

The Development of Reading Literacy from Early Childhood to Adolescence

Empirical Findings from the Bamberg BiKS Longitudinal Studies

Maximilian Pfost, Cordula Artelt, Sabine Weinert (Eds.)

The logo for BiKS features the letters 'BiKS' in a bold, blue, sans-serif font. The letter 'i' is lowercase and has a distinctive orange, curved shape above it that resembles a comma or a stylized flourish.

1 Editorial¹

Maximilian Pfof, Cordula Artelt, and Sabine Weinert

It is important to handle written information efficiently for participating in economic, cultural, and social life of modern societies (OECD, 2003). Text is omnipresent at all niches of life. Even when using the public transport system, we need to be able to read the fares, to handle the vending machine, and to identify the right bus line in order to reach our goal. There is general agreement that, at least up to a basic level, being able to read is essential for life, not just for the individual but also for the well-being of the whole society (UNESCO, 2005). In order to maximize individual life chances, every child should be given the possibility to learn to read and to be able and motivated to use this skill effectively and on a high level. For providing such learning opportunities, researchers as well as educators need to understand how individuals acquire the ability to read and why some learn and practice it so successfully whereas others struggle or fail.

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Reading and understanding written information is a complex process that goes far beyond the ability of a simple recoding of letters. Reading comprises processes that range from the decoding of letters and word recognition to activities related to the comprehension of words, phrases, and paragraphs including the regulation of such activities (see Snowling & Hulme, 2005, for a comprehensive review). The studies that are reported within this volume analyze student's reading literacy development and its precursors and predictors in different critical developmental periods that range from early preschool years up to secondary school. Empirical research in general has accumulated evidence of high mean rates of improvement in literacy in the course of this developmental period in combination with an overall trend of declining growth rates as students become older (Bloom, Hill, Black, & Lipsey, 2008; Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996). According to Hill, Bloom, Black, and Lipsey (2008), annual growth rates for reading vary between one and a half standard deviation at the beginning of primary school and almost monotonically decline up to less than a tenth standard deviation at the end of secondary school. The studies assorted in this book thereby focus on analyzing individual differences in these reading literacy trends. Until to date, individual differences in reading competencies have been well studied using cross-sectional datasets like PIRLS (Bos, et al., 2007; Mullis, Martin, Kennedy, & Foy, 2007) or PISA (Baumert, et al., 2001; Klieme, et al., 2010; OECD, 2010). However, there is much less empirical research analyzing individual differences in reading literacy using longitudinal datasets and with a focus on developmental changes.

The BiKS-longitudinal and multi-cohort study provides excellent conditions for researchers interested in such developmental questions and who try to better understand the complex network of factors influencing students' cognitive development. BiKS is the German acronym for "*Bildungsprozesse, Kompetenzentwicklung und Selektionsentscheidungen im Vorschul- und Schulalter*" which might be best translated as "Educational processes, competence development, and selection decisions in preschool- and school age". A description of the BiKS-longitudinal studies, including some of its' major goals and perspectives, is provided in the second chapter of this volume. The authors of the second chapter, Christian Lorenz, Monja Schmitt, Simone Lehl, Michael Mudiappa, and Hans-Guenther Rossbach furthermore provide background information that led to the decision of

creating an interdisciplinary research group for longitudinal research in the field of education. Finally, an overview of the two individual studies, their organizational structure, and the characteristics of each sample is depicted.

The three chapters that follow are devoted to questions concerning the development of reading literacy between preschool and primary school. Every chapter focuses on a different agent that influences children's individual early literacy development. Specific to these chapters is their multimethodological approach, relating observational data to questionnaire and test data. The opening is made by Susanne Lehl, Susanne Ebert, and Hans-Guenther Rossbach (Chapter 3). In their chapter, the role of the family for reading literacy development is highlighted. The authors examine the influence of specific home literacy practices for children of preschool age, like shared book reading or the teaching of literacy, on the development of children's basic reading skills and their reading comprehension in primary school. In their ambitious study, the authors combine self-reported questionnaire data of the parents with behaviour observations of parent-child-interactions and objective test data of the students before and after the transition from preschool to primary school. The authors show that different facets of the home learning environment are important for student's basic reading skills and reading comprehension. Furthermore, the mediating role of emergent literacy skills is highlighted.

