



Child-centered versus teacher-directed teaching practices: Associations with the development of academic skills in the first grade at school



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ABSTRACT

This study examined the extent to which child-centered versus teacher-directed teaching practices predicted the development of children's reading and math skills in the first year of elementary school. In addition, we investigated whether associations between teaching practices and children's academic skills development in Grade 1 differed among children who had low, average, or high initial academic skills at the beginning of school. The reading and math skills of 1,132 Finnish children from 93 classrooms were assessed at the beginning and end of Grade 1, and the Early Childhood Classroom Observation Measure (ECCOM) was used to observe teaching practices in 29 classrooms. The results of multilevel modeling showed, first, that better reading skills upon entering school were associated with a higher level of child-centered teaching practices in the classroom. Second, a high level of child-centered teaching practices predicted children's reading and math skills development during the first school year. Third, the results showed that child-centered teaching practices were equally beneficial for the academic skills development of children with varying initial skill levels. However, teacher-directed practices were found to be negatively associated with reading skills development, particularly among children who had average or high initial reading skills at the beginning of school. The results emphasize the importance of child-centered teacher practices in promoting children's academic skills development also after kindergarten in elementary school.

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1. Introduction

A considerable body of literature indicates that early childhood education (ECE) classroom practices impact child outcomes (Burchinal et al., 2008; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002). The majority of this research has been conducted in preschools and kindergartens, but only a few studies have focused on the first school year in depth. For example, a wide range of documentation exists on the positive relationship between child-centered teaching practices and children's social skills and academic pre-skills at the preschool age (Stipek, Feiler, Daniels,

& Milburn, 1995). However, children with poor academic skills seem to benefit from teacher-directed practices later on in kindergarten (Huffman & Speer, 2000) and at school age (Kikas, Peets, & Hodges, 2014). The present study examined the extent to which child-centered and teacher-directed teaching practices contribute to the development of Finnish children's reading and math skills during their first school year at age 7, while controlling for the children's initial skill level, parental education, and class size. '

2. Child-centered versus teacher-directed teaching practices

ECE literature, in particular, has focused on child-centered and teacher-directed practices when analyzing the effects of instructional approaches on children's literacy and math skills development (de Botton, 2010; National Association for the Education of Young Children [NAEYC], 2009). The child-centered approach to instruction is close to constructivist theory, whereby

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children are viewed as active constructors of knowledge and the teachers' role is mainly to facilitate their learning in the classroom; whereas the teacher-directed approach has its roots in traditional learning theory and didactics, which holds that basic academic skills are acquired through direct instruction and practice (Daniels & Shumow, 2003; Stipek & Byler, 2004). The practices are unlike in the amount and type of teacher instruction, management practices, and the level of socio-emotional support available in the classroom. The approaches differ to the degree by which the teacher facilitates learning by encouraging children's active exploration and construction of their own knowledge, by including children in various discipline-related decision processes, and by scaffolding to create a positive social climate via individual support and encouragement of peer interactions in the classroom.

Child-centered practices adhere to the principles and professional guidelines of 'developmentally appropriate practices' (DAP; NAEYC, 2009). In child-centered classrooms, teachers assist and facilitate children's learning by providing them with guidance, opportunities, and encouragement to direct their own exploration of objects and academic topics, making teaching akin to a partnership between the teacher and the children (see meta-analysis by Cornelius-White, 2007). Child-centered practices are also characterized by active teacher support for the children's learning efforts and social skills, and teaching practices that are sensitive to children's needs and interests (Paris & Lung, 2008; Stipek & Byler, 2004). Child-centered practices are assumed to be beneficial for children's learning, for example, according to self-determination theory (SDT; Deci & Ryan, 2000), which proposes that when teachers are responsive to children's needs, take into account children's interests, and promote children's autonomy in the classroom, they foster children's motivation to learn, thereby resulting in better learning outcomes.

Conversely, teacher-directed practices are typically characterized by emphasis on the provision of information, and the employment of structured group lessons (relying on oral recitation and worksheets), teaching discrete skills in small steps (c.f., drill and practice), and giving praise to children when predetermined goals are reached (Schweinhart & Weikart, 1988; Stipek, 2004). In teacher-directed practices, less emphasis is typically given to children's own interests and ideas. In addition, children's social skills development or the utilization of peer interactions for learning are not emphasized as much as the systematic teaching and acquisition of the content and basic skills (Stipek & Byler, 2004).

