

Integrating Collaborative Learning into the Self-regulated Learning Process Model

Marcel Berthold, Alexander Nussbaumer and Dietrich Albert
Knowledge Management Institute
Graz University of Technology
Graz, Austria
{marcel.berthold,alexander.nussbaumer,dietrich.albert}@tugraz.at

Abstract—In this paper an approach is presented how communities of practice (CoP) can be integrated with a process model for self-regulated learning (SRL). First, it is argued that self-regulated learning happens on a general learning level as well as on a specific level which is related to use a learning group as certain learning strategy. In order to link collaborative learning to a cyclic SRL Process Modell, learning in CoPs is presented on a general and specific learning level.

Keywords: self-regulated learning, communities of practice, psycho-pedagogical integration model learning strategy

I. INTRODUCTION

Five key aspects have been identified, which are crucial for learning self-regulated and for supporting SRL in context of a Responsive Open Learning Environment (ROLE). These key aspects are: (a) personalisation and adaptability, (b) guidance and freedom, (c) motivation, (d) metacognition and awareness, (e) collaboration and good practice sharing. A SRL Process Modell has been developed on a theoretical level [3], which takes these aspects into account.

In this paper an attempted is made to cover the rather practical-driven approach of CoP in the context of collaborative learning (key aspect e) with the umbrella of the theory-driven SRL Process Model. By linking CoP to the cyclic SRL process model an example is provided how SRL proceeds on a general learning- and a specific learning level. Therefore it should be analyzed when and how the CoP approach can be integrated in the SRL Process Model (general learning level) and how SRL processes are already included in CoP, especially in learning activities (specific learning level).

A similar integration of CoP into a theoretical SRL-model was done before [2,4]. In this regard, Brown [1] describes that SRL, especially metacognitive processes, embeds learning activities of the CoP¹. Moreover, each group (respectively each person) that is working on a specific topic, can be understood as a piece of a puzzle and together, by contributing information, the whole puzzle can be solved [2]. Lin [4] adds that CoP play an important role in the creation of supportive social environments in order to foster SRL strategies, mostly influencing metacognitive

strategies, for domain-specific knowledge. Collaboration and communication are key elements for self-assessment and reflection within such communities.

II. THE SRL PROCESS MODEL

The SRL Process Model builds the theoretical framework for ROLE, which is adopted from a common cyclic SRL-model [6]. The most important goal of this SRL Process Model is to support learners to learn self-regulated in responsive open learning environments. In this context the learner should be enabled to construct and maintain her own learning environment with respect to goal setting, freedom and guidance and other SRL preferences. Therefore, the SRL Process Model names four main general phases of learning (Table 1 & Fig. 1):

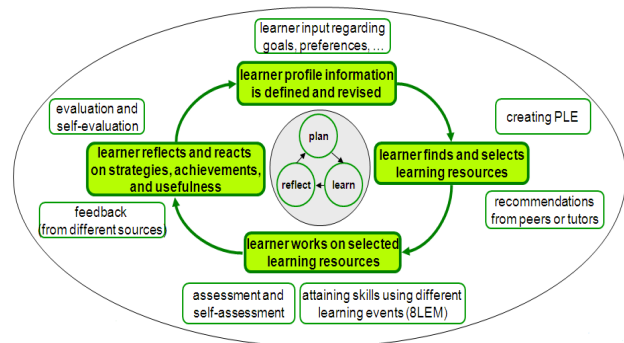


Figure 1. SRL Process Model

III. INTEGRATION OF COLLABORATIVE LEARNING ON A GENERAL AND SPECIFIC LEVEL OF THE SRL PROCESS MODEL

The phases of the presented SRL Process Model refer usually to a general learning level and therefore reflect learning by applying different possible cognitive, metacognitive and motivational learning strategies (e.g. a tool mind-map tool to organize content etc.) in a personalized learning environment to achieve a general learning goal (e.g. improve foreign language skills).

One should note that SRL happens on specific learning levels (e.g. using the mind-map tool etc.) as well. More precisely, learning on a specific level means that the learner chooses a certain learning strategy or technique to accomplish a specific learning goal (e.g. organize content). That is why, she has to plan how long and how often she

¹Brown [1] refers to Fostering Communities of Learners (FCL).

wants to use this strategy or technique (e.g. use the mind-map everyday or just once a week), how to use it appropriately and she has to reflect on her performance concerning this particular learning strategy or technique (e.g. is the structure helpful and correct).

