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A typical morning in preschool: Observations of teacher–child interactions in German preschools

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ABSTRACT

The study examined the applicability and generalizability of the Classroom Assessment Scoring System Pre-K (CLASS Pre-K; Pianta, La Paro, & Hamre, 2008) and the associated conceptual Teaching through Interaction framework to understand classroom processes in the German early education system. Three broad domains describe effective teacher–child interactions: *Emotional Support*, *Classroom Organization*, and *Instructional Support*. In the present study, we observed teacher–child interactions in 63 classrooms drawn from 26 different preschools using the CLASS Pre-K. Consistent with research from the United States, CLASS Pre-K scores demonstrated that the quality of teacher–child interactions varied widely. Data indicated that the levels of *Emotional Support* and *Classroom Organization* were moderate. In contrast, the level of *Instructional Support* was rather low and even decreased over the course of the morning. Furthermore, *Emotional Support* was found to decrease over the day in classrooms with a higher child–teacher ratio. Results have important implications for policy and practice with regard to the quality of care and education in German preschools.

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In many industrialized countries, there have been increasing concerns that not all children are well prepared to adjust successfully to the school context when they start formal schooling (Heckman, 2006; Leseman, 2009). The preschool context is, beyond the family, the most important context for learning and development in early childhood. Studies from the United States demonstrate that classroom quality, in particular the social and instructional nature of teacher–child interactions, is an important predictor of children's academic and social development from preschool through secondary school (Hamre & Pianta, 2005; Mashburn et al., 2008; Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). State and national policies in the United States reflect these findings and focus on improving the quality of early childhood care and education. Similarly, state and federal support for early childhood education programs has been increased in Germany (Anders et al., 2012). However, there is still very limited research in Germany on the quality of early childhood education

programs and factors that may contribute to quality (Anders et al., 2012; Roßbach, Kluczniok, & Kuger, 2008).

In the United States, the Classroom Assessment Scoring System Pre-K (CLASS Pre-K; Pianta, La Paro, & Hamre, 2008) is a widely used observational measure of quality of preschool classrooms. Although a variety of contexts have been observed with the CLASS in the United States (Hamre et al., 2013; Mashburn et al., 2008; Raver et al., 2008), these findings cannot be generalized beyond the United States due to context-specific aspects, such as different foci of early childhood education systems in different countries. Only recently, research has begun to use the CLASS internationally, for example in Finland (Pakarinen et al., 2010) or Portugal (Cadima, Leal, & Burchinal, 2010). However, more research is needed to describe components and determinants of high classroom quality across international contexts and diverse early child care and educational settings. Given the growing ethnic diversity within the U.S. and around the world, such knowledge is needed to enhance the development of effective teaching and students' learning (Hamre et al., 2013). Moreover, since the CLASS is now being used internationally, psychometric studies will need to examine the construct validity of the measure for use in early educational settings outside of the United States. In this paper, we first test the applicability and generalizability of the CLASS Pre-K and the three-domain structure of teacher–child interactions to German preschool classrooms. Second, we describe classroom quality using CLASS Pre-K ratings.

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Finally, we examine the extent to which specific teacher, classroom, and program features are related to classroom quality.

Early childhood education in Germany

In Germany, early child care and education is provided for children under the age of six. Similar to early childhood education programs in the United States programs in Germany are center-based, professionally delivered, and structured according to the ages of the children however without distinguishing between preschool and kindergarten levels (Leseman, 2009; Tietze, Cryer, Bairrão, Palacios, & Wetzel, 1996). Most preschools in Germany are public or church-sponsored and offer half day (with or without lunch) or full day programs (Kultusportal Baden-Württemberg, 2011). The early childhood education system in Germany is regulated at the state not the federal level. Recently core curricula for early childhood education have been recommended that emphasize children's active role for their development and learning (Kultusportal Baden-Württemberg, 2011). As a result, free-play and child-initiated activities dominate the preschool day (König, 2009). However, in contrast to the core curricula for compulsory formal education, curricula for early childhood education are not yet mandatory. The implementation depends on state- or community-level law or even on the preschool itself, resulting in a situation in which children's experiences in preschool differ widely.

With almost 92% of all three- to six-year-old children attending preschool Bundesministerium für Bildung und Forschung [BMBF] (2010), attendance rates are comparatively high relative to the United States and other countries. However, social factors influence attendance rates (Kreyenfeld, 2004). For example, only a limited proportion of children from immigrant families (Spieß, 1998) and low-income families (Kreyenfeld & Spieß, 2002) attend preschool. Nevertheless, in Germany exists no federal or state level program that is specifically targeted at serving low-income children and their families such as the Head Start Program of the United States Department of Health and Human Services.

