



Supporting literacy for childhood development in Latin America and the Caribbean

What do we know about early grade literacy In Latin America and the Caribbean?

A systematic literature review of research on Early Grade Literacy (EGL) in Latin America and the Caribbean (LAC) found, systematized and analyzed all available high-quality evidence on how to improve EGL outcomes¹ in the LAC region. Systematic reviews provide a comprehensive, unbiased, and reliable summary of the evidence around particular research questions. Because of the systematized, unbiased, and comprehensive nature of systematic reviews, the evidence from systematic reviews can be considered among the highest-quality evidence on EGL in the LAC region.

This document mainly focuses on the gaps in the EGL literature that were identified during the review. In addition, the document shares some of the findings from the review. Please visit www.lacreads.org in order to view the 108 articles included in the systematic review, as well as the executive summary and full systematic review reports.

The review identified many topics related to EGL for which there is not sufficient high-quality research. In addition, there are many ethnic groups, languages, and countries which are not producing or publishing high quality research; and for whom research gaps persist. In this document, our goal is to highlight the main gaps that stem from the systematic review evidence base, and provide illustrative recommendations for how these gaps can be addressed for the LAC region.

What does the evidence say?

- ✓ Teacher training programs can positively affect EGL outcomes in high-income and higher-middle-income countries when they are well-implemented and complemented by sustained coaching
- ✓ Nutrition programs can have positive effects on EGL outcomes in contexts where stunting and wasting are high
- ✓ Collaborative and interactive environments encourage student engagement and learning
- ✓ Programs that focus on the provision of information and communication technology without focusing on pedagogy are not effective in improving EGL outcomes and may even result in negative effects on early grade literacy outcomes
- ✓ Phonemic awareness, phonics, fluency, and comprehension are associated with reading ability
- ✓ Poverty and child labor are negatively correlated with early grade reading outcomes
- ✓ Quality of preschool is positively associated with early grade reading outcomes

What does this mean for practitioners and policymakers?

- ✓ Invest in pre- and in-service training of teachers and a system of coaching for teachers in high-income and higher-middle-income countries

¹ The goal is for students to be reading and writing with comprehension in the early grades.

- ✓ Invest in nutrition programs in contexts with high rates of early childhood stunting and wasting to improve early grade reading outcomes
- ✓ Make reading activities more interesting and contextually relevant; for example, incorporate students' ideas about potential activities and reading materials
- ✓ Supplement programs that focus on technology with programs that focus on pedagogy
- ✓ Focus pedagogical approaches on the various predictors of reading skills, such as phonemic awareness, the alphabetic principle, decoding (learning the sound-symbol correspondences), vocabulary, and comprehension
- ✓ Take into consideration the role of poverty and child labor in early grade literacy
- ✓ Focus more resources on enhancing preschool quality specifically through training high quality teachers in higher middle-income and high-income countries

Which crucial research questions remain unanswered?

- ✓ Are there linkages between the development of prewriting and writing skills and EGL outcomes? If so, what kinds of skills are most predictive of EGL outcomes?
- ✓ How can we support more efficient development of literacy skills in children from diverse linguistic backgrounds (including development of indigenous language literacy as well as development of bilingual and multilingual literacy outcomes)?
- ✓ What are ways to efficiently identify students with various disabilities, and what are EGL strategies to support improving their EGL outcomes?
- ✓ What are the causal effects of specific development programs on early literacy outcomes?
- ✓ What are the effects of preschool and early childhood education (ECE) on early literacy outcomes?

What are some illustrative ways these gaps can be addressed?

In this section we provide broad recommendations for how these gaps can be addressed, noting that there are multiple research questions and analytical approaches that can be applied to answer different aspects of each of these gaps.

I. Are there linkages between the development of prewriting and writing skills and EGL outcomes? If so, what kinds of skills are most predictive of EGL outcomes?

Several studies included in the systematic review focused on pre-literacy skills and the importance of early exposure to print (Guardia, 2003; Kessler et al., 2013) and oral language development (Páez, Tabors & López, 2007) to reading acquisition. The finding on the importance of the early exposure to print is supported by other studies that linked oral language to reading and writing ability (Correa & Dockrell, 2007) and to the writing ability as a product of the sociocultural background of the student (Rebeiro et al., 2014). These findings suggest that students' reading and writing abilities are directly related to the level of oral language they have at school entry and the linguistic influences they have had before entering school. However, it remains unclear whether these linkages are causal or not.

Only a small number of high quality studies from the LAC region focused on the connection between prewriting and writing skills and EGL outcomes. The literature on this connection is also fairly weak outside the LAC region although there is evidence that reading and writing develop concurrently and interrelatedly (Langenberg, 2000; Sulzby & Teale, 1991). There is little research addressing that relationship, or when and how best to integrate these two critical areas instructionally.

