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# Converging Knowledge Management, Training and e-learning: Scenarios to Make it Work

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**Abstract:** Companies are starting to recognise synergies between knowledge management, training and e-learning programs, but a closer look reveals that these integration ideas are rarely implemented in practice. The goal of this paper is to provide a starting point for collaboration between corporate KM and HR/learning teams by mapping existing practices of linking KM, training and e-learning efforts. We provide an overview of experiences and future ideas of collaboration derived from several studies, group them in three themes and then illustrate each theme with a scenario. The first theme gives examples of using HR and training instruments to support knowledge management. The second theme represents cases of using KM methods (namely a community of practice) to support HR learning management efforts. The last theme describes how KM and HR/learning teams could work on joint initiatives. Then we discuss the added value of the scenarios and propose further practical steps and research directions.

**Keywords:** knowledge management, training, e-learning, scenarios
**Categories:** A.1, H.4, J.4, K.3, K.6

## 1 Connecting KM and learning: the implementation problem

Several authors show that companies are starting to recognise synergies between knowledge management, training and e-learning programs and to explore the potential of their integration [Bonner, 00], [Hackett, 01], [Hall, 2001]. A closer look reveals that these integration ideas are rarely implemented in practice. Interviews with practitioners from 6 companies show that perceived connections between knowledge management and (e-)learning are not operationalised: most interviewees admitted relationships between these fields, but could not tell how responsibilities, tasks and IT support in their own organisation reflected those relationships. Learning is a HR/training department responsiblity. Its focus is primary on supporting formal learning and linking it to performance. Knowledge management addresses learning as part of knowledge sharing processes and pays more attention to specific forms of informal learning (e.g. learning in a community of practice) or to providing access to learning resources or experts (e.g. yellow pages or knowledge bases) [Efimova, Swaak, 02].

This "implementation problem" could be attributed to several causes, to mention three: different backgrounds and language of KM and HR/learning practitioners,

organisational barriers and different steering mechanisms for KM and HR departments, and lack of shared understanding and common methodologies.

The goal of this paper is to provide a starting point for collaboration between KM and learning teams by mapping existing practices of working together. We start with experiences on linking KM, training and e-learning efforts derived from several studies. We group these examples in three themes illustrating joint work of KM and HR/learning teams and then illustrate each theme with a scenario. We finish with discussing further practical steps and research directions.

## 2 Existing practices of joint work

In this section we provide data about practical experiences of linking KM, training and e-learning efforts collected within three studies.

### 2.1 KM/HR cooperation by Chief Knowledge Officers

The first group of examples is from a study focused on analysing the role of Chief Knowledge Officers (CKOs) in managing knowledge management in companies. As part of this study interviews with CKOs from one national and seven international companies were conducted. Amongst other questions, CKOs were asked about current and future cooperation with HR teams and examples of this cooperation. The proposed examples of KM-HR cooperation included:

- involving HR practitioners in KM activities (e.g. creating HR community);
- working together on creation and maintenance of CV databases, expert directories and yellow pages;
- changing competency models, recruitment, selection and appraisal procedures, as well as reward systems to encourage knowledge sharing behaviour;
- including KM awareness and development of knowledge-sharing attitude and skills as part of corporate curriculum;
- using expatriate programs to enhance knowledge sharing between different locations;
- involving experts into designing and delivering training programs (e.g. asking shortly to retire staff to formulate learning program);
- blended learning: integrating collaboration, e-learning and formal training programs to provide continues learning process.

The CKOs in the interview recognised the importance of support of HR colleagues for knowledge management initiatives and expected closer cooperation between these two groups in the future. Talking about trends the CKOs expected KM, competency development and e-learning programs to converge.

### 2.2 Linking communities of practice and formal learning programs

In another study future developments of communities of practice were examined. As part of this study a workshop with community managers of four international companies and researchers from three research institutes was organised to discuss

how a community could be enabled to perform new tasks beyond the problem solving mode of operation.

