

Support for self-regulated learning in primary schools through computer-based learning environments – A Qualitative Prestudy

Glena Iten, Laura Müller, Désirée Fahrni, Michael Hielscher, & Doreen Prasse, Schwyz University of Teacher Education, Switzerland

Theoretical Background

- Personal digital devices & CBLE support self-directed learning [2]
- In this context self-regulated learning skills are essential [1]
- For primary school children, self-directed learning in digital learning environments is challenging, as these competences still need to develop [4]
- Research gaps [6]
 - Problems of independent learning in a digital learning environment
 - Mechanisms that support primary school children in acquiring self-regulatory competences
- Scaffolds (e.g. metacognitive prompts) can encourage students to learn and automate metacognitive processes in planning, monitoring and control learning [1]

Learning Sequence on LearningView (LV)

Digital Learning Environment LV: Visualizes the structure of the class unit, contains instructional hints for students (text, audio) and provides materials for further information [3].

Learning Unit: In cooperation with teachers who have been using LV for a long time, we created tasks where students had to plan an excursion and had to reflect on and evaluate their plan. We made students' considerations visible at critical points of the learning process by providing prompts (verbal) or instructions to evaluate their learning products (online quiz in LV).

Focus of the Prestudy

- Q1:** Identifying challenges regarding self-regulated learning activities during the digitally supported realization of a learning project with the learning platform (LearningView)
- Q2:** Exploration of design options for metacognitive prompts (e.g. form & timing in the class unit? Motivational adequacy?)

