

## Can expert and peer annotations of classroom events help novice teachers to recognize cues for teacher action?



### Introduction

Novice student-teachers' knowledge of classroom situations and procedures is fragmented and hardly automated. For novices the task of simultaneously teaching and managing a classroom demands considerable mental effort (Feldon, 2007). Because they lack the flexible knowledge of the experienced teacher, they fail to fully perceive and comprehend the complexity of classroom events, in cues for teacher actions. One way to overcome this problem, suggested by Berliner (2001), is to help teacher-students build a knowledge base of classroom cases. It is suggested that if 'case knowledge' is acquired, this will result in automation of skills, and therefore reduce mental effort. The goal of this recently started research project is to test whether expert and peer annotations of video-registrations of classroom situations help student-teachers in acquiring 'case knowledge' by building skills in observing and recognizing cues for teacher actions.

### Research question

To what extent can expert and peer annotations of classroom events be used to improve student-teachers' performance in the perception and analysis of classroom events?

### Theoretical framework

In this research project we adopt the theoretical framework of (a) the development of expertise, and (b) Cognitive Load Theory (Sweller, 1998; Sweller, Van Merriënboer, & Paas, 1998). In the first project phase of this research will focus on the development of teacher expertise, when we collect the expert and novice annotations. In the second project phase we will focus on CLT, when we use the expert and novice annotations as worked examples.

### Project phase 1

#### Pilot studies

In the first phase of this project we will pilot conduct several pilot studies to identify tools for annotation of relevant cues (method, apparatus for further studies); decide granularity of annotation (single word (i.e. tags), short phrases, or lengthier annotations); make selection between controlled or free vocabulary.

#### Experiment I

##### Aims:

elucidate knowledge structure of novice and expert teachers.  
Obtain annotations for use in following studies

##### Participants:

1<sup>st</sup> year student-teachers  
Experts teachers

##### Procedure:

Participants study ten video-registrations of classroom events. They are asked to identify cues in the events recorded and to tag and annotate every registration. Second, subjects engage in a concept mapping task in which they group the tags in the vocabulary (divers orderings are allowed) and to verbalize the underlying structure of their orderings.

### Project phase 2

In this project phase we will use the acquired classroom annotations in several experiments. The main focus of these experiments will be to see whether the availability of annotations (functioning as worked examples) helps student-teachers (a) improve performance in the observation and analysis of classroom events and in recognition of cues for teacher actions; (b) reduce mental effort when teaching. Furthermore, we will investigate whether which expert or peer annotations provides the best scaffold for student-teachers.