One of the possible future directions, according to the experts, was to link corporate training and development programs with KM efforts to support communities of practice. Workshop participants suggested the following specific cases for such cooperation:

- participation in a community of practice is the way to work and is part of the newcomer orientation program;
- a community of practice provides an environment for training (e.g. for introduction to a domain or for developing language skills), coaching and mentoring programs;
- a community supports diagnosing competence needs and assessing competences of people in a given area (competence mapping), and supports 'certification' of people's competencies;
- a community provides an infrastructure to retain knowledge from people that are about to retire in short notice.

### 2.3 Insights from KM and corporate learning practitioners

Another set of examples refers to the outcomes of a workshop with representatives of KM/training teams of six international companies and researchers from two research institutes. This workshop was devoted to mapping existing and possible connections between KM, training and e-learning and to identifying added value and difficulties of connecting those fields in practice.

Existing experiences of connecting KM, training and e-learning presented by company representatives can be summarised as follows:

- The same competencies are used for performance appraisals, formal learning programs, communities of practice, and centres of excellence.
- Course assignments are used to articulate knowledge and then reused in other contexts.
- Community experts develop and give training.
- Learning events last one year and they combine face-to-face sessions, e-learning and practice on the job.
- KM concepts are redefined such that they are more likely accepted and applied in new contexts (e.g. using "good idea" instead of "best practice" to overcome "not invented here" syndrome).

Ideas expressed as future targets include:

- Shift the focus of KM initiatives *from* knowledge sharing *to* support actual learning from others and actual applying experiences of those other people.
- Change working environments to encourage knowledge sharing and workplace learning and to provide time, space and instruments to do so.
- Use of existing communities of practice instead of forming a community around a learning event. Promotion of learning communities after a course.

### 2.4 Summary of study results

In this section we reflect on the experiences and ideas of joint work between KM and HR/learning teams of the previous sections. We suggest clustering them into three themes [Tab.1]. The first theme gives examples of using HR and training instruments to support knowledge management. The second theme represents cases of using KM methods (namely a community of practice) to support HR learning management efforts. The last theme describes how KM and HR/learning teams could work on joint initiatives.

| Theme | Summary of experiences and ideas |
|---|---|
| Using HR/learning methods for KM purposes | Courses: including KM awareness and development of a knowledge-sharing attitude and skills as part of a corporate curriculum, using course assignments to articulate knowledge with reuse in other contexts (studies 1,2,3).<br>Creating environments to support knowledge sharing and application: changing competency models, recruitment, selection and appraisal procedures, working conditions, reward systems (studies 1&3). |
| Using KM methods for HR/learning purposes | Communities of practice provide an environment and facilitation for training, coaching and mentoring programs (studies 2&3).<br>Communities of practice help to diagnose learning needs in a specific area, locate relevant learning resources, and to design and evaluate training (studies 1, 2, 3) |
| Joint KM/HR methods | Blended learning: integrating informal knowledge sharing, collaboration, communities of practice, e-learning and formal training programs to provide a continuing learning process (studies 1&3).<br>The same competencies are used for performance appraisals, training, communities, and for centres of excellence (study 3). |

*Table 1: Summary of study results*

## 3 Scenarios

In this section we go one step further and illustrate how integration between KM, training and e-learning efforts can look in practice by providing scenarios for each of the themes we identified in the previous section.

The first scenario shows how HR methods can support a KM practitioner in analysing knowledge-sharing problems and to implement interventions that support not only sharing knowledge, but also using knowledge of others in everyday work. The second scenario describes a training designer working on a course redesign. It illustrates how a community of practice could provide support to a corporate learning centre. The third scenario illustrates joint work of KM and learning teams to provide employees with one-point access to the company's expertise and to support learning in different forms. The main actor of this scenario is the learner, who combines course work, informal learning and reflection on practical experiences to solve problems at work.

### 3.1 Scenario 1. Performance-oriented knowledge-sharing

Tom is a member of the knowledge management team and he is responsible for supporting knowledge sharing within the company's three R&D centres. Half a year ago he and his colleagues from the KM team worked hard to support knowledge sharing between researchers and customer support groups.

