Cued Retrospective Reporting: Measuring Self-Regulated Learning

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Cued Retrospective Reporting: A Method for Measuring Self-Regulated Learning

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Summary

This study examines Cued Retrospective Reporting (CRR), as a method for measuring Self-Regulated Learning (SRL) skills in a cognitively complex domain. In CRR, eye-movements of participants are recorded during task performance. After performing a task, participants review the recordings of their own eye movements superimposed on the stimulus and verbalize the thoughts they had while performing the task (Van Gog, Paas, Van Merriënboer, & Witte, 2005). By using CRR as a tool for measuring meta-cognitive and self-regulatory processes in SRL, we expect to overcome shortcomings of current methods for measuring SRL, like concurrent reporting and questionnaires. First, CRR does not affect the actual task performance since the reporting takes place after the task performance and eye-tracking can be done in a totally on obstructive way. This is an important fact in a domain where distraction of the task is undesired (e.g., Air Traffic Control; ATC). Second, the use of eye-movements as cue makes the cue personalized and distinct which will prevent the participant from fabricating socially desirable answers. In order to validate CRR in cognitive complex domain, we conducted a study including a triangulation of SRL related measures.

Eighteen ATC trainees participated in 60 minutes individual sessions. The main task was a 12 minutes ATC exercise while eye-movements were recorded during performance. After task performance, the participants self-assessed their task performance. Also a coach assessed the performance of the participant. Next, the participant performed a CRR on 75% speed to give more time for verbalizing the thoughts. Prior to the main task, the participants were asked to fill out two questionnaires: the PRO-SDL scale (Stockdale & Brockett, 2010) in order to measure the

participants' degree of taking initiative, control, and participants' motivation, and the STPQ scale for measuring their self-efficacy on task performance (Lodewyk & Winne, 2005).

Utterances from CRR show that participants perform SRL skills, like orientation skills, planning skills, monitoring skills, adjusting skills, and assessment skills (Zimmerman, 1989). Also the mutual order of the use of these SRL skills as well as the relative frequency and moment of the use is captured with CRR. This information is important for future training programs which include the training of SRL skills. The results of this study give insight in the opportunities for using CRR as measurement tool for SRL skills in cognitive complex training domains. Furthermore, the results from the CRR show that participants focus on cognitive aspects of the training task and that they are hardly aware of their own learning needs and learning opportunities regarding task performance. These results stress the need for developing methods and learning environments which foster the development of SRL (Dinsmore, Alexander, & Loughlin, 2008). Finally, for developing training programmes, CRR can provide coaches information on trainees' individual levels of SRL skills. This may generate knowledge for scaffolding instructional support for the trainees' SRL development.

References

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