

Teaching Tip

A Design Thinking Approach to Teaching Knowledge Management

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ABSTRACT

Pedagogies for knowledge management courses are still undeveloped. This Teaching Tip introduces a design thinking approach to teaching knowledge management. An induction model used to guide students' real-life projects for knowledge management is presented.

Keywords: Knowledge management, design thinking, induction model, clinical module

1. INTRODUCTION

Design thinking is a rigorous body of knowledge about the design process as a means of approaching managerial problems (Simon 1996). Under a design-thinking paradigm, students would be encouraged to think broadly about problems, develop a deep understanding of issues, and plan a process to implement a good idea. The concept of design thinking can potentially address many of the criticisms currently being leveled at business programs (Dunne and Martin 2006).

Design thinking is different from critical thinking in that design thinking is process-oriented while critical thinking is judgment-oriented. In business education case studies emphasize more on critical thinking, but less on design thinking. Design thinking results from the nature of design work: a project-based work flow around problems (Dunne and Martin 2006).

This note describes our experiences of teaching knowledge management (KM) based on a design thinking approach.

2. A DESIGN THINKING APPROACH TO KM

KM is an emerging academic discipline (Grossman 2007). KM has been taught in business programs for a few years. Recently, several business schools have established MBA programs with concentration on KM (WWL 2007). In its broadest definition KM is the process that generate values for the organization through the use of its intellectual and knowledge assets (Schultz and Leidner 2002). Contemporary KM must be facilitated by IT, and thus KM is commonly taught by MIS faculties. Given the breadth of the subject and how it has diffused throughout the curricula of business programs, it is natural that there are a variety of methods of teaching/learning KM. Yet, they can be placed in two major categories: non-clinical and clinical.

In the non-clinical method students typically learn concepts of KM, including KM strategies, IT support for KM, and organizational knowledge sharing and enterprise resource integration (Davenport and Prusak 2000), a variety of KM models such as OODA loop (Fallows 1981) and PDSA cycle (Deming 1992), and a number of KM cases (e.g., Heier *et al.* 2005). Students get a general overview of KM, perhaps practice some simulations and receive an

overview of the impact of KM on social networks. However, in this method it is not intended that students learn the practical skills of KM process.

The clinical method is distinct from the non-clinical method in the application of design thinking. In clinical method students conduct practical KM projects for organizations in their business community. Students perceive the needs for KM in the real world around them, and learn to identify KM opportunities and plan KM for real organizations. A KM project must be based on an organization where the student obtains first-hand experiences.

Given the restricted number of courses in business programs, it is ideal to integrate the two methods by including non-clinical modules as well as a clinical module in teaching KM. However, there have been few textbooks that strike a practical balance between the two methods. Also, pedagogical approaches to the integration of the two methods are scarce in the business education literature.

3. AN INDUCTION MODEL FOR THE CLINICAL MODULE

The literature (e.g., (Boland and Collopy 2004)) has addressed numerous aspects of design thinking. In terms of cognitive aspects, design thinking includes induction, deduction, and abduction mental processes. Induction is generalization from specific instances and is the initial stage of design thinking. Accordingly, a pedagogical design for a clinical module should emphasize induction in order to activate students' design thinking. Generally, to facilitate design thinking, we need models (Dunne and Martin 2006). The major task of pedagogical design for the clinical module then becomes the development of an induction model for KM projects. After reviewing the best methodical KM cases (e.g., (Buckman 2004; Heier *et al.* 2005)), we have developed our induction model for teaching KM, as shown in Figure 1 and described below.

