

## Teachers' general pedagogical/psychological knowledge: Conceptualization and test construction

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The objective of the presentation is to present a conceptualization of teachers' general pedagogical/psychological knowledge. Further, I will describe the development of an instrument measuring key aspects of general pedagogical/ psychological knowledge and summarize the results of the validation process.

Pedagogical/psychological knowledge is a major category of teacher knowledge alongside subject-specific knowledge (content knowledge and pedagogical content knowledge, cf. Shulman 1986, 1987). The starting point of the conceptualization of teachers' general pedagogical/psychological knowledge were the concrete complex demands of teaching practice. To this end, various models of school learning were analysed to identify facets of generic pedagogical and psychological knowledge that are broadly considered essential for successful teaching practice (e.g., Bloom 1976; Carroll 1963; Slavin 1994).

Across these models, there is general agreement that—because student learning takes place within a classroom setting—the individual learning process is always embedded in the social environment of a given class (Collins et al. 2004; Greeno 1998; Shuell 1996). School classes typically bring together students with diverse abilities and needs, who interact in lessons and, in so doing, constitute the complex social framework within which all school learning processes occur. These social aspects of school learning pose various challenges for teachers, who have to know how to structure and orchestrate learning opportunities accordingly. At the same time, models of school learning also emphasize that learning outcomes are determined largely by the characteristics of individual students. For example, students differ in their prior knowledge and preconceptions as well as in their motivational orientations. These individual characteristics determine whether and how students take advantage of the learning opportunities in the classroom. In order to create learning environments that promote insightful learning, teachers therefore need knowledge of students and of sources of diversity in the classroom.

We thus define general pedagogical/psychological knowledge (PPK) as the knowledge needed to create and optimize teaching–learning situations across subjects, including declarative and procedural knowledge of the following domains (Voss et al. 2011):

(a) Knowledge of classroom processes:

- Knowledge of classroom management
- Knowledge of teaching methods and their effective orchestration
- Knowledge of classroom assessment

(b) Knowledge of student heterogeneity:

- Knowledge of students' learning processes
- Knowledge of individual student characteristics and the specific challenges they present in the classroom

Based on this conceptualization, we developed a pool of multiple-choice items, short-answer items, and video-based items to assess the facets of PPK identified. The items were tested in three pilot studies with pre- and in-service teachers (total N = 170). The final version of the test consisted of 39 items. A total of 746 teacher candidates were administered the newly developed test. The results provided first evidence for the hypothesized nomological network of PPK; the measure was sensitive to differences between groups; and variations in PPK did not overlap to any great extent with variations in discriminant constructs such as general reasoning abilities, personal beliefs, and domain-specific knowledge. Furthermore, PPK was significantly positively associated with indicators of instructional quality from the students' perspective.