

Minimal Activity Plans: Artifacts for Self-Organized Learning within Organizations

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Abstract. In this paper we present an educational approach to foster self-organized learning within organizations. Based on the notion that learning as well as work is embedded in collectively organized and artifact mediated activity systems and that learning entails individual and social transformation we outline the concept of Minimal Activity Plans and describe potential use cases. In order to organize the use of Minimal Activity Plans and to combine it with knowledge management technologies a descriptive framework is sketched.

1 Introduction

Based on the idea that learning inevitably is a social process taking place while performing purposive activities, we outline an approach that combines self-organized with organizational learning and knowledge management. We build on the idea of minimal guidance scripts as a pedagogical method to foster self-organized learning (cf. [5]) as well as on the socio-cultural activity theory (cf. [4]).

While there is an increased awareness for the need for work-oriented and self-organized learning in the knowledge age, the structural and conceptual detachment of knowledge acquisition and knowledge use is still prevalent. Often learning is conceptualized as a prerequisite for participation in purposive activities, but not as a process that inevitably requires the engagement in just these activities. This view, which is also common in models of knowledge management (e.g. [3]), separates the reproductive and qualifying aspects of learning from its societal-transformative and generative aspects. It excludes learning that takes place in the course of purposive activities such as the generation of novel practices, the reframing of prevalent concepts or the reorganization of activities due to perceived failures.

In order to empower the learner to engage in purposive activities we are in the need for educational approaches which integrate the reproductive as well as generative aspects of learning. These approaches have to take into account the social nature of knowledge and have to provide a conceptual understanding of the relation between individual and organizational learning.

2 Socio-Cultural Theory of Learning

The socio-cultural theory of learning stresses that meaning-making is not just a psychological process that takes place in individuals' minds, but is constructed by social activities. Meaning and knowledge are not just represented in individual minds as cognitive artifacts but they exist as linguistic and material artifacts in the intersubjective world [7]. Mediating artifacts which are created and changed in the course of human activity represent socially shared values, procedures, rules, theories as well as epistemic and ontological beliefs. Socio-cultural theory holds that cognitive artifacts result from the internalization of culturally developed artifacts which are themselves a result of human activity.

From this perspective learning is an ongoing adaptation and transformation of mediating artifacts in collectively organized activity systems. Learning can be seen as a process of inquiry, that either enriches or transforms the initial knowledge and procedures [6]. Individual and organizational learning are closely interrelated, both draw on an overlapping set of mediating artifacts. While artifacts are internalized and shaped in the course of individuals' activities they also constitute what has been called the theory of use of an organization [1].

Given the socially mediated nature of meaning and knowledge it seems reasonable to develop educational approaches that trigger individual as well as organizational learning by drawing attention to organizational activity systems and mediating artifacts and to make them accessible for reflection.

3 Minimal Activity Plans: Concept and Use

The educational approach we sketch here aims at self-organized learning within an organization. The core idea is to set up a shared repository of documents which foster an awareness of those activity systems and mediating artifacts which are currently deployed within the organization. In order to trigger an active reflection of current work-procedures and activities we propose Minimal Activity Plans as means to represent these routines.

Drawing on the concept of minimal guidance scripts (*minimale Leittexte*) [5] Minimal Activity Plans also describe the phases and rules as well as the goals, outcomes and potential problems ascribed to a certain activity. Additionally Minimal Activity Plans give a description of the social meaning of the activity including the community involved, its function as well as the underlying rationale.

Minimal Activity Plans (MAPs) differ from other activity descriptions in several respects. In contrast to other approaches MAPs provide a guiding heuristic instead of striving for a complete description of a work-process. They are minimal in the sense that they have to be interpreted by the recipient. Furthermore, MAPs are not fixed. They have to be adapted when work-practices change. MAPs do not describe work procedures in isolation but aim to encode the meaning of the activity within the organization. As this meaning is in flux, any MAP inevitably stays provisional.

Beside these conceptual differences we envision a usage of MAPs that is based on participation and empowerment of individuals within the organization. A shared repository of Minimal Activity Plans can be used in many different ways to foster reflection and learning among its users. MAPs can be used as means to plan and organize activities. They provide guidance and heuristic advice especially for those which are new to an organization and unfamiliar with its work-practices. They can help to get into a new task. They can also be used in order to analyse and modify current work practices. As the meaning of a certain activity is in a steady flux, Minimal Activity Plans can be used as point of reference against which actual routines can be compared. As MAPs are necessarily ambivalent they can trigger discussions regarding different interpretations which might lead to modifications. Furthermore, describing current work-procedures in the form of MAPs can become a learning process in itself as activities are often implicit. Thus, MAPs foster the creation of a shared understanding.

