# Learn2Learn - (Adaptive) Promotion of Self-Regulated Learning in Digital Learning Environments

Projektleitung: Doreen Prasse, Projektteam: Michael Hielscher, Glena Iten, Martina Conti, Rea Minder, Franziska Aeschlimann

PROJECT L2L

Effective learning in (digital) learning environments requires a degree of proficiency in self-regulation skills that especially younger students still need to acquire. Despite these challenges, digital learning environments offer new opportunities to promote self-regulated learning, for example by providing students with digital metacognitive prompts that can heighten their awareness of their learning processes and stimulate planning, monitoring and regulation of learning activities.

In the Learn2Learn project we investigate how computer-based systems can be designed to make use of these new possibilities regarding format & timing of automated metacognitive prompts and scaffolds. We developed and tested the interactive L2L-Assistant for *LearningView* - an educational learning platform designed at PH Schwyz.
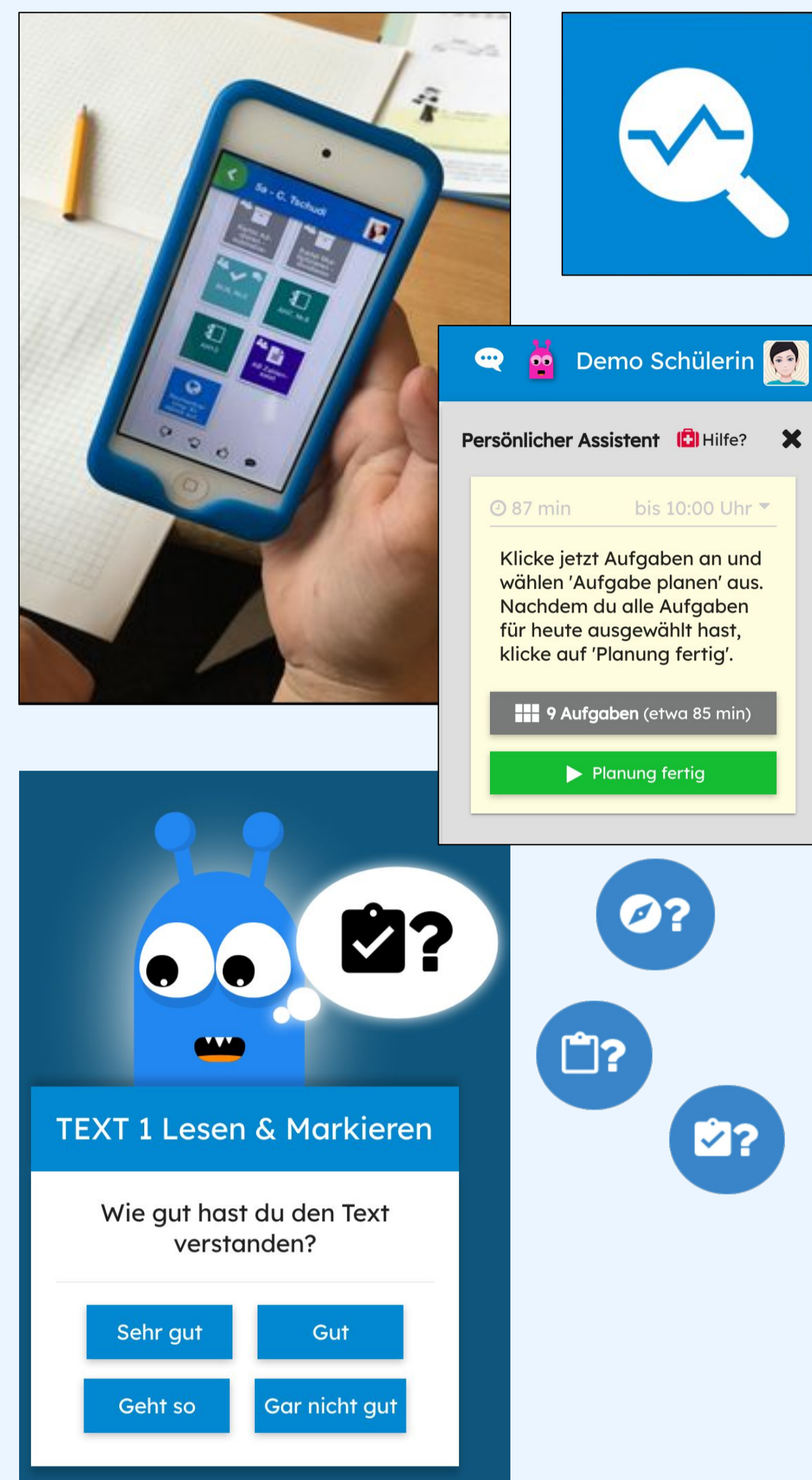
DESIGN L2L

