How Groups Regulate Their Learning: The Influence of Achievement Goals on Self-, Co- And Shared Regulation Strategies

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Abstract: Study groups need to regulate learning on three levels: the self-, the co- and the socially shared level. We investigated how students' achievement goals are associated with regulation processes within groups. $N = 277$ students were asked to imagine being part of a group with low prior knowledge and low study motivation and to name regulation strategies they would apply. Results indicated that mastery and performance-approach goals played a positive role in predicting regulatory effort.

Keywords: collaborative learning, self-regulated learning, achievement goals, socially shared regulation

Introduction

At university, students often deliberately choose to study in groups, especially when it comes to exam preparation. When they do so, problems like differences in personal priorities, styles of working and communication often arise (Järvenoja, Volet, & Järvelä, 2013). Thus, failure of collaborative learning can at least partially be attributed to a group's inability to regulate its learning process. Järvelä and Hadwin (2013) suggest that to make collaborative learning a successful endeavour, learners need to engage in regulation processes at three social levels: self, co, and socially shared. First, learners can self-regulate for the sake of their own learning success and apply strategies to regulate their own learning (such as monitoring their own understanding; self-level). Second, they can guide other group members or be supported by them (co-level). Third, they can jointly develop an understanding of the topic and solve learning problems through mutual engagement, e.g. by jointly discussing ways to approach or solve the task (shared-level). Quite some research has taken up this differentiation over the past few years (Panadero & Järvelä, 2015). Yet, little is known about whether and how learners' individual achievement motivation influences regulatory processes within groups.

As a major aspect of achievement motivation, achievement goals determine how a person is motivated in academic contexts. An important distinction is the differentiation between mastery and performance goals which are further divided into approach and avoidance performance goals: Students exhibiting a mastery goal are oriented towards developing and improving skills, competence or knowledge. Learners with performance-approach goals strive to demonstrate their superior competence to others, whereas learners with performance-avoidance goals strive to avoid performance situations in order to hide their (actual or assumed) incompetence (Elliot & Harackiewicz, 1996). Prior research has demonstrated that the activation of different achievement goals correlates with a number of processes learners engage in during studying (e.g., Cellar et al., 2011). Mastery goals consistently correlate well with different indicators of self-regulation over a large number of studies, while performance-avoidance goals exhibited consistently negative connections with self-regulation and positive correlations with maladaptive regulation strategies. Performance-approach goals, however, often have no or mixed connections with self-regulation.

Research question and hypotheses

Our research question was: How do different achievement goals relate to students' engagement in regulation strategies at the three social levels proposed by Järvelä and Hadwin (2013)? We set up the following hypotheses:

(1) Mastery goals have a positive relationship with regulation engagement on all three regulation levels.

(2) Performance-approach goals stand in a relationship with regulation engagement at all three levels.

(3) Performance-avoidance goals are negatively related to regulatory effort at all three levels.

Method

$N = 277$ undergraduates ($M = 21.5$ years old, $SD = 2.6$) read a case vignette that described that their study group (which is preparing for an exam) is exhibiting both knowledge and motivation problems towards dealing with the subject matter. The vignette was followed by three open-answer questions on what the participants would do (sample question: "Do you personally do anything in this situation to ensure a high quality of your own learning?"). Each of the three questions focused on one of the three levels of regulation: self ("your own learning"), co ("learning of individual others") and socially shared ("learning of the group as a whole"). Trained coders categorized the reported strategies (Cohen's $\kappa = .70$) which then were counted as dependent variable. To measure academic achievement goals, the Scales for the Assessment of Learning and Performance Motivation (SELLMO; (Spinath, Stiensmeier-Pelster, Schöne, & Dickhäuser, 2012) were used ($\alpha \geq .84$).

Results

We used structural equation modelling to test our hypotheses (see Fig. 1). (1) Mastery goals positively predicted regulation on all three levels as hypothesized. (2) Performance-approach goals predicted regulation on two of three levels (self- and shared-level) as expected, whereas (3) performance-avoidance goals did not predict regulation at all, contrary to our expectations.
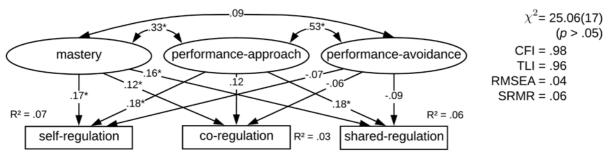

Figure 1. Achievement goals predicting regulation on self-, co- and socially shared level.

Discussion

As supposed, achievement goals were associated with students' reports of regulation activities while collaboratively preparing for an exam. Learners with mastery goals seem to be especially interested in the regulation of challenges that appear in their study groups which mirrors the pattern established by literature for individual regulation (e.g., Cellar et al., 2011). Performance-approach goals also predicted regulation on most regulatory levels positively. We suppose that a study group is a context very suitable to demonstrate ability. Thus, the effect on regulation might be more positive in study groups than the literature on individual regulation (e.g., Cellar et al., 2011) predicted. The missing (negative) effect of performance-avoidance goals could be explained as follows: Maybe, group members do not arouse fear of a deficit in competence being revealed because they are well-known and of equal status. Yet, these findings might be, at least in part, due to the specific context of (a) studying for an upcoming exam and (b) of the presence of low motivation to learn and low prior knowledge. Even though the study certainly has limitations (e.g., the lack of data from real group processes), our results emphasize the importance of achievement goals for regulation processes within groups.

References

Cellar, D. F., Stuhlmacher, A. F., Young, S. K., Fisher, D. M., Adair, C. K., Haynes, S., … Riester, D. (2011). Trait Goal Orientation, Self-Regulation, and Performance: A Meta-Analysis. *Journal of Business and Psychology*, *26*(4), 467–483. https://doi.org/10.1007/s10869-010-9201-6

Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, *70*(3), 461–475.

Järvelä, S., & Hadwin, A. F. (2013). New Frontiers: Regulating Learning in CSCL. *Educational Psychologist*, *48*(1), 25–39. https://doi.org/10.1080/00461520.2012.748006

Järvenoja, H., Volet, S., & Järvelä, S. (2013). Regulation of emotions in socially challenging learning situations: an instrument to measure the adaptive and social nature of the regulation process. *Educational Psychology*, *33*(1), 31–58. https://doi.org/10.1080/01443410.2012.742334

Panadero, E., & Järvelä, S. (2015). Socially Shared Regulation of Learning: A Review. *European Psychologist*, *20*(3), 190–203. https://doi.org/10.1027/1016-9040/a000226