

Literacy skills development in early childhood and first-grade classrooms

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Abstract

Literacy development is affected by several factors exerting an influence long before school entrance. The language and the cognitive basis of children's literacy development has been well documented. However, it is also recognised that the home literacy environment and teachers' instructional practices play an important role in developing literacy skills and children's interest in reading. The high-quality classroom interactions described by emotionally supportive relationships in a well-organised classroom are of particular importance for children's reading skills development and motivation, especially among children at risk for reading difficulties. The present article attempts to describe the development of emergent literacy skills of young children and how to support their literacy skills development in early school years.

Keywords: literacy development, instruction, home learning environment, early childhood, first grade

Introduction

Longitudinal studies, started early on – even with babies (e.g. Lyytinen et al., 2006), provide an opportunity to investigate developmental patterns and to identify factors that affect emergent literacy skills. Mediating factors in this regard originate both from within the child (e.g. cognitive skills and motivation) and the child's environment (e.g., environmental print, home, and school). Moreover, the timing of starting proper literacy instruction (Soodla et al., 2015) and the chosen instructional method (e.g., Connor et al., 2004;

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Ruotsalainen, 2022) can have different short- and long-term effects on children's literacy development.

The optimal age to start reading instruction can also depend on the language structure. Reports show that the regularity and transparency of the correspondence between phonology and orthography significantly affect reading in the early phases of literacy acquisition. Several cross-linguistic studies have shown that reading acquisition develops more rapidly in languages with a shallow transparent orthography i.e. Finnish, Estonian or Italian, than in languages with an opaque orthography, i.e. English or French (Seymore et al., 2003). Several cross-linguistic studies, largely comparing English with more transparent orthographies, have shown that reading acquisition develops less effectively and more slowly in languages with deep orthography than in languages with shallow orthography (Seymore et al., 2003). For example, Estonian and Finnish languages are characterised by an exceptionally regular grapheme-to-phoneme correspondence and the orthographies are generally guided by phonemic principles, making it relatively easy and quick for children to learn to read (Lerkkanen et al., 2004; Soodla et al., 2015). However, strong empirical evidence has documented the contribution of the same early emergent skills, such as letter knowledge, phonological awareness, rapid automatized naming (RAN), and vocabulary, to reading acquisition across languages (e.g. Georgiou et al., 2008). This article aims to describe the development of emergent literacy skills of young children and how to support their literacy skills development in early school years.

Emergent literacy development

The early development of spoken language plays a substantial role in emergent literacy skills development. Strong receptive and expressive language skills appear to underlie acquiring more specific skills necessary for decoding and comprehending texts (Lyytinen et al., 2005). Several longitudinal studies have focused on these issues. For example, early language and literacy development in the Finnish language context is affected by both receptive and expressive language skills, phonological awareness, letter knowledge, naming speed, inflectional morphology skills and memory (Torppa et al., 2010). In addition, one strong predictor, which may slow down the later automatization of word recognition, seems to be an early weaknesses in language development especially the imprecise perception of speech and temporal speech cues in infancy. Late talkers (toddlers experiencing late language emergence) show persistent delays in vocabulary, oral reading, decoding, and spelling (e.g. Lyytinen et al., 2005).

Although a child's linguistic development is a base for reading development, several cognitive components are needed when children learn to decode words. Several studies have shown that the strongest early predictors of reading and spelling development are letter knowledge, phonological awareness and rapid automatized naming (Kirby et al., 2010).

Letter knowledge reflects the child's experiences and interest in written language (Lerkkanen, 2003). Children who can name many letters when starting school have probably had a lot of experiences in printed environments related to written language, have been interested in letter names and shapes and have paid attention to the symbols of the written language.

Phonological awareness reflects the child's sensitivity to perception and an ability to understand and manipulate the sounds of spoken words. It develops from the holistic perception of the spoken language to a more detailed perception of the structures of language as the child gradually pays attention to the meaning of the spoken language to more of the form of the language and phonological structures of words (de Jong & van der Leij, 2002).

