Research paper

Teachers’ judgment accuracy concerning consistent and inconsistent student profiles

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HIGHLIGHTS

- Prior research has investigated teacher judgments concerning single student characteristics.
- Because teachers perceive many student characteristics at the same time, it is important to investigate students’ profiles.
- We studied actual and perceived consistency of student profiles in relation to teachers’ judgment accuracy.
- Teachers perceived student profiles as being more consistent than indicated by measured student characteristics.
- Contrary to our expectations, teachers’ judgments were not more accurate for consistent student profiles.

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ABSTRACT

Research on teachers’ judgment accuracy has focused on teacher judgments of single student characteristics. We analyzed differences in teachers’ judgment accuracy concerning students with consistent and inconsistent cognitive and socio-emotional profiles (i.e., profiles of cognitive abilities, self-concept, motivation, and anxiety). Based on test scores and self-reports of N = 743 students, we identified one inconsistent and two consistent profiles. Judgments of N = 43 teachers yielded only three consistent student profiles, indicating that teachers perceived student profiles to be more consistent than they really were. Contrary to our expectations, teachers’ judgments were not more accurate for consistent student profiles.

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1. Introduction

For several decades, teachers’ judgments of students have been focused by research on teachers’ professional thinking and decision making because of their high relevance in educational contexts (Shavelson & Stern, 1981): Often, teachers’ judgments are the primary source of information regarding students’ learning preconditions (Baker, Tichovolsky, Kupersmidt, Voegler-Lee, & Arnold, 2015) and students’ academic achievement (Südkamp, Kaiser, & Möller, 2012). In their daily work, teachers informally collect moment-to-moment data about their students that influences their instructional decisions (Alvidrez & Weinstein, 1999). Teachers’ judgments affect their selection of classroom activities and materials; they determine the difficulties of the tasks selected, the choice of questioning strategies, and the organization of student learning groups. The judgments may prompt teachers to revise their teaching techniques (Shavelson & Stern, 1981). Teachers who know their students well are more likely to make these instructional decisions in a meaningful way (Vogt & Rogalla, 2009). Therefore, teachers’ judgments of students should be accurate (Furnari, Whittaker, Kinzie, & DeCoster, 2017; Helmke & Schrader, 1987; Kilday, Kinzie, Mashburn, & Whittaker, 2012; Mashburn, Hamre, Downer, & Pianta, 2006).

Research on teacher judgment accuracy has focused on different student characteristics that are highly relevant for education (Winne & Nesbit, 2010), e.g. students’ academic achievement (Gabriele, Joram, & Park, 2016; Südkamp et al., 2012), students’
cognitive abilities (Machts, Kaiser, Schmidt, & Möller, 2016), academic self-concept (Praetorius, Berner, Zeinz, Scheunpfug, & Drevel, 2013), learning motivation (Spinath, 2005), and test anxiety (Karing, Dörfler, & Artelt, 2013). Prior studies have analyzed teacher judgment accuracy concerning one or more student characteristics separately (Spinath, 2005; Stang & Urahne, 2016). This approach is limited because teachers are likely to perceive students holistically and to include more than one student characteristic in the process of judgment formation (Kaiser, Retelsdorf, Südkamp, & Möller, 2013; Praetorius, Greb, Lipowsky, & Gollwitzer, 2010; Schrader & Helmke, 1990). If teachers perceive students holistically, their judgments of students should be influenced by the consistency of different student characteristics. Indeed, there is evidence for differences in teachers’ judgment processes concerning students with consistent and inconsistent cognitive and socio-emotional profiles (Böhmer, Horsterrmann, Grasel, Krolak-Schwerdt, & Glock, 2015; Glock, Krolak-Schwerdt, Klapproth, & Böhmer, 2013). Students with a consistent profile represent a typical under-average, average, or over-average student (e.g., a student with high cognitive abilities, high academic self-concept, high learning motivation, and low anxiety). On the other hand, inconsistent student profiles include conflicting information on students’ achievement and other cognitive as well as socio-emotional characteristics (e.g., a student with high cognitive abilities, low academic self-concept, low learning motivation, and test anxiety). In our study, we account for the interdependency of student characteristics and analyze differences in teacher judgment accuracy concerning groups of students with consistent and inconsistent profiles. Following this introduction, theoretical considerations and empirical findings concerning teacher judgment accuracy of students’ with consistent and inconsistent profiles are outlined.

