



UMEÅ UNIVERSITET

# Motivation, students, and the classroom environment

Exploring the role of Swedish students' achievement goals in chemistry

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## **Title**

Motivation, students, and the classroom environment: Exploring the role of Swedish students' achievement goals in chemistry

## **Abstract**

The overarching aim of this thesis is to deepen the knowledge about students' achievement goals in chemistry and how they relate to students' epistemic beliefs (beliefs about knowledge) and to their perceptions of classroom goal structures (instructional practices that emphasize certain achievement goals). Achievement goals are defined as the purpose behind students' engagement in achievement behavior. They are important components in students' motivation and influence students' success and well-being in school. This thesis primarily focuses on two types of achievement goals: mastery and performance goals. Students with mastery goals define success in relation to prior performances and the task at hand and they strive to develop their competence. Students with performance goals define success in relation to others and they strive to demonstrate their relative competence. To study students' achievement goals, questionnaire data and responses on a chemistry test were collected from Swedish and German students in Grades 5-11 and analyzed through statistical methods. The results show that it was possible to statistically differentiate between two different performance goals (striving to outperform others and avoid being outperformed by others) in the German data, but not in the Swedish. This challenges the universality of achievement goal models. Regarding the relationship between achievement goals and epistemic beliefs, the results indicated that sophisticated epistemic beliefs correlated with mastery goals and naïve beliefs correlated with performance goals. These relationships varied over time, especially in the transition from lower to upper secondary school, which therefore is an interesting time point to study further. The interaction between achievement goals and classroom goal structures was studied by using them as joint predictors of students' autonomous motivation and performance on the chemistry test. The most important predictor for high autonomous motivation and high test scores was strong mastery goals. This effect was enhanced when students also perceived strong mastery structures in the classroom. Conversely, mastery goals were less beneficial if students pursued performance goals simultaneously. There were also differences in the interactions between achievement goals and goal structures over school years. Together, the results imply that teachers should support students' mastery goals through striving to create classroom environments with strong mastery structures.

In conclusion, this thesis highlights the complexity of achievement goals and their relations to other aspects of the educational context. This shows the need for future research to take, for example, the universality of achievement goal models and the importance of interaction effects into consideration.

## **Keywords**

Motivation, achievement goals, chemistry, goal structures, epistemic beliefs, autonomous motivation

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