As Minimal Activity Plans are not right or wrong and as they inevitably reflect the experience of an individual or a group, they can be authored, published and accessed by anyone within the organization. Nevertheless a given plan might cause controversies and result in modifications or counter proposals. While some MAPs might be developed from scratch others might be derived from already existing documents within the organization.

4 A General Description Framework

In order to facilitate the access to and use of Minimal Activity Plans within an organization we propose the use of a general description framework. Such a framework simplifies the integration in technical Knowledge Management Systems and also supports the user by providing a persistent structure. The framework we propose in Table 1 is build on several already existing approaches to describe individual as well collaborative activities [2],[4],[5].

Table 1. General elements of a Minimal Activity Plan

Element	Explanation
1. Title	A short title, easy to grasp.
2. Authors	Those who wrote the Minimal Activity Plan.
3. Purpose	The (organizational) function, the activity is meant to fulfill.
4. Rationale	A description of the rationale underlying the activity (i.e. Why is it meant to fulfill a certain function?).
5. Applicability	Situations of possible application.
6. Community	The group of people who have a stake in the activity.
7. Related Activities	Other organizational procedures the activity is related to.
8. Plot	The plot describes the general sequence of actions. Each action includes subjects, objects, mediating artifacts and an outcome.
9. Experiences	A brief description of recurrent problems as well as potentials.
10. References	Pointers to additional resources regarding the activity

The framework takes into account the internal structure of an activity, which is represented in the *PLOT*, as well as its organizational embedding. The latter includes the *PURPOSE*, *RATIONALE*, *APPLICABILITY*, *COMMUNITY*, and *RELATED ACTIVITIES*.

5 Discussion and Further Work

Based on a socio-cultural perspective on learning we sketched the concept of Minimal Activity Plans and their use in order to foster self-organized learning within an organization. Additionally we proposed a description framework in order to support the exchange, reuse and access to Minimal Activity Plans.

Even though the importance of work-oriented and self-organized learning is acknowledged widely a lot of educational approaches still separate learning from work. The approach presented here aims to overcome this artificial separation and stresses the socially constructed meaning of work procedures. Our suggestion might be neither complex, astonishing nor technically tricky. Nevertheless, it contributes to the discussion on the relation of knowledge management and e-learning as it is build on a view that combines both on a conceptual rather than a technical level.

In a next step we will set up a repository for Minimal Activity Plans in an academic setting which allows students and lecturers to share their own Minimal Activity Plans.

References

1. Argyris, C., Schön, D.: Die Lernende Organisation – Grundlagen, Methode, Praxis. 2. Aufl. Klett-Cotta, Stuttgart (2002)
2. Bødker, S., Christiansen, E., Thüring, M.: A conceptual toolbox for designing CSCW applications. In: Proceedings of COOP '95, International Workshop on the Design of Co-operative Systems, January 1995, Juan-les-Pins (1995) 266-284
3. Efimova, L., Swaak, J.: KM and (e)-learning: towards an integral approach? In: "The new scope of knowledge management in Theory and Practice", Proceedings of the 2nd EKMF Knowledge Management Summer School. Sophia Antipolis, France, September 2-6 (2002) 63-69
4. Engeström, Y.: Activity theory and individual and social transformation. In: Engeström, Y., Miettinen, R., Punamäki R.-L. (eds.): Perspectives on Activity Theory. Cambridge University Press, Cambridge (1999) 19-38
5. Greif, S.: Minimale Informations- und Leittexte. In: Greif, S., Kurtz H.-J. (Hrsg.): Handbuch Selbstorganisiertes Lernen. 2. Aufl. Verlag für Angewandte Psychologie, Göttingen (1998) 255-266
6. Paavola, S., Lipponen, L., Hakkarainen, K.: Epistemological Foundations for CSCL: A Comparison of Three Models of Innovative Knowledge Communities. In: Stahl, G. (ed.): Computer Support For Collaborative Learning: Foundations For A CSCL Community. Lawrence Erlbaum, Hillsdale, NJ (2002) 24-32

7. Stahl, G.: Meaning and Interpretation in Collaboration. In: Wasson, B., Ludvigsen, S., Hoppe, U. (eds.): Designing for Change in Networked Environments. Kluwer, Dordrecht (2003) 523-532