In order to empirically test the L2L-Assistant, we developed the learning unit "Mysterious Glaciers" in *LearningView*, where students authored an article for a fictitious magazine. Students had to process and synthesize information from different sources (text, video) about a specific geological phenomenon and answer expert questions for the (imagined) audience of the magazin. Students worked independently with minimal teacher guidance but were supported by the instructional design, which included advice for the use of cognitive strategies (e.g. highlighting, note taking).

Embedded in this learning unit, students were provided with the L2L-Assistant, which supported them with prompts for planning and monitoring their learning activities before, during and after each task.


CURRENT RESEARCH

STUDY 1:
DOES IT HELP?

We conducted field experiments in 22 classes at grades 5/6 (375 students randomly assigned to experimental or control group). Before, during and after the intervention, questionnaire, video-based interview and performance data (e.g. prompt interaction, learning products) were gathered.

Results show that a majority of students liked the L2L-Assistant. Especially the planning feature was experienced as helpful. Students also reported an increase of their monitoring behaviors. However, reactions towards the prompting feature showed a high variability: Some students felt distracted by too high a frequency of prompts.
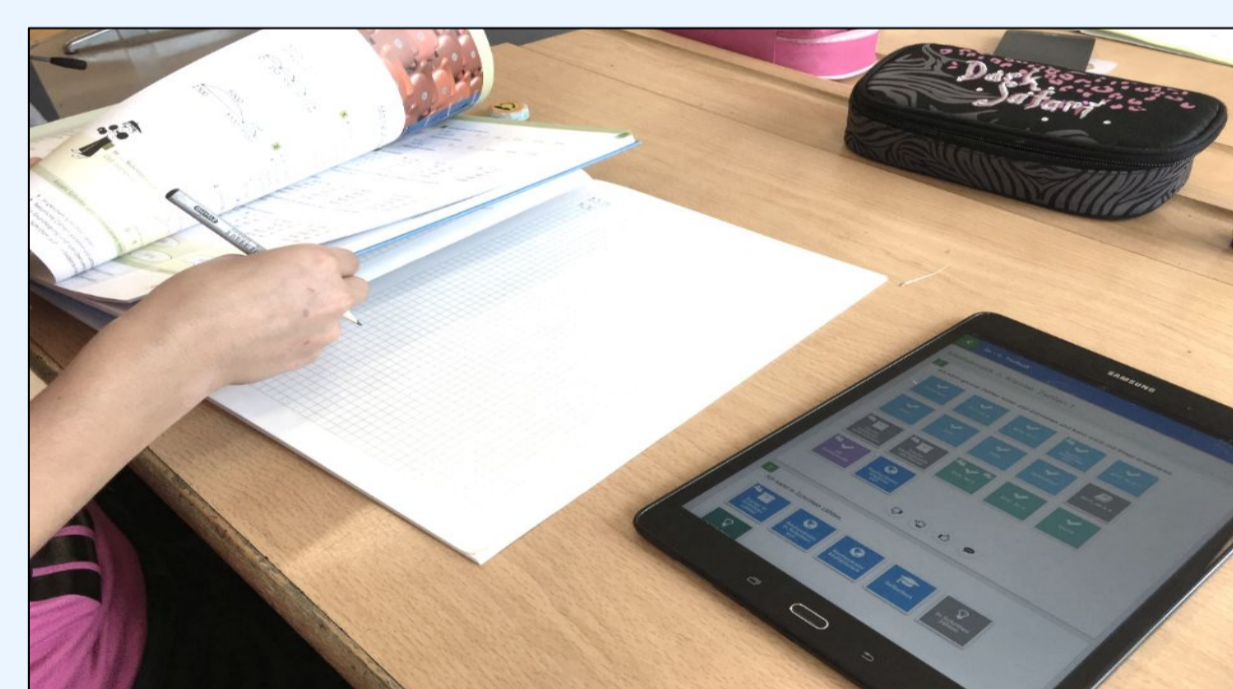
STUDY 2:
WHOM DOES IT HELP?