The subsequent chapter by Susanne Kuger, Hans-Guenther Rossbach, and Sabine Weinert (Chapter 4) focuses on the role of preschools in the development of children's reading literacy. In this chapter, the authors investigate the relation between differences in the quality of classroom stimulation as a whole on the one hand and stimulation quality experienced by the individual child on the other hand with the development of children's reading literacy. Surprisingly, there seems to be only little emphasis in German preschools on fostering early literacy skills. Furthermore, the observed differences in preschool activities supporting code related skills do not prove to be important for student's later reading comprehension whereas more general facets of literacy and language support enhance student's later reading competence.

In Chapter 5 in contrast, Susanne Ebert and Sabine Weinert focus on how children's language competencies in early preschool age impact the development of reading literacy four years later. As language is multi-componential in its nature, the specific

importance of different facets of language for different aspects of reading literacy is considered in this chapter. The author's results underline the specific share of (a) phonological information processing skills on later basic reading skills, and (b) the importance of linguistic abilities (vocabulary and grammar) for reading comprehension in the second year of primary school when controlling for basic reading skills that may hinder more complex comprehension processes from taking place. Interestingly, (c) integrative language competencies (such as story reproduction and comprehension as well as sentence reproduction) in preschool did not impact later reading literacy over and above the impact of language components (vocabulary, grammar and phonological skills). The results are discussed within the broader debate of how and in which ways language skills are related to reading literacy development.

The second empirical section, comprising Chapters 6 to 9, focuses on the development of children's reading literacy during the transition from primary to secondary school. Analyses of these chapters are based on the second, older cohort of the BiKS-longitudinal studies. First, in chapter 6, Thorsten Schneider and Maximilian Pfohl are tracing social disparities in literacy development of students from families with and without immigration background. Thereby, the role of cultural capital and cultural activities within families as a mechanism for the development of these differences is investigated. Results indicate an increasing achievement gap between students of families with different educational background. However, there is a tendency that this effect is more pronounced for students of native families than for students of families with an immigration background. The findings are related to the debate of whether and to what extent cultural resources are transferable between countries and social-cultural contexts.

In the next chapter, Irene Schurtz, Tobias Dörfler, Maximilian Pfohl, and Cordula Artelt (Chapter 7) address the development of students' interest in language arts and its relations to the development of reading literacy in secondary school. Because motivation is one of the key components that is used to explain individual differences in reading, this chapter tries to relate the concept of interest with measures of actual reading behaviour and the development of reading literacy. The authors confirm their expectation of a general negative developmental trend for interest in language arts in secondary school. Furthermore, only weak relations of students' interest in language

arts and students' reading competence are shown whereas more close relations to students' reading activities are prevalent.

The subsequent two chapters of this volume are dedicated to the role of school for reading literacy development. First, in chapter 8, Maximilian Pfof and Cordula Artelt ask whether attending different types of schools is related to differences in the development of reading literacy. Thereby developmental trajectories of students attending different types of schools between Grade 5 and Grade 7 are traced. In a second part of their study, the effect of attending the upper academic track in comparison to attending the lower and middle academic track is estimated. In their analyses, the authors try to determine effects of attending different school tracks independent of the student's individual characteristics. According to their results, increasing competence differences between the different school tracks are shown for measures of reading comprehension but not for vocabulary. Furthermore, different learning environments that go along with the school tracks contribute to this fan-spread effect.

In Chapter 9 finally, Constance Karing, Maximilian Pfof, and Cordula Artelt concentrate on the diagnostic competence of teachers in the domain of reading and ask for its consequences for the development of students' reading literacy. The authors demonstrate empirically that teachers' diagnostic competence is positively related to the development of students' reading competence. Furthermore, this relation is moderated by instructional variables such as the degree of individualization of lessons.

In summary, this volume provides convincing empirical evidence for the importance of a view that learning to read is not limited to experiences made in schools. Schools are of special importance, but further institutions such as preschools influence the acquisition of reading related skills just as well as further variables beyond the formal education system. The family and parents of each student for example are one of these sources contributing to success or failure in learning to read. Across studies, the findings of the BiKS-longitudinal study have shown that individual differences in reading literacy arise due to schools and preschools, teachers and educators in school and preschool, parents as well as the student's own cognitive and conative characteristics. In addition, we need to keep in mind that such influences, although they were treated separately in the presented analyses, are interacting with each other.

The identification and description of these variables, as has been done by the presented studies, however provides further support that in order to better understand reading literacy, longitudinal empirical research covering several years of individual development is needed.

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