Method

Observation

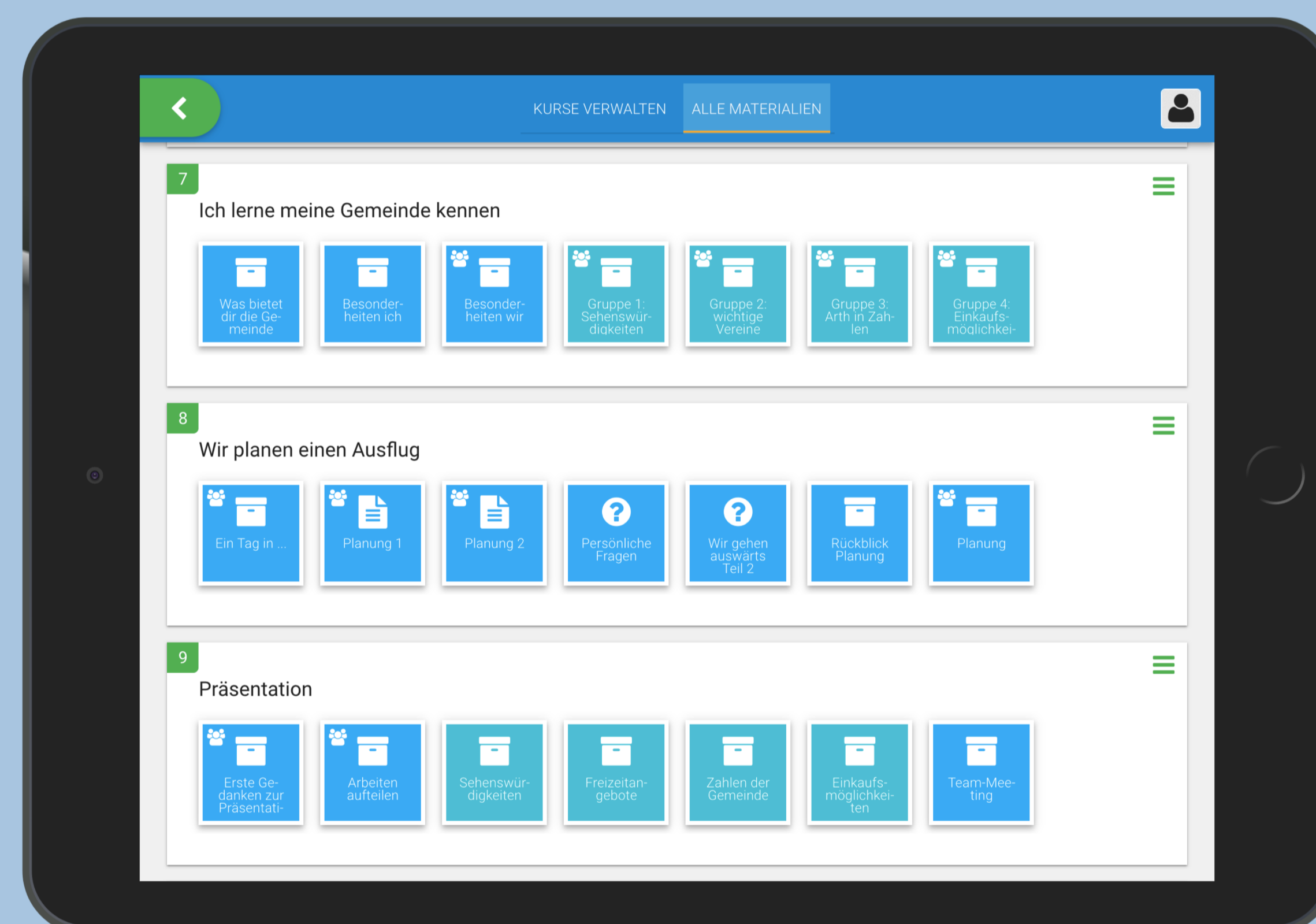
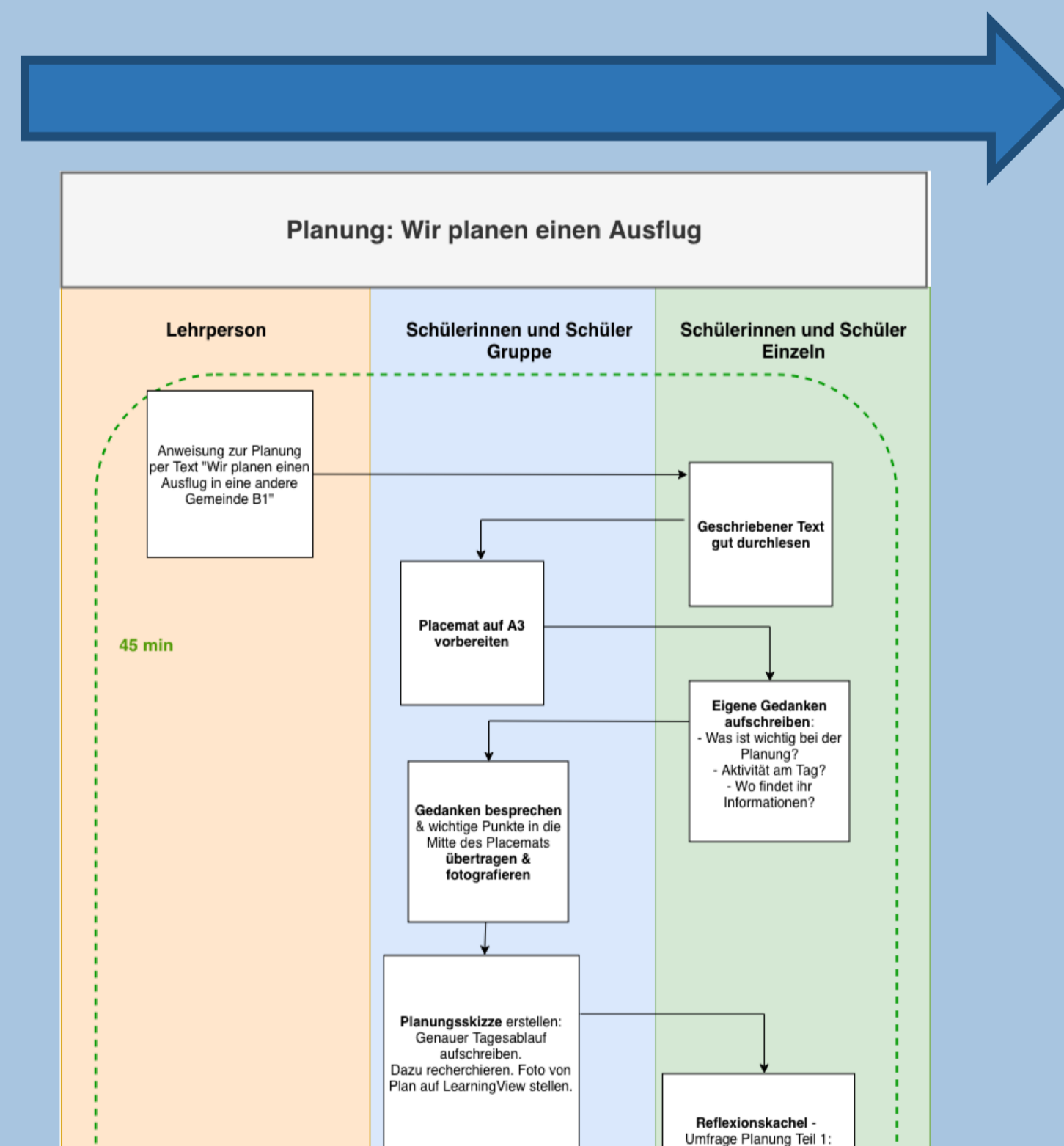
- Individual students in classroom (audio & video) during 9 lessons
- (Structured) participating observation → provision of 4 planned metacognitive prompts (verbal/digital)
 - What are you working on right now? What are your thoughts on this? What is your next step? What could help you right now? (plus further spontaneous prompts where appropriate)

Participants

- 8 students out of 2 primary school classes (each 4 m/f, 5th grade)
- Recruitment via questionnaires for self-regulation & motivation (external evaluation & self-assessment)