2. Accuracy of teachers’ judgments

Usually, teachers’ judgment accuracy is studied by investigating the correspondence between teachers’ judgments of students’ characteristics and the students’ characteristics as measured by a standardized test or self-report questionnaire (Südkamp et al., 2012; Thiede et al., 2015). In their meta-analysis on the accuracy of teachers’ judgments of students’ academic achievement, Südkamp et al. (2012) summarized 75 studies reporting correlational data on the relationship between teachers’ judgments of students’ academic achievement and students’ performance on a standardized achievement test. The overall mean effect size was found to be \( r = 0.63 \). More recently, Meissel, Meyer, Yao, and Rubie-Davies (2017) reported slightly higher correlations between teachers’ judgments and students’ test scores in reading (\( r = 0.73 \)) and writing (\( r = 0.72 \)). The effect sizes indicate that teacher judgment accuracy is fairly high albeit being far from perfect and leaving room for improvement. Focusing on the accuracy of teachers’ judgments of students’ cognitive abilities, Machts et al. (2016) summarized 106 effect sizes from 33 studies and found a mean judgment accuracy for cognitive abilities of \( r = 0.43 \). Praetorius et al. (2013) focused on teacher judgment accuracy concerning students’ academic self-concept (Marsh, 1990). Academic self-concept refers to an individual’s knowledge and perceptions about themselves in achievement situations (Bong & Skaalvik, 2003). Praetorius et al. (2013) found teachers’ judgments of students’ academic self-concepts to be positively correlated with students’ academic self-concepts in the subjects of Mathematics (\( r = 0.30 \)) and German (\( r = 0.27 \)). Karing et al. (2013), in turn, evaluated teachers’ judgments of students’ test anxiety and found that they were also positively correlated to students’ self-ratings of test anxiety (\( r = 0.20 \) to \( r = 0.44 \)). There are only a few studies that collected data on teacher judgment accuracy of multiple student characteristics (see Spinath, 2005; Stang & Urahne, 2016; Urahne, Chao, Florineth, Luttenberger, & Paechter, 2011). In line with the results outlined above, Spinath (2005) found that teachers’ judgments of the respective student characteristic were positively correlated with students’ cognitive abilities (\( r = 0.40 \)), students’ academic self-concept (\( r = 0.39 \)), students’ learning motivation (\( r = 0.20 \)), and students’ achievement-related anxiety (\( r = 0.15 \)). Similarly, Urahne et al. (2011) found that teachers’ judgments correlated positively with students’ academic achievement (\( r = 0.61 \)), students’ expectancy for success (\( r = 0.63 \)), students’ academic self-concept (\( r = 0.43 \)), students’ learning motivation (\( r = 0.10 \)), students’ test anxiety (\( r = 0.12 \)), and students’ level of educational aspiration (\( r = 0.12 \)). In sum, the accuracy of teachers’ judgments of students’ academic achievement turned out to be greater than the accuracy of teachers’ judgments of students’ cognitive abilities as well as their socio-emotional characteristics.

2.1. The multi-determined nature of teachers’ judgments

The studies by Spinath (2005) and Urahne et al. (2011) collected data on teachers’ judgment accuracy of multiple student characteristics. However, judgment accuracy was analyzed separately for different student characteristics, without taking the intrapersonal connectedness of the student characteristics into account. Yet, there is evidence that teachers do not only take the student characteristic to be judged into account but also include their perception of other student characteristics in their judgment. Some studies (Kaiser et al., 2013; Praetorius et al., 2010) have researched whether and to what extent teachers take other student characteristics into account for their ratings, beyond the characteristic they were asked to judge. If teachers take more than one student characteristic into account when judging a certain student characteristic, teachers’ judgments are multi-determined. For instance, teachers’ judgments of students’ academic achievement were positively correlated with students’ actual achievement as well as students’ motivation (Gagné & St Père, 2001; Rakoczy, Klieme, Bürgermeister, & Harks, 2008), indicating that teachers took students’ motivation into account when judging students’ academic achievement. This suggests that students’ motivation and academic achievement are not distinct but correlated characteristics in teachers’ minds. In the same vein, Praetorius et al. (2010) found that teachers’ judgments of students’ academic self-concept were not only based on the students’ self-reported academic self-concept but also on the students’ mathematical achievement. Teachers even took students’ achievement into account to a greater extent than the students’ self-concepts. In an experimental setting, Kaiser et al. (2013) showed that student engagement influenced teachers’ judgments of student achievement and, conversely, that student achievement influenced teachers’ judgments of engagement. While Kaiser et al. (2013) stressed the importance of teachers’ abilities to judge different student characteristics accurately as well as separately, teachers seem to be challenged by the task of decoupling (cognitively separating) different student characteristics. We will try to point out some possible explanations for this challenge below.

First, teachers’ judgments may be subjected to cognitive simplification strategies. Dual-processing accounts of social cognition (e.g., Ferreira, Garcia-Marques, Sherman, & Sherman, 2006; Fiske & Neuberg, 1990) generally assume that two different modes of information processing operate in making judgments.
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