A. Integration of collaborative learning into the SRL Process Model on a general level by joining a CoP

The second phase of the SRL Process Model provides a connecting factor to CoP, where learners are able, respectively requested to select their learning resources. Optimally, a learner then selects a learning resource (recommended by ROLE services) to have an instrument that she can work with and that provides a benefit. In the case of a CoP the learner chooses during the second phase of the SRL Process Model to participate in a CoP in order to find support, information, interaction and solutions for a problem that could not be found by other resources. Still the learner uses other resources as well and goes through all four phases of the SRL Process Model until the general learning goal is achieved.

B. Integrataion of collaborative learning into the SRL models on a specific level by learning in a CoP

When the learner chooses a learning strategy or technique, e.g. to join a CoP, the rather general SRL Process Model can be adapted for the learning approach in a CoP on the specific learning strategy level and starts over again. In this context, the learner is cycling through all four learning phases, but only with regard to CoP. The learner (1) updates profile information and community quality (ref. to joint enterprise). In the second phase the learner (2) selects content and resources, shares practice and involves in activities of the community according to the learning goals (ref. to mutual engagement) . Such personal inputs and recommandations are an advantage compared to the use of other learning strategies where learners learn on their own. Furthermore, the learner (3) works on selected content and tools recommended by the community and share stories, experience and possible solutions towards problems (e.g. shared collection, best practice) and works with community members collaboratively together (ref. to shared repertoire) [5]. The learner also might distribute such artifacts to the community. In the last phase the learner (4) gets feedback from the community and provides feedback and therefore reflects on learning performance, outcome, and the benefit of the CoP (Table 1). In reference to the last phase of CoP, collaboration and communication are key elements for self-assessment and reflection within such communities [4]. The goal of the CoP is to engage in a systematic collaborative discourse, and to reflect about that discourse with the purpose to improve practice in the field of interest.

TABLE I. : LINKING THE 4 PHASES OF THE SRL PROCESS MODEL TO FOUR PHASES OF THE SPECIFIC SRL COP LEARNING STRATEGY LEVEL

Phase	General level of the SRL process Model	Specific level of the SRL Process Model for CoP
1	Learners profile information is defined and revised	Learner updates information about quality and focus of the community (joint enterprise)
2	Learner finds and selects learning resources	Learner selects community and becomes member of it according to the learning goal (mutual engagement)
3	Learner works on selected learning resources	Learner works on selected content, and other resources together with community building up and using a shared repertoire.
4	Learner reflects and reacts on strategies, achievements	Learner gets feedback from community and provides feedback to the community

IV. SUMMERY

To sum up, on the one hand, it is possible to integrate the CoP approach into the SRL Process Model on a general learning level and on the other hand, it is possible to identify SRL processes on a specific learning strategy level in the context of CoP. Further work will focus on detailed elaboration how learning happens in CoPs and on an empirical study in this direction.

ACKNOWLEDGMENT

The research leading to these results has received funding from the European Community's Seventh Framework Program (FP7/2007-2013) under grant agreement no 231396 (ROLE project) and could not be realized without the close collaboration between all ROLE partners, not listed as authors, but nonetheless contributing to the ideas described here.

REFERENCES

- [1] A.L. Brown, "Transforming schools into communities of thinking and learning about serious matters.," *American Psychologist*, vol. 52, Apr. 1997, pp. 399-413.
- [2] J.C. Bronw, A. L., Campinoe, "Psychological theory and the design of innovative learning environments: On procedures, principles, and systems.," *Innovations in learning: New environments for education*, R. Shauble, L., Glaser, ed., Hillsdale, NJ: Erlbaum, 1996, pp. 289-325.
- [3] K. Fruhmann, A. Nussbaumer, and D. Albert, "A Psycho-Pedagogical Framework for Self-Regulated Learning in a Responsive Open Learning Environment," *Proceedings of the International Conference eLearning Baltics Science (eLBa Science 2010)*, S. Hambach, A. Martens, D. Tavangarian, and B. Urban, eds., Fraunhofer, 2010.
- [4] X. Lin, "Reflective adaptation of a technology artifact: A case study of classroom change," *Cognition and Instruction*, vol. 19, Dec. 2001, p. 395-440.
- [5] E. Wenger, *Communities of practive: Learning, meaning and identity*, New York: Cambridge University Press, 1998.
- [6] B. Zimmerman, "Becoming a Self-Regulated Learner: An Overview," *Theory Into Practice*, vol. 41, May. 2002, pp. 64-7.