As a result they have developed a CustomerDirect portal to provide researchers with one point access to different sources with information about customers and their needs. This system links to digests from discussions in customer communities about product use, a helpdesk requests database, reports of researchers' visits to customer sites, and "lessons learnt" stories about addressing customer needs in research projects. Half a year ago the system was well received by researchers, but now it seems that it doesn't have much effect on their work anymore.

Tom had several interviews with researches about the system and this is what he found:

- Most researchers know about customer needs "in general", but they were claiming that it is difficult to understand what customers exactly want. They also find it difficult to "translate" specific terminology of sales and helpdesk people into research objectives and limitations.
- Researchers also said that they couldn't spend much time analyzing customer problems as their primary goals are inventing innovative solutions. They also didn't feel that their effort to understand customer needs was appreciated: "we didn't get much feedback about market reactions on our proposals".

Tom labels those two problems as "understanding problem" and "attitude problem" and suggests several changes. The first one is focused on making learning about customer needs and their reflection in innovative products more interactive. Tom plans a workshop with helpdesk/sales people and researchers with a focus on discussing priorities and most promising ideas for development of new products. He also adds a discussion tools to the CustomerDirect system and hopes that the workshop will reveal possible leaders to facilitate those discussions.

The second point is about changing procedures and regulations to make sure that customer needs are taken into account while designing new products. Now research proposals include a customer needs checklist that describes specific needs to address with the new product and with the feedback of experts from the marketing and sales department. In the future the plan is to link the CustomerDirect system with the database of research projects, so customer reactions and problems can be traced for every project.

Last, but probably the most important point of Tom's work concentrates on getting more support from managers of the research groups. He invites them to a brainstorm session for discussing his findings and ideas about "customer-oriented research". They focus on identifying the role of market and customer knowledge in break-through inventions, discuss working conditions that make those inventions possible and translate these into practical steps to support researchers. Tom hopes that these discussions will result in a more visible priority of customer focus during meetings, everyday discussions and yearly performance appraisals.

### 3.2 Scenario 2. Training designed by peers

As part of her work in a corporate learning centre Jenny is responsible for designing safety trainings. Today she has to work on the training for machine operators: a recent survey in operators' community has shown that training materials are boring and too general to apply in practice.

For this course Jenny decides to try out the new KnowledgeCapture system[1] that allows converting results of 'critical incidents' into exercises with tests. At first, she needs some input from the work floor. She knows that operators are busy, but she hopes to get some help from the operator team leaders who recently followed the course about critical incidents. Now they are in the follow-up phase, collecting evidence of using their newly gained expertise in practice. Each team leader has to identify a case of safety rules violation and post a photo and a short story about what went wrong. Then participants will have to take several cases from the pool and discuss it in their team.

This assignment is exactly what Jenny needs "to add more flesh" to the safety course, so she asks course coach Bart for help. After a few tweaks they manage to link the KnowledgeCapture system to the course environment, so the team leaders cannot only add photos, but also brainstorming results of the discussions in their teams.

A few weeks later Jenny has enough material: for each safety incident there are several answer alternatives and a suggestion about the right one. Jenny comes back to the operators community and asks the community experts to judge the results. They bring their experiences to approve the "right" answer that will be coded in the test and to add alternatives if necessary. Finally Jenny links each incident to the formal description of corresponding safety rule. She links training materials to the company's on-line learning system and posts a message to the community asking to check it.

Next days she checks the statistics and comments: the results are encouraging. People recognise their own machines and stories, and are curious to see what others said. Jenny knows that this first interest in the peer-designed training will not last long, but she has a back up: each operator has a reminder in his personal learning space to do a refreshment safety training every half a year. Next time they will have more fun with real stories and hopefully will bring new stories of their own. Now it's time for Jenny to start thinking how she can encourage operators to add new photos and stories into the system…

### 3.3 Scenario 3. Blended learning

Matthew is a project manager in a software development company. Half a year ago he started a management development program. He goes to a three days face-to-face session every couple of months, but his learning is not finished with that.

A usual day starts with 20-minute videoconference where his team discusses project progress. Today it's not going easy: it seems that the user interface group from the US has some difficulties communicating with the programmers team in India.

