Through the eyes of the teacher

# 1 Introduction

Managing classroom disruptions is a crucial aspect of effective classroom management (Evertson, Weinstein, et al. (2006); Kounin (2006)).

Accordingly, teachers must be able to quickly notice and appropriately react to significant events in the classroom. This ability is referred to as classroom professional vision (Goodwin (2015); Sherin (2007)).

The process of professional vision can be divided into two main aspects: focusing on relevant situations for learning and teaching (“noticing”) and applying knowledge to draw appropriate conclusions in these situations (“knowledge-based reasoning”; Seidel and Stürmer (2014)).

Therefore, the early visual perception of classroom disruptions is a key component to effectively maximize students’ learning time and minimize classroom interruptions. According to Kounin (2006), these important classroom management strategies are called “withitness” and “overlapping” and can be summarized under the concept of monitoring (Gold and Holodynski (2017)).

Learning to develop such classroom management skills is a demanding and complex task for student teachers (Wolff et al. (2016)). Research on teacher expertise showed that expert and novice teachers differ in their ability to perceive classroom events, “[…] whereas only a few studies have focused on the basal process of noticing, i.e. the recognition of possible disturbing situations” (Grub, Biermann, and Brünken (2020), p.75). Mobile eye-tracking data can fill this research gap by providing new insights in how expertise differences in teacher´s professional vision manifest in teacher-student interactions (Lachner, Jarodzka, and Nückles (2016); @Wolff et al. (2016)).

# 2 Research Questions

This study examined how the degree of teaching experience influences (a) the number of fixations on relevant areas (e.g., the student performing the disruption), (b) the fixation duration in relevant areas and (c) the time to first fixation on relevant areas, using mobile eye-tracking data in a controlled, micro-teaching setting. Based on the existing literature, we expect expert teachers to outperform novices by (H1) showing more fixations on relevant areas with (H2) shorter fixation durations and (H3) perceiving classroom disruptions faster (cf. Van den Bogert et al. (2014)).

# 3 Methods

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

## 3.1 Participants

The planned sample consists of *n* = 40 experts (teacher training completed, active in the teaching profession) and *n* = 40 novices (student teachers, first internship completed).

The currently ongoing data collection already yielded data from *n* = 7 experts and *n* = 19 novices.

Participants Teachers were primarily recruited through personal contacts

## 3.2 Material

## 3.3 Procedure

## 3.4 Data analysis

We used R (Version 4.1.2; R Core Team 2021) and the R-packages *ARTofR* (Version 0.3.3; Zhang 2021), *cowplot* (Version 1.1.1; Wilke 2020), *dplyr* (Version 1.0.8; Wickham et al. 2022), *forcats* (Version 0.5.1; Wickham 2021), *ggplot2* (Version 3.3.5; Wickham 2016), *gridExtra* (Version 2.3; Auguie 2017), *lubridate* (Version 1.8.0; Grolemund and Wickham 2011), *needs* (Version 0.0.3; Katz 2016), *papaja* (Version 0.1.0.9997; Aust and Barth 2020), *purrr* (Version 0.3.4; Henry and Wickham 2020), *readr* (Version 2.1.1; Wickham, Hester, and Bryan 2021), *readxl* (Version 1.3.1; Wickham and Bryan 2019), *stringr* (Version 1.4.0; Wickham 2019), *tibble* (Version 3.1.6; Müller and Wickham 2021), *tidyr* (Version 1.2.0; Wickham and Girlich 2022), *tidyverse* (Version 1.3.1; Wickham et al. 2019), *tinylabels* (Version 0.2.3; Barth 2022), *viridis* (Version 0.6.2; Garnier et al. 2021a, 2021b), and *viridisLite* (Version 0.4.0; Garnier et al. 2021b) for all our analyses.

# 4 Results

# 5 Discussion

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