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Editorial

Linking teachers' professional knowledge and teachers' actions: Judgment processes, judgments and training

1. A theoretical frame for the Special Section: a conceptual model

A recent wave of European research on teachers' assessment competence and judgment processes has revealed remarkable theoretical overlap with the early research on decision making mentioned above (Bishop & Whitfield, 1972). The theoretical paper by Herppich et al. (this issue) elaborates on this research and thereby provides a conceptual description of how teachers' judgments can be a link between their professional knowledge and their classroom actions. The paper aims to define the term assessment competence for the international audience, and to coherently integrate existing research into a conceptual model. The model links knowledge structures (cf. professional knowledge) to real-life performance in specific pedagogical situations (see Fig. 1). The link consists of cyclic judgment processes (cf. decision-making processes). These processes are argued to differ depending on the situation (e.g., automatic or reflected). The product of judgment processes is a judgment. This is where the model draws a line between assessment competence and instructional competence (see the thicker frame in Fig. 1). Judgments are seen as the basis of teachers' educational decisions, that is, decisions about their professional actions (in case the decision is, indeed, that actions are necessary). Educational decisions are the ultimate goal of the assessment, and teachers' assessments cannot be properly described without knowledge about the decision it is meant to inform.

Assessment competence is theorized to be learnable. If knowledge (see “cognitive dispositions” in Fig. 1) is acquired by training, judgment processes, judgments, and in the end, pedagogical actions should be enhanced.

2. What parts of the model linking professional knowledge to judgment processes, to judgments, and to teachers’ classroom actions are investigated in the empirical papers?

The empirical papers in this Special Section can be referred to this basic model and, at the same time, represent diverse research designs and a large variety of perspectives on teachers' knowledge, judgments, and actions. Please refer to Table 1 for an overview of the varying samples, designs, subjects of the teacher judgment in the studies, the cues that teachers could use for their judgment, whether teachers received training, and, of course, the aspect primarily addressed in this section, the reference of the studies to the conceptual model. Each study examines at least two components of the model and points towards links between these components.
Karst, Dotzel, and Dickhäuser (this issue) look at the theoretical situation-specificity of judgment processes and, thus, judgments (cf. Table 1, column “Reference to the Model”). They differentiate situations with a global perspective from situations with a specific perspective on students. According to Karst et al., a global perspective would, for example, be necessary when the teacher plans to group students for an exercise by achievement level. In this case, teachers need to consider their students’ overall achievements rather generally. On the other hand, if a teacher wants to support an individual student in a specific area of the subject, the student’s specific prerequisites, strengths, and weaknesses come into focus. These diagnostic situations are linked to more or less global (GJ) or specific judgments (SJ) about students’ knowledge and skills, respectively. In this correlational study, Karst et al. gained initial insight that these judgments (GJ and SJ) and especially the corresponding accuracy measures are not similar. Thus, they provided initial evidence that information processing (thus, judgment processes) when assessing students’ knowledge and skills differs across various teaching situations.

New insight into teacher judgments and judgment processes are also provided by Südkamp, Praetorius, and Spinath (this issue) and by Oudman, van de Pol, Bakker, Moerbeek, and van Gog (this issue). Often, judgments of a single student characteristic are investigated in research on judgment accuracy (Huber & Seidel, 2018). Südkamp et al.’s article goes beyond such judgments of single characteristics. In a correlational study, they investigated how teachers judge profiles of student characteristics. These profiles consisted of cognitive and socio-emotional student characteristics which can be consistent and inconsistent. For example, the authors consider a profile to be consistent if the student scored high on achievement, cognitive abilities, academic self-concept, learning motivation, and low on achievement related anxiety. Findings show that the accuracy of judgments differed somewhat depending on the consistency of profiles (found with test anxiety). The consistency or inconsistency of assessment-relevant information can be seen as characteristics of assessment situations. Being confronted with inconsistent profiles of student characteristics puts the assessor in a different situation than consistent profiles. From this perspective, this study also shows slight differences in teacher judgments across different situations.

Oudman et al. (this issue) investigated a part of the judgment process in depth: the “data collection” (see Fig. 1) had been done by the experimenters, so teachers’ analyses of data and/or the processing of information and the resulting judgment were the subject of investigation. In an experiment, Oudman et al. studied how the availability of information about students’ identities and students’ performance (i.e., cue-type availability) while making judgments about students’ mathematical understanding affected teachers’ use of cues and the accuracy of their judgments. Cues are specific pieces of information that can be more or less predictive (i.e., diagnostic) of, for example, students’ actual understanding. Examples of cues are performance on specific problems, a student’s effort, gender, or class behavior (see Table 1 for an overview of the cues used for judgments in the different studies). Oudman et al. used the think-aloud method to gain insight in cue use, thus, into the actual judgment process. Findings show, for example, that access to performance cues only (not to students’ names) was helpful in judging what students did not understand.

Professional knowledge and assessment-relevant beliefs that are rarely focused on in previous research but are nevertheless highly relevant to supporting student learning were analyzed in the experimental studies of Glogger-Frey, Deutscher, and Renkl (this issue), as well as in Herppich and Wittwer (this issue). Both papers relate professional knowledge or beliefs (dispositions, see Fig. 1) to the ability to assess student characteristics in simulations of professional situations. More specifically, in the simulated assessment situations, preservice teachers were provided data (such as students’ products or whether or not students solved specific tasks). That is, “data collection” (cf. Fig. 1) is done, and preservice teachers analyzed the data, processed information they had extracted from the data and derived a judgment. Glogger-Frey et al. studied the relationship between preservice teachers’ knowledge about learning strategies and the quality of judgments of authentic student products. Different kinds of knowledge (conceptual, misconceived) and the structure of knowledge (coherence, context-specificity, indicating knowledge-in-pieces) was measured. Findings show, for example, that conceptual knowledge about learning strategies predicts high quality judgments.