Chapter 3
APOSDLE – learn@work: Firsthand Experiences and Lessons Learned

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ABSTRACT

This chapter presents a domain-independent computational environment which supports work-integrated learning at the professional workplace. The Advanced Process-Oriented Self-Directed Learning Environment (APOSDLE) provides learning support during the execution of work tasks (instead of beforehand), within the work environment of the user (instead of within a separate learning system), and repurposes content which was not originally intended for learning (instead of relying on the expensive manual creation of learning material). Since this definition of work-integrated learning might differ from other definitions employed within this book, a short summary of the theoretical background is provided. Along the example of the company Innovation Service Network (ISN), a network of SME's, a rich and practical description of the deployment and usage of APOSDLE is given. The chapter provides the reader with firsthand experiences and discusses efforts and lessons learned, backed up with experiences gained in two other application settings, namely EADS in France and a Chamber of Commerce and industry in Germany.

INTRODUCTION

Modern businesses operate in a rapidly changing environment. Continuous learning is an essential ingredient to stay competitive in such environments. A typical problem within many companies is the gap or mismatch between the skills required during daily work and the knowledge obtained through formal training activities (e.g. seminars). Even though this gap has been identified by many, seminars and courses still constitute the overwhelming part of knowledge transfer op-

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portunities offered to employees. Haskell (1998) informs that in 1998, US$ 70 billion were spent on formal training and Back et al., (2001) state that in 2000, US$ 78 billion were spent on corporate training and continuing education. On the other hand, studies have shown that in today's economy only a small amount of knowledge that is actually applied to job activities (learning transfer) comes from formal training (Eraut & Hirsh, 2007; Haskell, 1998). On average, people only transfer less than 30% of what is being learned in formal training to the professional workplace in a way that enhances performance. This is independent of the kind and quality of the courses taught, but mainly depends on not considering work environment needs during and after formal training efforts (Robinson, 2003). Overall, 80-90% of what employees know of their job, they know from informal learning (Raybould, 2002). Initiatives aiming at enhancing knowledge transfer of formal training try to answer the question: "How much does the learner know after engaging in the formal training?" Instead, as suggested by the above numbers, the question which should be asked is: "To which extent can the learner apply the newly acquired skills to his/her work tasks?" (Lindstaedt, 2008). However, much of what we know today is based on research in educational settings (schools and universities) or in formal workplace training. Much less research has been conducted in informal workplace learning settings.

This chapter introduces a definition of work-integrated learning (WIL) which might differ in several aspects from the other perspectives discussed in this book. It advocates to take the strong intertwinement of working and learning practices seriously and to design learning support mechanisms so that people can learn during the execution of work tasks (instead of learning first and then applying) (Lindstaedt & Mayer 2006). We first sketch briefly the theoretical foundations of our WIL definition and identify a number of key requirements which result from our understanding of WIL and which heavily influence the way professional learning environments should be designed. We then introduce the APOSDLE[1] environment which offers a wide range of informal learning support. The main part of this chapter is then dedicated to describe our experiences during deployment, training, and use of APOSDLE within the Innovation Service Network (ISN). ISN is a network of small consultancy companies which specialize on innovation management. We show in detail which preparatory steps and modeling activities are needed in order to create an innovation management specific installation of APOSDLE and which company specific goals could be achieved with this approach. We conclude the chapter with the main results of our three months workplace evaluation and give an outlook about lessons learned and future research in the field of WIL.

WORK-INTEGRATED LEARNING

Building on theories of workplace learning such as Eraut (2007) and Colley et.al (2002) we conceptualize learning as a dimension of knowledge work which varies in focus (from focus on work performance to focus on learn performance), time available for learning, and the extension of learning guidance required. This learning dimension of knowledge work describes a continuum of learning practices which starts at one side with brief questions and task related to informal learning (work processes with learning as a by-product), and extends at the other side to more formalized learning processes (learning processes at or near the workplace). This continuum emphasizes that support for learning must enable a knowledge worker to seamlessly switch from one learning practice to another as time and other context factors permit or demand.

Research on supporting workplace learning and lifelong learning so far has focused predominantly on the formal side of this spectrum, specifically on course design applicable for the workplace