Letter knowledge and phonological awareness are needed to lead the child to understand letter-phoneme correspondences. The letter-phoneme correspondence and the child's ability to combine phonemes to bigger units, syllables and words are prerequisites of acquiring decoding skill. In orthographically shallow languages, letter-phoneme correspondences are regular and usually a single phoneme is represented by a single letter, which makes a word's phoneme structure transparent for the child who is learning to read. However, the largest benefit of practising phonemic skills is acquired when it is combined with literacy instruction on how to decode and spell words. If phonemic awareness does not develop while learning to read, it is usually a sign of difficulties in literacy development. For this reason, early training emphasising the correspondence between letters and phonemes has beneficial effects, especially on at-risk children's literacy development (Aro et al., 1999).

Rapid automatized naming (RAN) refers to the ability to name rapidly and effortlessly serially presented visual stimuli, such as names of familiar letters, numbers and objects. It primarily assesses the rate of access to and the retrieval of stored phonological information in long-term memory or the speed of lexical access (e.g., Kirby et al., 2010). In decoding words, the phonological representation of each grapheme should be retrieved quickly for the grapheme-phoneme decoding strategy to be effective. Naming speed is an independent predictor of the development of reading fluency (Georgiou & Parrila, 2013; Torppa et al., 2013) which is a production of the automatization of word reading, more precisely how accurate and fast a child reads.

According to the Simple View of Reading (Gough & Tunmer, 1986), *reading comprehension* is a product of reading fluency and language comprehension. The more fluent the reading is, the more attention the reader can direct to text comprehension. Both listening comprehension and vocabulary predict the development of reading comprehension (Lerkkanen, 2003; Torppa et al., 2016). While vocabulary is less influential in early reading, it predicts reading comprehension as texts become more complex (Proctor et al., 2005). It is good to notice that although vocabulary affects reading comprehension, these skills develop reciprocally: reading enriches a child's vocabulary (Stanovich, 1986). In addition to reading fluency and language comprehension, memory, reading strategies, and metacognitive abilities of monitoring, evaluation and regulation of own comprehension have been found to be related to comprehension skills (Gersten et al., 2001).

The effects of familial risk on a child's literacy development may also be through their genetic background. The risk of later reading difficulties seems to run in families with a history of dyslexia which is a specific developmental disorder in learning to read that affects difficulties with reading fluency, accuracy, and spelling (Butterworth & Kovas, 2013). A meta-analysis of family risk studies (Snowling & Melby-Lervåg, 2016) estimated that if a child has a parent with dyslexia, their probability of having dyslexia is, on average 45%. In transparent orthographies, the main characteristic of dyslexia is slow reading (e.g., Torppa et al., 2016). However, Eklund (2017) found that although the associations between early cognitive skills and reading skills among at-risk children were strong, they did not form a single homogenous group of readers of school age, and half of early at-risk children did not show any clear reading difficulties during elementary school years in the Finnish language context.

Figure 1 summarises the main factors affecting the development of reading skills. Letter knowledge, together with the development of phonological awareness, predicts the accuracy of reading words. Reading accuracy, together with naming speed, predicts the automatization of word recognition, that is, reading fluency, which predicts strong reading comprehension. Also, a child's vocabulary, listening comprehension skills, memory as well as comprehension strategies and metacognitive skills are related to reading comprehension. It should be noted that the same factors that predict development of reading skills are responsible for the development of spelling and productive writing skills. The home literacy environment and the child's interest in letters and reading material are the driving forces toward the beginning of literacy development.

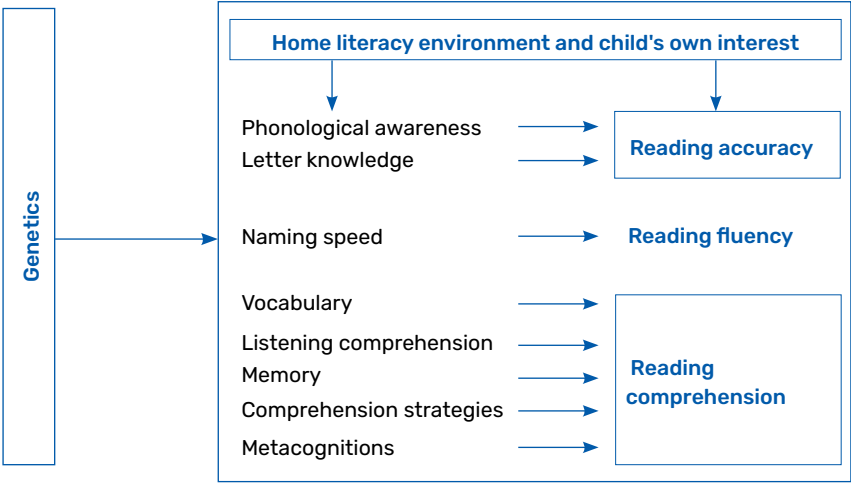


Figure 1. The main predictors of reading skill development of children (Lerkkanen, 2006).

