# e-Cluster Building and Using for Nuclear Industry Human Resources

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## 1. Introduction

In line with its industry support policy, KHNP provides training courses for small and medium sized companies within the nuclear sector. The courses cover three main areas; technical development, market expansion and human resource and finance. They are provided in traditional classroom settings and on-line. Employees from small and medium sized companies can take any of the available courses according to company and individual training and development requirements. While the training and development opportunities serve a role in the growth and development of skills and capabilities industry-wide, KHNP also sees the involvement of a wide range of nuclear industry participants in the program as a means of developing a safety consensus that addresses both operational and social safety concerns. The purpose of this paper is to outline the successes of the KHNP industry training support program to date and to propose the development of an e-Cluster model. This model envisages the development of a nuclear industry. It will provide a means for sharing information and developing and maintaining industry-wide technical, management and safety standards.

## 2. Training courses for small and medium-sized companies

### 2.1. Off line courses

These traditional format courses maximize training efficiency through direct contact, information sharing and facilities observation.[1]

Table Ⅰ : Yearly training course status

| year | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Class | 33 | 25 | 38 | 42 | 29 |
| Person | 380 | 207 | 611 | 897 | 985 |

### 2.2. On line courses

These courses maximize the limited time opportunities available to many course participants while minimizing disruption in small and medium sized companies.[1]

Table Ⅱ : Yearly training course status

| Year | 2006 | 2007 | 2008 | Remark |
|---|---|---|---|---|
| Class | 14 | 42 | 48 | |
| Person | 430 | 776 | 1018 | |

### 2.2.1. KHNP Education Institute homepage

KHNP Education Institute homepage which includes a banner for small and medium sized companies.



Fig. 1. KHNP Education Institute homepage

## 3. Analysis of training courses

The analysis of the success of the off and on-line courses is based on three key indicators; The rate of course, the rate of course pass by participants and the results of participants' post-course evaluations.

### 3.1 The operation rate of training course

The operation rate of off-line training course increases slowly. afterward the operation rate of on-line increases rapidly. Refer to table Ⅰ,Ⅱ

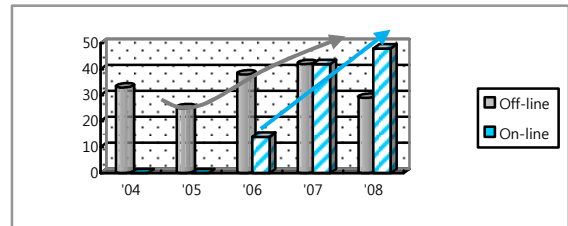

Fig. 2. Increase trends of each of courses

### 3.2 The pass rate of training course

The number of participant and pass rate are increased outstandingly('06 : 27%→'08 : 50%).
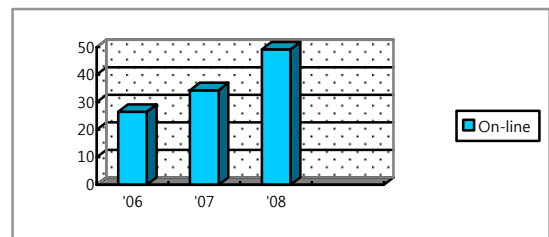


Fig. 3. Increase trends of pass rate

*3.3 Post course evaluation*

This part of the evaluation sought to identify the longer term benefits of the training in the workplace. The target indicators were the improvement in the workplace training culture and the level of job performance. [2]

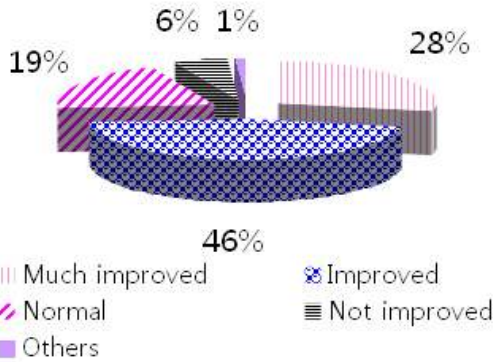3.3.1 The level of training culture improvement



Fig. 4. Training culture improvement evaluation

From the training courses, the study culture of small & medium-sized industries is improved(Much improved and improved : 74%) as shown above Fig.4.

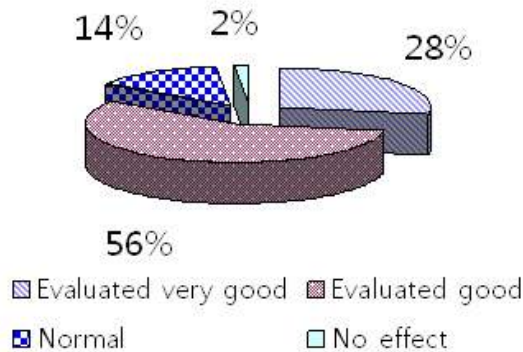3.3.2 The level of job performance



Fig. 5. Job performance evaluation

From the post course evaluation, the training courses are very useful for job performance (Evaluated very good and evaluated good : 84%) as shown above Fig.5.

## 4. Building and Using e-Cluster for small & medium -sized companies

e-Cluster links nuclear-related industries, colleges and research centers together in a virtual on-line campus. e-Cluster is a hypothetical concept that would help to foster the development of nuclear-related knowledge, resources and information. e-Cluster model is shown as below Fig.6. There are three key items to operate e-Cluster.
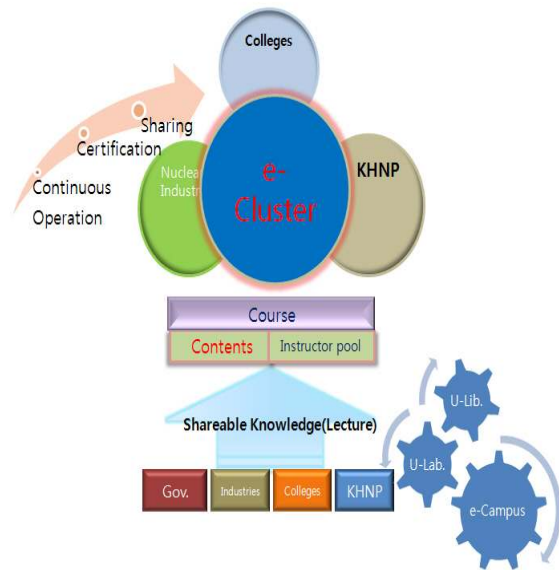


Fig. 6. e-Cluster model

*4.1 Contents*

Prepare requirement and share training course(e-Learning) and training material for small & medium-sized industries.

*4.2 Course operation*

Every participant company consider e-Cluster for small and medium-sized industries as its another training center. And it is essential that all participants' HRD teams certify the training course in e-Cluster.

*4.3 Continuous cooperation*

This e-Cluster can meet the new requirement for participant nuclear industries. So continuous share and cooperation must be done.

## 5. Conclusions

KNPEI has been operating training course for small and medium sized companies since 2004. From our post course evaluation, now should be the time to prepare e-Cluster for nuclear industries. e-Cluster will help us keep up with world trends and maximize the synergy created by processing inherent in e-Cluster. With e-Cluster, nuclear industry will provide a lead role in education for other industries.

## REFERENCES

[1] Yearly Training Report, KHNP.
[2] Post course evaluation for small & mid-sized industries.