

# The Relations between Teaching Practices Motivation and Self-Efficacy 'and Adolescents for Science in Face-to-Face and Distance Learning Environments

Thesis for the Degree of

MSc

Submitted to the Scientific Council of the

Weizmann Institute of Science

Rehovot, Israel

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## Summary

When the COVID-19 pandemic began, science instruction in many countries shifted from face-to-face (F2F) instruction to distance learning (DL). DL made new professional demands on the teachers, who were largely unaccustomed to teaching in this environment.

Using goal orientation theory and the TARGETS framework, this study investigated how Junior High School students' science motivation and science self-efficacy, their perceptions of their science teachers' motivational practices, and the relations between them, changed due to the shift from F2F instruction to DL. I surveyed (n = 137) and interviewed (n = 11) students who learned with the same six science teachers before (F2F instruction) and after the pandemic began (DL). Students' motivation and science self-efficacy dropped significantly during the transition from F2F instruction to DL. Several changes to the students' perceptions of their science teachers' motivational practices in the Task, Autonomy/Authority and Time dimensions of TARGETS were identified as possible antecedents to the declines in the students' science motivation and science self-efficacy. Recommendations are made regarding motivational practices that may support students' science motivation and science self-efficacy, in both DL and F2F learning environments.