The role of the literacy environment

Emergent literacy skills (Whitehurst & Lonigan, 2003) do not only include literacy-related cognitive skills, which are developmental precursors to reading and spelling; instead, the scope of inquiry has expanded to also include the environments that support such development. Children interact with environmental print daily and gain valuable semantic and symbolic knowledge which will develop their logographic reading skills, and further promote the development of their emergent literacy skills (Neumann et al., 2011). It is recommended that parents and educators actively support children’s attention and attraction to environmental print to promote their literacy development.

A number of studies have shown that a child’s home learning environment (HLE) plays a crucial role in their literacy development. HLE refers to home-based interactions between parents and their children, parental attitudes, and at-home materials related to literacy. Parents also seem to adapt their literacy activities to their children’s progress in reading, whereas, for example, shared reading decreases over time (Silinskas et al., 2020).

According to the Home Literacy Model (Sénéchal & LeFevre, 2002), children can be exposed to informal and formal literacy activities at home. Informal, more meaning-related literacy activities print is present but is not the focus of the parent-child interaction, for example, the number of children’s books or the amount of shared reading with the child. In contrast, formal code-related parent-child literacy activities refer to exposing a child to print per se, such as direct teaching on how to divide words into letters and sounds.

These activities affect the child's literacy development differently. Informal literacy activities such as shared reading seem to expose children to vocabulary and language comprehension through positive interactions with their parents (Sénéchal & LeFevre, 2002; Torppa et al., 2006). For example, Khanolainen et al. (2020) showed that shared reading was significantly associated with the development of reading comprehension up to Grades 3 and 4.

The benefit of more formal activities seems to differ depending on the child's age (Pomerantz et al., 2007). The parental teaching of reading-related skills at kindergarten is related to good emergent literacy skills, including letter knowledge (Torppa et al., 2006) and decoding skills (Sénéchal & LeFevre, 2002). For example, the more parents do reading-related activities with their 5-year-old children, the better their reading skills will be in Grade 3 (Sénéchal & LeFevre, 2002). An interesting finding from Silinskas et al. (2010) showed that a child's good emergent literacy skills at the beginning of the kindergarten year at age 6 increased the maternal teaching of reading the child subsequently received, and further, the mother's teaching of reading predicted the development of reading skills during kindergarten year among Finnish children. This demonstrated children's evocative effect on their parents. If a child is interested in reading-related activities, then they will probably invite the parents to share these activities with them.

However, after the transition from kindergarten to Grade 1, the results concerning the role of parental home-based involvement in children's reading skills are less clear. Some studies have shown that parental home-based literacy activities substantially affect the development of children's more advanced reading skills (Sénéchal & LeFevre, 2002; Stephenson et al., 2008). In contrast, other studies have failed to show a positive association between parental reading-related teaching at home and children's reading skills at school age. For instance, Silinskas et al. (2012) showed that it was children's poor reading that activated more frequent parents' teaching of reading and more frequent shared reading at home in the first grade. This demonstrated that Finnish parents reacted to their child's poor reading skills and also tried to teach reading at home, but unfortunately, this is not always beneficial for the child. Further, Silinskas et al. (2013) showed that the frequency of maternal teaching made a differential contribution to children's subsequent reading skills, depending on the skill level of the child and the teaching style of the parent. While maternal teaching had no association with good readers' reading skills, differences were found in the effects of maternal teaching among poor readers. The sub-group of poor readers for whom maternal teaching positively contributed to their reading skills was characterised by high levels of controlling behaviour by their mothers but simultaneous positive emotional support in homework situations.

