Self-regulated learning in the workplace

Margaryan, Anoush; Milligan, Colin; Littlejohn, Allison

Self-regulated learning in the workplace: Enhancing knowledge flow between novices and experts

Anoush Margaryan, Colin Milligan, Allison Littlejohn

Glasgow Caledonian University, UK

Extended summary

Self-regulated learning (SRL) in the workplace is gaining importance due to global societal transformations which create new demands for learning for work (Jakupec et al, 2000). Education and training have lagged behind socio-economic demands, increasing the gap between the worlds of learning and work (Reynolds et al, 2001). This gap is especially prominent during the transition from education to the workplace, partly because, although self-regulation is required in both contexts, the nature and goals of learning are very different. In education, learning is a goal in itself, while in the workplace it is a means to an end and a by-product of work. These discontinuities between education and workplace pose new graduates difficulties as they enter work (Candy, 1991). The ability to self-regulate is an important component of enhancing transition, since it can assist an individual to acquire knowledge and skills more effectively (Zimmerman, 2006).

Traditional models of SRL are premised on the assumption that behaviour is determined by individual goals, with limited influence from others or the environment. This view contradicts the collaborative and interactional nature of the workplace, where individuals' work and learning are shaped by complex interdependencies with others (Billett, 2001). Granted, social cognitive theories of SRL (Zimmerman, 2005) do recognise that the social context plays a role in learning, but its impact is often assumed to be inferior to individually-based components (Jackson et al, 2005). Furthermore, research in self-regulation is typically conducted in laboratory settings, among disconnected individuals, so the impact of social interactions is overlooked. In addition, SRL processes in the workplace are not well understood since most research in this area has taken place in formal instructional settings, therefore the applicability for workplace learning is unclear. Finally, there is a gap in current knowledge of the interplay between the individual and the collective – the cumulative knowledge residing in people, practices, and machines both in and beyond the organisation.

A central aspect of linking the individual and the collective in SRL is an understanding of how tacit and explicit knowledge flows in networks. Current theories argue that tacit knowledge is socially created, shared and maintained within communities of experts therefore it can be acquired *only* through social immersion in groups who possess this knowledge (Collins et al, 2007). Knowledge flow is constrained by social structures and hierarchies underpinning workplace networks.

To understand how knowledge flow influences SRL it is useful to compare and contrast learning goal attainment practices of novices and experts. This study analyses how individuals in a global company plan and attain learning goals, comparing the individual and collective activities of novices and experts. It explores socio-cultural factors affecting SRL. The aim of the study is to develop recommendations and strategies to enhance SRL and knowledge flow in the workplace.

The study is conducted in online communities of practice (Global Networks) within the organisation. These communities are focused around core technical and business disciplines of the company. Each online community typically includes few hundred to a couple of thousand members distributed globally. These individuals use online discussion fora to exchange knowledge, experiences, problems with solutions, and good practice. These findings are from the first round of the study involving a global network of Production Chemistry professionals.

The methodology involves a web-based questionnaire survey, followed by in-depth semi-structured interviews. In the first stage of the study, the questionnaire was distributed to all active members of the production chemistry community (n=672), and respondents were invited to volunteer for follow-up interview. The initial findings reported below are based on 37 survey responses and 8 follow-up interviews. The data collection is ongoing in other testbeds, and will be completed by the end of 2008.

Initial findings are that SRL in the workplace is a highly collaborative process that is structured by and deeply integrated within work tasks. Experts draw heavily upon their personal networks of trusted colleagues, rather than the online community, for diagnosing and attaining their learning goals. Additionally, SRL in the workplace is not a clearly delineated process of discrete stages of planning, implementation and reflection upon learning goals. Instead, planning and implementation were found to be closely intertwined, contradicting findings from previous studies (eg Zimmerman, 2005). Another important finding was that experts did not engage in deliberate and systematic self-reflection, a process found to enrich learning. In the workplace learning is driven by task and performance demands, therefore there are limited opportunities for systematic self-reflection. Where the opportunity for deliberate reflection does exist, it appears to be closely linked to the immediate work task, rather than being focused on learning *per se*.

This study will contribute to theory by extending our understanding of tacit practices of SRL in the workplace. For practice, the outcomes will inform the development of processes and systems that can improve knowledge flow and learning within the organisation.

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Studying self-regulated learning in the workplace: Methodological issues and organisational constraints

Anoush Margaryan, Colin Milligan and Allison Littlejohn, Glasgow Caledonian University UK,
anoush.margaryan@gcal.ac.uk

Summary: This ongoing study explores how experts and novices in a global multinational company self-regulate their learning in the workplace. We analyse similarities and differences in experts' and novices' patterns of learning, focusing on how they network with others, draw upon and contribute to the collective knowledge in the process of work. The study is being carried out within a range of online knowledge sharing global networks focused around key technical and commercial disciplines within the company. Membership of each network ranges from a few hundred to a couple of thousand professionals at various stages of their career.   Members use the online networks to exchange knowledge, experience, discuss problems and solutions. *Methodology* involved a web-based questionnaire (adapted from Organisational Context Diagnostic, Cross et al, 2004), followed by semi-structured interviews. *Initial findings* suggest that:

1) SRL in the workplace is a highly interactional process structured by and integrated within work tasks;
2) Both experts and novices draw heavily upon the collective in the process of learning;
3) While novices value the online communities, experts draw heavily upon their personal networks of trusted colleagues, rather than the online community;
4) In the workplace, learning is driven by task and performance demands, therefore there are limited opportunities for systematic and deliberate self-reflection. Where the opportunity exists, it appears to be focused on the work tasks, rather than learning per se.

Issues:

The main problems we experienced in this study included:

1) Identifying a suitable *methodology for studying learning practices in a real-world setting*. Constraints included: a) *access to testbeds* had to be negotiated with research partners in the company and the individual community facilitators; b) *limited amount of time participants had* to contribute to the study; c) *geographic location* of the participants distributed around the world.
2) The difficulty in *identifying experts*. Expertise is fluid and changing; obtaining objective measures of expertise is not straightforward and proved to be particularly difficult in this study.
3) Many *respondents did not recognise what they do as "learning"*, consequently it was challenging to get them explicate their learning practices (planning, implementing and reflecting upon goals).

Questions for discussion:

1) What methodologies are appropriate for the study of SRL in the workplace that are both scientifically robust and that take into consideration the constraints of real-life settings?
2) How can we study tacit practices of learning that takes place in the context of work (eg planning and implementation of goals through work and reflection upon learning)?
3) How can we bridge the dual goals of impact on practice and contribution to the development of the theory?