Data Analysis

- Descriptive analysis for the data based sample selection
- Qualitative analysis of students' self-regulated learning activities from video & audio recordings → high and low inferential coding (coding system adapted according to Vandeveldel et al., 2017)



Preliminary Results

Q1: Experienced Challenges

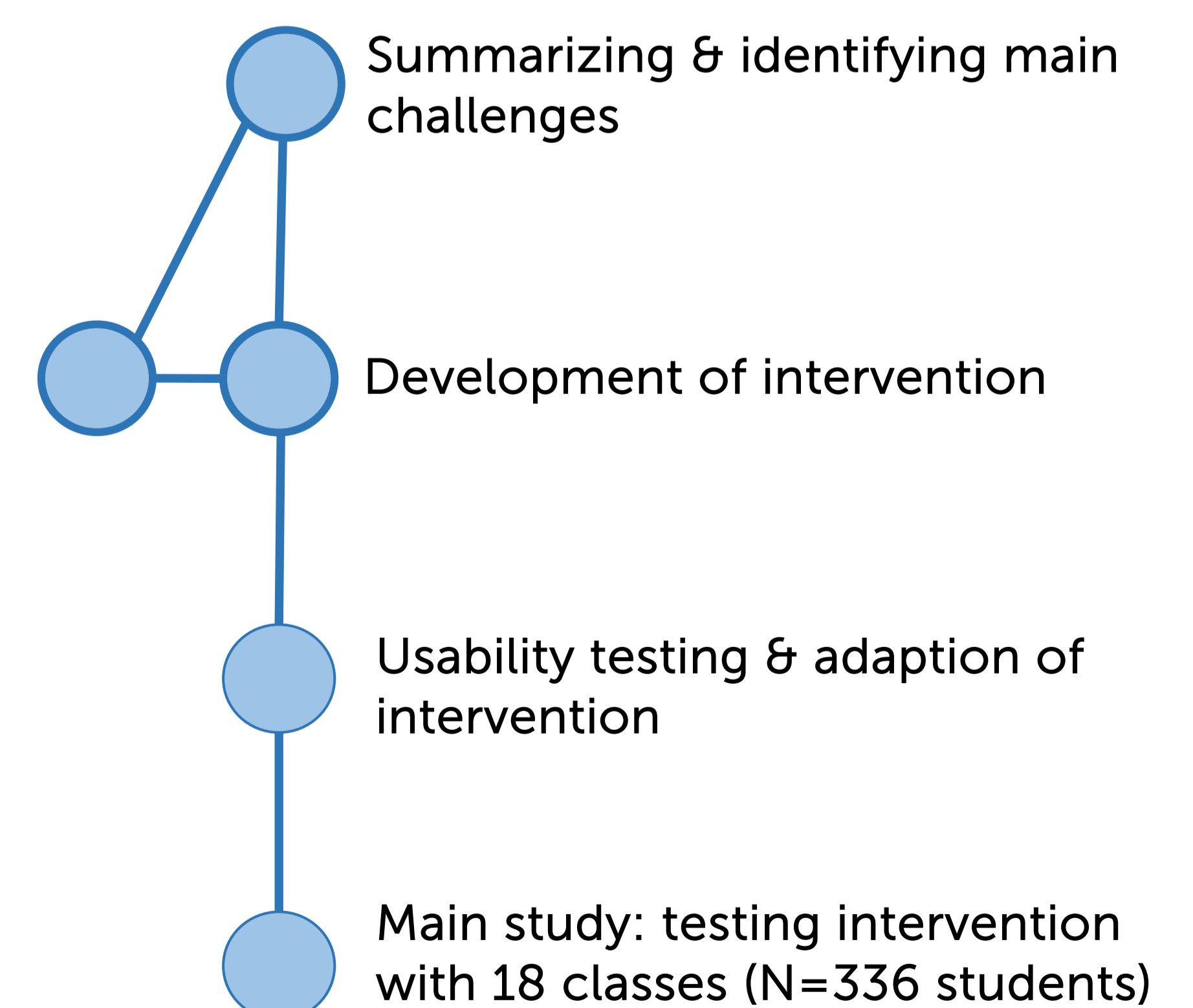
- Focus on details instead of task goals
- Losing track of time
- Misunderstanding or forgetting to follow instructions or learning goals
- Overload or confusion due to combination of textual and verbal instructions

Q2: Examples of Potential Prompts to foster SRL

- **Be aware of task & time**
"What are you working on right now?" / "How much time is left?"
- **Think & plan ahead**
"Stop, think, and then act." / "What is the most important thing?" / "Do you have time for this?"
- **Be critical**
"Read again what is written here." / "Did you forget something?" / "Think back to the last lesson." (as a helpful cue) / "What could be helpful?" / "Does this make sense?"

Conclusion & Next Steps

Development of coding system



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