The Finnish study on toddlers (2–3 years old) by Lerkkanen et al. (2017) found that children's emergent literacy skills (vocabulary, print knowledge and letter knowledge) developed rapidly within a year. Most of the Finnish parents engaged their children in reading-related activities several times a week; they reported reading bedtime stories to their child on a daily basis and visits to the local library. However, when comparing toddlers' data to those of 6-year-olds (Lerkkanen, 2019) parents reported older children using mobile applications, playing computer games and watching television more often than reading a book. To sum up, although these examples demonstrate the positive attitude and high interest towards reading in Finnish families, these findings also demonstrate how literacy activities at home can rapidly change when children grow up.

Several other family-related factors have been shown to contribute to children's literacy development. For example, children from families with a low socio-economic status (SES) had reported showing a lower level of print knowledge (the stage at which children understand the alphabetic principles), letter knowledge, phonological awareness and word recognition than children from families with a high SES (Hood et al., 2008). Previous research has also indicated that parents' educational level has an even more substantial effect on their child's reading performance than SES. For example, Khanolainen et al. (2020) showed that maternal education had a significant relationship with formal and informal literacy activities, with higher levels of education among mothers indicating that more time was spent on shared reading and less time on teaching activities. These results might suggest that parents' education has an influence on the quality of the HLE, parental activities, and investment in resources that promote the child's development.

There is extensive evidence showing that parents' sensitivity and responsiveness, quality of language interactions and reading-related activities play an important role in children's literacy development. There is little evidence that these factors operate differently for low- and middle-income families or families from diverse ethnic backgrounds (see Burchinal & Forestieri, 2011), although differences between families in the quality of the HLE do exist. However, the familial risk of reading difficulties is not associated with formal or informal HLE factors, at least in Finnish data (Khanolainen et al., 2020).

The quality of literacy instruction in the first-grade classroom

The need for balanced instructional practices that support both the development of students' code-focused skills needed in reading accuracy (letter knowledge, phonological awareness, letter-phoneme correspondence, decoding) and

the broad advancement of meaning-focused comprehension skills has been widely acknowledged (e.g. Connor et al., 2004; Pressley et al., 2001). A stronger emphasis on phonics-based instructions that support the development of code-focused skills is beneficial at the beginning of the first school year in transparent languages, whereas the focus may later shift towards incorporating more meaning-focused activities (Lerkkanen, 2007; Ruotsalainen, 2022). Another challenge is that school beginners present a wide spectrum of skill profiles, which forces the teacher to adapt literacy instruction to correspond to students' skill levels (Lerkkanen, 2003; Ruotsalainen et al., 2023). Interestingly, the teacher's sensitivity to adapting instruction according to the student's needs has been shown to contribute to developing the student's reading skills (Connor et al., 2013).

According to the Teaching through Interactions (TTI; Hamre et al., 2013) framework, the quality of teacher-child interactions, including dimensions such as emotional, organisational and instructional support, is central to the children's learning and motivation. *Emotionally supportive* teachers are sensitive and responsive to children's needs, and they provide children with appropriate levels of autonomy and a supportive climate in the classroom. Children who feel emotionally secure with their teachers can invest their attention and engagement in learning. Studies have shown that children with responsive preschool teachers make the most gains in emergent literacy skills (Curby et al., 2009). High-quality *classroom organisation* (e.g., rules, routines, teacher's management of time and attention) will support children's ability to control impulses and, thus, regulate their behaviour in the classroom, which contributes to how they benefit from the learning environment with respect to language and literacy outcomes (Morrison et al., 2010). Finally, *instructional support* has been found to contribute to children's emergent literacy skills (Mashburn et al., 2008) and their growth in reading skills (Curby et al., 2009). Instructional support focuses on the quality of feedback and the teacher's ability to support children's vocabulary and language skills. Teachers with high-quality instructional support provide children with rich learning opportunities by scaffolding, extending and giving consistent, process-oriented feedback (Muhonen et al., 2016). Pressley et al. (2001) last sentence summarise their findings concerning effective literacy instruction at Grade 1 as characterising excellent classroom management based on positive reinforcement and cooperation, balanced teaching of skills, literature, and writing, scaffolding and matching task demands to student competence and encouragement of student self-regulation.