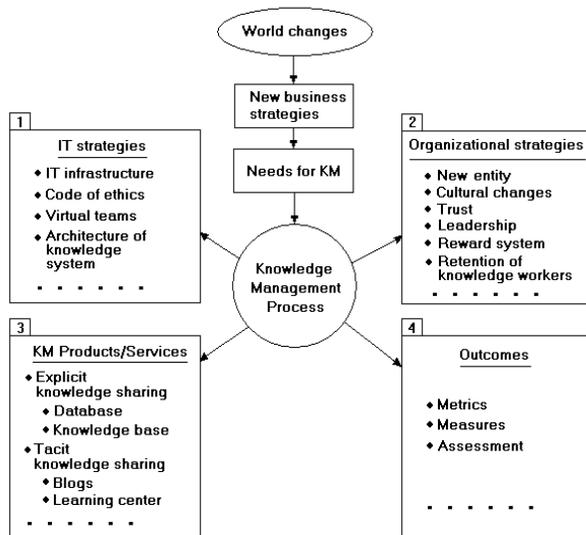


Figure 1. The Induction Model for Teaching KM

3.1 KM is Triggered by New Business Strategies

KM is requested by new business strategies in response to the ever changing business world. Generally speaking, when an enterprise is moving from product-driven to market-driven, and to knowledge-driven, KM would provide competitive advantages to the knowledge-driven organization.

3.2 IT Strategies for KM

The first dimension of KM for students to think is IT strategies that create the best technological environment for KM. The aspects of this dimension of KM include IT infrastructure (e.g., computer systems and networking), code of ethics related to the IT use, building virtual team, and architecture of the knowledge systems (e.g., groupware and KM tools).

3.3 Organizational Strategies for KM

The second dimension of KM is organizational strategies that create organizational best environment for KM. The aspects of this dimension include cultural changes, trust atmosphere for knowledge sharing, reward system for knowledge transfer, and growth and retention of knowledge workers.

3.4 Products/Services of KM

The third dimension of KM is products and services generated by KM. Databases and knowledge bases are examples of products for explicit knowledge sharing. Blogs and learning center for corporate training are examples of services for tacit knowledge sharing. Students need to think how these products and services generated by KM can support both explicit and tacit knowledge sharing and transfer.

3.5 Outcomes of KM

The fourth dimension of KM is outcomes of KM. KM is a long term process. Nevertheless, the organization must develop metrics and measures to assess the KM practice. Prompt responses to customers' needs, shorter product innovation cycles, and higher level of intellectual assets are examples of outcomes of KM.

4. TEACHING THE CLINICAL MODULE

The clinical module guided by the induction model has been used in the KM course in two MBA programs of the authors' institutions. Our experiences of teaching this module are discussed below.

4.1 Make Multiple Modules Cohesive

The non-clinical module, such as case studies, usually carries on for the entire semester, while the clinical module starts weeks later after students learn the context and the induction model. The instructor shall help students to balance the workload across the course by specifying the agenda clearly. More importantly, the instructor shall make the non-clinical module and the clinical module cohesive, and connect these modules through class discussion.

4.2 Maintain Continuous Progress

Milestones are needed to check the progress of projects. For instance, students might be required to submit short project proposals to ensure the clinical module to start on time. It might also be necessary to have a midterm check to see whether the projects are on the track towards design thinking as guided by the induction model. The instructor shall continuously offer suggestions to individual groups. This teaching strategy helps to build bond between the instructor and students, and provides a mechanism of quality control for the clinical module.

4.3 Engage Students in Experience Sharing

The instructor shall require students to give oral presentations so that they can share learning experiences. This approach is particularly useful for the clinical module. While they learn a variety of their own real-world KM projects, students are also supposed to act as CKO and evaluate peer projects. The instructor shall encourage students to participate discussion after each presentation session. This practice would further encourage design thinking.

5. CONCLUSION

A design thinking approach to teaching KM has been applied to our business programs. Student opinions have indicated their positive learning experiences and overall satisfaction with this approach. Our observations on the KM projects indicate that students like to have the induction model for their KM projects to develop design thinking. The progressive nature of the KM projects also accommodates differing levels of design thinking for KM and sets the stage for students to progress to advanced levels on their own. We found that this clinical module guided by the induction model is useful for students to develop design thinking for KM.

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