Research on quality in early childhood education in Germany is still limited, particularly with regard to the quality of teacher–child interactions. Some of the knowledge is based on data from the 1990s (Cryer, Tietze, Burchinal, Leal, & Palacios, 1999; Tietze, Bairrão, Leal, & Roßbach, 1998) and thus might reflect educational practices that are no longer current. More recent studies (Anders et al., 2012; Kuger & Kluczniok, 2008) report variability in educational quality across classrooms. Most research in Germany has relied on the Early Childhood Environment Rating Scale (ECERS; Harms & Clifford, 1980) and the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms, Clifford, & Cryer, 1998), and has consistently revealed moderate classroom quality scores (Anders et al., 2012; Kuger & Kluczniok, 2008; Tietze et al., 1998). However, recent findings suggest that global classroom quality measured with the ECERS/ECERS-R does not sufficiently capture aspects of the preschool learning environment that predict growth in children's learning and development (Anders et al., 2012).

Teaching and learning within interactions

In line with these findings, there are calls to consider additional components of quality (La Paro, Thomason, Lower, Kintner-Duffy, & Cassidy, 2012). Influential developmental theories emphasize that learning and development are influenced by interactions young children have with others, particularly with adults (Bronfenbrenner & Morris, 1998; Vygotsky, 1978). As children spend time in non-parental care arrangements, teacher–child interactions are thought to be "the primary mechanisms by which children learn in classrooms" (Bronfenbrenner & Morris, 1998, cf. in Curby, Rimm-Kaufman, & Cameron Ponitz, 2009, p. 913). For example, research demonstrates that children who have experienced positive interactions with their teachers are more likely to be motivated to engage in learning activities and demonstrate higher task engagement than those with less positive interactions with their teachers (Howes et al., 2008; Ladd, Birch, & Buhs, 2003; Pianta, Steinberg, & Rollins, 1995).

Accordingly, effective teaching that recognizes the interactive and contextual nature of children's development and learning requires a complex set of skills that needs further conceptual clarification regarding its multiple domains and predictors (Bronfenbrenner & Morris, 1998; Curby, Rimm-Kaufman et al., 2009; Douglas, 2009; La Paro et al., 2012). Hamre et al. (2013) presented an integrated conceptual framework, the Teaching through Interaction framework that is based on findings from studies using the CLASS as an observational measure of teacher–child interactions. The CLASS organizes teacher–child interactions in three domains: *Emotional Support*, *Classroom Organization*, and *Instructional Support* (Pianta, La Paro, et al., 2008). Hamre et al. (2013) analyzed CLASS data from seven U.S. studies (4341 classrooms total) and compared the three-domain structure of the CLASS (i.e., Teaching through Interaction framework) against a two-domain structure (i.e., Social and Instructional Support model) and a one-domain structure (i.e., Effective Teaching model). Confirmatory factor analyses indicated that the three-domain structure best reflects the nature and quality of teacher–child interactions. Each CLASS Pre-K domain consists of several specific dimensions that are thought to reflect relevant aspects of effective teaching and are thus important for promoting students' learning and development. The *Emotional Support* domain includes efforts teachers make to create a positive, supportive, safe and predictable environment in which children can take risks to explore the world and to develop autonomy and self-confidence. The dimensions are Positive Climate, Negative Climate, Teacher Sensitivity, and Regard for Student Perspectives. Previous research has shown that teachers' ability to offer high levels of emotional support is related to higher academic achievement (Hamre & Pianta, 2005), lower levels of student aggression and higher levels of behavioral self-control (Merritt, Wanless, Rimm-Kaufman, Cameron, & Peugh, 2012), higher social competence (Curby et al., 2009a; Mashburn et al., 2008), and higher peer acceptance (Hughes & Kwok, 2006). The *Classroom Organization* domain is concerned with how teachers organize classroom structures, routines, and activities to help students direct their attention and behavior to learning. It includes the dimensions Behavior Management, Productivity, and Instructional Learning Formats. For example, studies show that students in well-organized classrooms show higher achievement (Cameron, Connor, Morrison, & Jewkes, 2008; Dobbs-Oates, Kaderavek, Guo, & Justice, 2011) and fewer behavioral problems (Bru, Stephens, & Torsheim, 2002). Finally, the *Instructional Support* domain has to do with the ways in which teachers take children's learning to a higher level by connecting and building concepts and facts upon each other. Concept Development, Quality of Feedback, and Language Modeling are the dimensions within the *Instructional Support* domain. Research indicates that students' learning gains have been associated with extensive use of scaffolding (Bogner, Raphael, & Pressley, 2002; Wharton-McDonald, Pressley, & Hampston, 1998), high-quality feedback (La Paro, Pianta, & Stuhlman, 2004), and instructional conversations (Hamre & Pianta, 2005; Justice, Mashburn, Hamre, & Pianta, 2008).

However, most research with the CLASS has been done with U.S. samples while research in international educational settings is scarce. A few recent studies provide initial evidence that the Teaching through Interaction framework may reflect the structure of teacher–child interactions in other countries (Cadima et al., 2010;