The follow-up to the First Steps study (Alkuportaat; Lerkkanen et al., 2006–2016) showed that Finnish children were more motivated to learn in kindergarten classrooms by excellent management and the teacher's high-quality

emotional and instructional support correlated with the children's motivation, and the children's motivation correlated with phonological skills (Pakarinen et al., 2010). Moreover, emotional support and classroom organisation in kindergarten were positively associated with the development of children's reading skills across Grade 1, especially for those prone to reading difficulties (Silinskas et al., 2017). The follow-up showed that the quality of teacher-child interactions in kindergarten was positively associated with children's later reading skills in Grade 4 (Pakarinen et al., 2017). The results emphasise the importance of strong emotional, organisational and instructional support in literacy instruction in early school years to further develop literacy skills.

In child-centred classrooms, the teacher is sensitive to each child's needs and interests and scaffold actively the children's learning efforts and academic skills development (Stipek & Byler, 2004). Child-centred teaching practices that give opportunities for developing children's autonomy, competence beliefs, and social interactions with peers also support their interest in reading. For example, Lerkkanen and colleagues (2016) found that Finnish children were more interested in reading, and they showed faster progress in their literacy skills in child-centred classrooms compared to children in more teacher-directed classrooms where less emphasis is given to children's own interests and ideas or peer relations in learning. When teachers allowed children the freedom to choose tasks and complete them without the pressure of getting the right answer, the children felt safe to select more challenging tasks, were less dependent on the teacher, and showed more pride in their performance. These results are in accordance with motivation theories, which emphasise the importance of encouraging individual choices and creating opportunities to feel competent. According to a self-determination theory (Deci & Ryan, 1985), children are most motivated to learn when teachers support their need to feel competent, autonomous and related to others (e.g., Guthrie et al., 2000).

Children lacking positive and supportive relationships with adults and peers are often at risk of poor academic outcomes (e.g., Ladd et al., 1999). In contrast, students with positive relationships with teachers and peers in the early school years are more likely to show better levels of achievement (Furrer & Skinner, 2003). For example, although the risk of reading difficulties (RD) determined by familial background for dyslexia or by deficits in early language development result in poor reading skills (e.g., Lyytinen et al., 2005), not all at-risk children end up with RD. Rather than risk factors alone, the transactional theory of risk and adaptation (Rutter, 2007) and protective models of resilience (Fergus & Zimmerman, 2005) have suggested that literacy development is determined by the interplay between risk and protective factors.

When Kiuru and colleagues (2013) followed Finnish children at risk from RD (based on poor phonological awareness and letter knowledge) from kindergarten until Grade 4, the results showed that environmental protective factors (high levels of peer acceptance, positive teacher affect and active parent-teacher partnership) uniquely predicted students' improved reading fluency in Grade 4, after controlling the RD risk, nonverbal ability, level of parental education, and gender. However, the risk of RD predicted fewer protective factors in a child's learning environment during early school years, which then predicted lower subsequent reading skills. The findings suggest that a child's poor reading skills and classroom relationships form transactional patterns that are likely to accumulate over time. While students at risk from RD need to invest a high effort in practising reading skills, the results indicate that they need strong support from their teachers to obtain good learning results. Unfortunately, this is not always the case.

Conclusions

It is evident that young children show more rapid development of literacy skills when they experience sensitive and cognitively stimulating home, kindergarten, and school environments. It has been shown that parental involvement in literacy activities at home has a positive effect on children's reading acquisition (see Sénéchal & Yong, 2008), nevertheless, teachers remain the key actors, explicitly instructing the letter-phoneme connections and reading comprehension, also providing a foundation for interest, knowledge and attitudes towards reading. Moreover, a child's independent leisure time reading throughout the school years is essential to becoming a good reader (Torppa et al., 2020). It is important to understand how different dimensions of interactions between children and adults at home and in classrooms can be calibrated to respond to children's social and instructional needs while meeting the curriculum aims of kindergarten and school. Teacher-sensitive scaffolding of a child's learning promotes literacy development for all children in a classroom, especially for those who are at risk of RD. However, more research is needed on the effect of different pedagogical solutions, the literacy practices in classrooms and leisure time, and the role of peers and digital reading on children's literacy development in the future.

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