It is time to reflect. Matthew logs into the company intranet and goes directly to his personal learning space. He uses his learning diary to describe the problem and

[1] This was inspired by the OKdb system, http://www.wiconsultants.nl/producten_titel.html

asks for advice. With one click his posting becomes visible to other managers in the company, so he hopes to get some help. Within a few hours, during which Matthew does other work, an experienced Indian manager comments on the post and explains that probably this communication problem is due to the cultural differences…

Matthew uses the company's search facilities - that take information from different sources, aggregate and visualises it[2]- to find out more about it. It returns links to the company guidelines for multicultural projects, a few Internet articles, and a reference to a module about cultural differences that is planned in his project management program. Next he sees links to a couple of discussions about cultural differences in the project managers community space and the names of two people in his company that mention this topic in their personal profiles. The personal learning space keeps track of Matthews learning experiences, as well as his learning profile, so he sees the suggestion to start from background reading.

It takes Matthew an hour to go through the course material and another fifteen minutes to read company's guidelines. Now Matthew has more specific questions and he is ready for discussion with peers. He posts a couple of questions to the project management community and calls one of the company's experts to find out about his experiences with applying company's guidelines. In two days in which Matthew had time to think things over and discuss things with colleagues he has decided what has to be done and he is ready to start.

A month later the problem seems to be solved, although Matthew knows that there is more work to be done in the future. He uses his learning diary to summarise his decisions and changes in the situation and makes it visible for his classmates and the course instructor. This is something he wants to discuss during his next project management class.

### 3.4 Scenarios: added value

In this section we briefly discuss the added value of the proposed scenarios. The first scenario is an illustration of using HR-methods, that is, the more performance-oriented stance, for knowledge management purposes. Methods used for designing and delivering training are focused on supporting the application of course results at the workplace (e.g. [Rothwell, 96], [Harrison, 00]). In the first scenario we describe how this perspective can be used in a typical "knowledge management case" to analyse knowledge-sharing problems and to implement interventions that support not only sharing knowledge, but also using knowledge of others in everyday work.

The second scenario shows how KM-methods, in this case using community members and resources, are used for HR/learning purposes. The challenge of the second scenario is in changing from a traditional expert designed course to the design based on the input of peers. This approach allows not only bringing real-life experiences into a training design, but also supporting knowledge sharing between different units.

The last scenario illustrates how a close mix of HR and KM methods and perspectives leads to a blended learning program. A learning program is chunked into modules and each module is delivered in the most effective way. In our scenario we

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[2] This is based on what we call a 'knowledge mapping' system developed in the Metis project, http//telin.metis.nl

propose how a training course, an e-learning module, participation in a community of practice and workplace experience can be integrated into a blended learning program. Such integration brings us one step closer to an environment that provides seamless transition between learning, sharing knowledge and work, which is considered as an ultimate goal of both knowledge management [Davenport & Völpel, 2001] and human resources development [Harrison, 00].

## 4 Conclusion

In this paper we presented existing experiences and future ideas of integration of knowledge management, training and e-learning. We grouped them under three themes: using training and HR instruments to support for knowledge management, applying KM methods for HR purposes, and joint efforts of KM and HR/learning teams. Then we used scenarios to illustrate each theme and discussed their value.

The scenarios we proposed are created by us (i.e., researchers) based on the input from the studies we performed with industry and academia. As a next step, we suggest starting working on a practical implementation of (variations of) the scenarios by organising joint workshops between KM and HR/learning teams focused on constructing scenarios for their own organisations. In addition to this practical work, in-depth case-studies on the user, technical, organisational and cultural aspects of combining HR and KM methods are planned.

Although the scenarios and the ideas behind them may look as a lot of changes, we believe that integrating KM and HR efforts brings us back to the nature of learning as a blend of different experiences. It also uncovers the importance of learning on the job, or informal learning and the strength of connecting theories with real-life experiences. It stresses the importance of better access to learning resources and stretches instructor's support beyond the traditional training settings to make it more effective. To recapitulate, the integrated perspective recognises the value of working and learning going hand-in-hand.

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