Why do certain students benefit from digital metacognitive prompts while others do not? We are now analyzing questionnaire and interview data to explore how patterns of students' attitudes and self-efficacy regarding SRL as well as perceived difficulty of learning tasks impact the perception and effectiveness of metacognitive prompts.
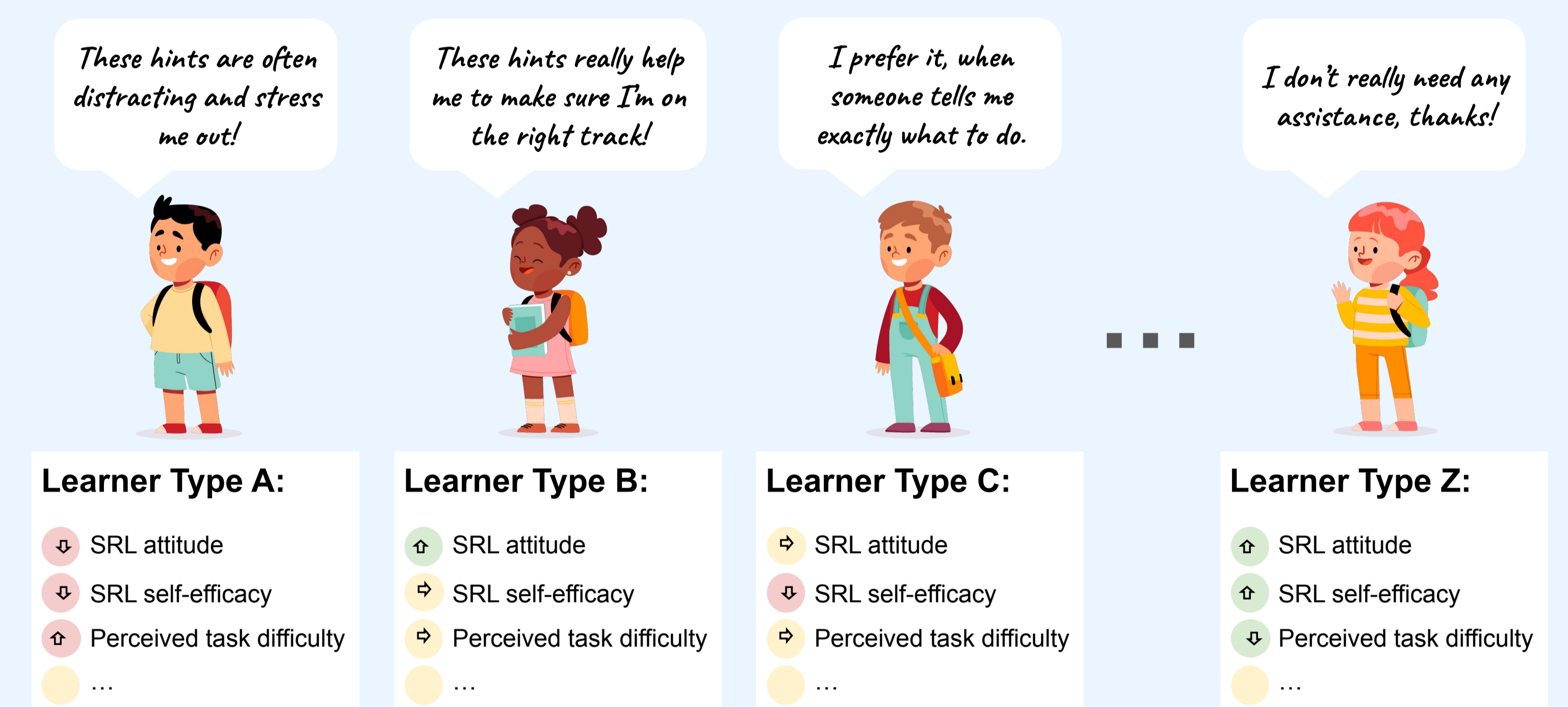
NEXT STEPS

STUDY 3:
ADAPTIVE SRL-SUPPORT!

Effective support for self-regulated learning needs to be adaptive to relevant learner characteristics. Based on the patterns of influencing factors identified in Study 2, we aim to provide students with adaptive SRL-assistance.

Therefore, we plan to develop a tool which allows teachers …
- to assess students' needs and characteristics regarding SRL,
- to use a repository of metacognitive prompts and learning strategies to apply in the design of their *LearningView* teaching unit, and thus,
- to provide students with the help they need in their specific learning situation.

time over multiple lessons (fade-out)