3. Teaching practices and academic outcomes

The first school years have long-lasting effects on children's subsequent achievement (Entwisle & Alexander, 1998; Jimerson, Egeland, & Teo, 1999). Thus, investigating the factors that promote successful development is of great importance. Reading and math are basic skills that children should acquire during the early school years. The developments of these skills have been shown to reveal substantial inter-individual differences over the early school years, as well as high inter-individual stability (Crosnoe et al., 2010; Parrila, Aunola, Kirby, Leskinen, & Nurmi, 2005). For example, Leppänen, Niemi, Aunola and Nurmi (2004) and Parrila et al. (2005) showed high stability in reading performance: Children who had manifested a higher level of reading performance in the beginning of Grade 1 also outperformed other children at the end of the school year. Moreover, the results for math skills (Aunola, Leskinen, Lerkkanen, & Nurmi, 2004; Crosnoe et al., 2010) have shown that children who enter school with high level skills continue to perform more highly than children who enter school with lower levels of skills.

However, previous research has shown that the benefits of different teaching practices can vary depending on the skill domain and the age of the children. The benefits of child-centered practices for the development of children's academic skills have been documented in various studies. For example, Marcon (1999) found that preschoolers (age four) showed greater mastery of reading and math skills in classrooms where the teaching practices were more often child-centered than teacher-directed. Perry, Donohue, and Weinstein (2007) showed that in classrooms where teachers deployed predominantly child-centered practices, students completed the first grade (age six) with higher levels of reading and math skills. Stipek et al. (1998) reported similar positive effects for child-centered teaching practices during the two years from kindergarten entry to the end of the first school year at the age of 6, while Huffman and Speer (2000) found that although letter-word identification and applied problem-solving skills were better in the kindergarten classrooms with a child-centered emphasis, no differences were found with regard to calculation skills.

Teacher-directed practices, in turn, have been shown to contribute positively to academic skills in the kindergarten and early school years, in particular. For example, the findings by Stipek et al. (1995) indicated that 5-year-old kindergarteners in classrooms that stressed teacher-directed practices and basic skills scored significantly higher in letter knowledge and reading achievement tests. Moreover, instruction with a high teacher-directed emphasis has been found to improve the basic skills development of low-income children and school-age children with learning disabilities (Adams & Carnine, 2003; Lovett, Barron, & Benson, 2003), as well as children with low academic skills or those who have difficulty staying focused in learning situations at Grades 1 and 2 (Kikas et al., 2014). In the present study, we were interested in how child-centered versus teacher-directed teaching practices contribute to the development of reading and math skills during the first school year in the Finnish school context when children are already seven years old.

Recent studies have suggested that the effects of teaching practices on child outcomes may also depend on the child's initial academic skills. For example, Connor, Morrison, and Katch (2004) showed that students who participated in first grade classroom instruction, which was optimally effective by being adapted to the child's initial skill level (i.e., code focus for poor readers versus meaning focus for good readers), demonstrated greater reading growth than students in other classrooms. In another study by Kikas et al. (2014), first and second grade classrooms with a high teacher-directed emphasis were found to be beneficial for students with low initial literacy and math skills. In turn, Crosnoe et al. (2010) showed that initially least-skilled children made the most gains in math skills through fifth grade when enrolled in inference-based instruction and when the teacher-child relationship was warm and supportive (i.e. child-centered practices). Therefore, in the present study, the focus was on the extent to which children's initial reading and math skills upon entering school can predict the teaching practices that teachers deploy in the first school year.

Previous studies have emphasized that children's academic skills influence teaching practices and the choices teachers make in terms of instruction (for a meta-analysis, see Nurmi, 2012). Furthermore, Cameron (2012) presented a transactional model of effective teaching and learning, according to which learning is the result of effective transactions between the teacher and the child. Transactions are seen as effective when the child's attributes and current skill level and the teacher's attributes and instruction (i.e., effective classroom management) are encountered in a specific domain. While a significant number of studies have focused on the influence of teaching practices on child outcomes, empirical studies on the role that children's academic skills play in the teacher's choice of teaching practices in the classroom are scant. A number of studies

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