learning objects with Meta data records
 - 4,700 SCO's (Shareable Content Objects) Designed for e-Learning
 - 1,264 Items of File-based Content Asset
- 2) Possession of sufficient e-Learning content required for simulation-based practical training for site equipment structure, operational principles and operation
- 3) Growing importance of making educational materials (or books) available in the form of eBooks and also company-wide

- 4) Managerial demand for strengthened plant maintenance/operational practice
- 5) Possession of 3D modeling data for plant key equipment

3.3 System Establishment

3.3.1 System Establishment Purpose

The system establishment purposes are as shown in Picture 3, and the relevant development steps have been taken:

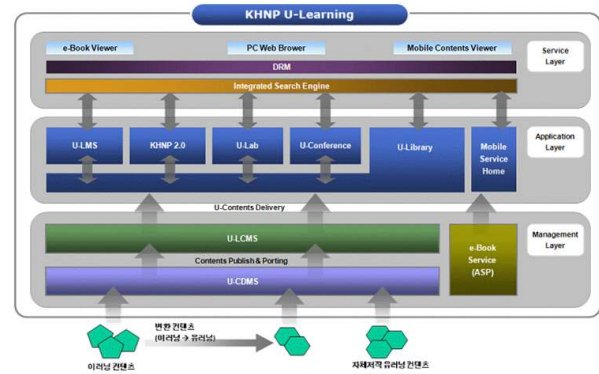


Fig. 3 The relevant development steps

3.3.2 System Establishment Status (As of Oct. 2010)

The System consists of the following five different types of learning methods in a blended form. The content of these five methods are easily accessible across the methods in the means of an integral search function and therefore immediately applied to on-the-job training. Those accessible through this function include the content of e-Learning courses, UDel courses, Learning SCO, Asset, UCC, Knowledge Q&A, eBooks, Practice SCO and Google Books.

4. Conclusions

KHNP's convergence system is combined with myriad learning methods: formal learning, informal learning, personal computers, smart phones, eBooks pertaining to humanities and for training, u-library and u-laboratory. This is a concept that will broaden the scope of e-learning from formal learning to informal learning. The plan will help support OJT in the workplace and more cooperation, coaching and mentoring among team members by adopting diverse electronic learning methods. Furthermore, this concept will lead to a stronger learning system combined with social learning in 2011. KHNP is committed to turning the current system into JIT learning that will meet the work speed and eventually boost work performance, based on the strategic objectives.

REFERENCES

- [1] Yearly Training Report, KHNP.2010
- [2] Yearly e-Learning Training Report, KHNP, 2010