More evidence is needed from the LAC region and in LAC relevant languages as to the importance of teaching various prewriting and writing skills, when to teach them, using what techniques and their relationship with EGL outcomes. More specifically, research needs to establish the degree to which various writing skills predict literacy outcomes in the LAC region languages, whether this is different in first and second language speakers, and whether this is different in different types of languages (script transparency, number of letters etc.). It is also important to develop assessments of writing that capture the essential sub-constructs of writing, including pre-writing (squiggles) to writing single letters and words, to more detailed writing with intention and comprehension (in line with the reading sub-skills measured on various EGRAs)

2. How can we support more efficient development of literacy skills in children from diverse linguistic backgrounds (including development of indigenous language literacy as well as development of bilingual and multilingual literacy outcomes)?

Some studies included in the review argue that certain pedagogical strategies—such as read-alouds—are particularly effective for indigenous learners. However, the results of these studies may not be credible because of methodological limitations. At this moment, insufficient rigorous evidence focuses on early grade literacy among indigenous populations. The review also included no evidence about the importance of the use of learners' first language for instruction even though evidence outside the LAC region highlights the importance of learning to read and write in a language the learner knows best both for improved academic outcomes as well as other outcomes such as increased participation, the relationship between the home and school, strengthening and validating local culture etc. More research on early grade literacy among indigenous populations is needed in the LAC region where in some countries, such as Guatemala, 40-60% (depending on source) of the population is indigenous.

Some of the most important evidence-gaps on early grade literacy for indigenous populations are related to the linkages between indigenous and second languages, skills required by teachers to teach indigenous populations, when to introduce non-indigenous languages in the classroom, teacher motivation, and community resources. More research is needed to help answer key questions such as: (1) what are the levels of language proficiency that the indigenous populations have in their own language(s) and in other language(s) taught in school; (2) What are the most important skills to teach for effective development of reading with comprehension in the indigenous languages; (3) when and how should we add or transition to additional languages; (4) how can we motivate and train teachers to effectively teach in indigenous languages; (5) what are the resources we can harness from the communities to support oral language development in indigenous languages?

3. What are ways to efficiently identify students with various disabilities, and what are EGL strategies to support improving their EGL outcomes?

Only two high quality studies were found which investigated reading ability in students with disabilities. One study from Brazil investigated reading ability in children with hyperlexia² and found that these students

² Hyperlexia is a syndrome that is characterized by a child's precocious ability to read (far above what would be expected at their age), significant difficulty in understanding and using verbal language (or a profound nonverbal

showed a discrepancy between word decoding and reading comprehension and that these traits are also found in preschool-aged students (Cardoso-Martins, & Da Silva, 2010). Bandini et al. (2006) studied how children who are deaf learn to read and found that the students who signed, followed the alphabetic principle and used a pattern similar to non-deaf children. While these two studies shed some light on strategies that might be useful when working with children with these particular disabilities, it is important to add to this research base and also investigate strategies for children with other disabilities such as visual disabilities and cognitive or learning disabilities.

The 2013 State of the World's Children Report by UNICEF notes that "by one widely used estimate, some 93 million children – or 1 in 20 of those aged 14 or younger – live with a moderate or severe disability of some kind" (p.3). UNICEF also notes that this data is speculative and it is impossible to tell how accurate these numbers are since in most countries there is no reliable data being collected on children with disabilities. These findings speak to the importance of first collecting data on the disabilities that exist within each country as well as investigating strategies to improve EGL outcomes for these students and to help teachers understand and apply these strategies in their classrooms.

4. What are the causal effects of specific development programs on early literacy outcomes?

Meta-analyses of the included studies demonstrate that programs with an emphasis on child nutrition, such as school feeding programs and micronutrient provision can positively affect early grade literacy outcomes in contexts with high rates of stunting and wasting, such as Guatemala (Maluccio et al., 2009). In addition, studies from high-income countries demonstrate that programs that combine teacher training with sustained coaching can improve early grade literacy outcomes (Pallante & Kim, 2015). Furthermore, the review found evidence that programs that solely provide technological solutions, such as the one laptop per child program, do not positively influence early grade literacy outcomes and in some cases can even have negative effects (Cristia et al., 2012; Ferrando et al., 2011; Beuermann et al., 2015).

However, very few studies are able to credibly demonstrate causal effects of specific development programs or specific teacher practices on early grade literacy outcomes. And the results of the meta-analyses in the review are only based on very few studies. This lack of credible evidence limits the ability of policy makers and practitioners to design effective policies and practices. Several studies claim to demonstrate positive effects of teacher training programs, specific teacher practices, early childhood education, and other education programs (e.g. Larrain et al., 2012; Cardoso-Martins et al., 2011; Vivas, 1996). However, the large majority of these studies is not of sufficient quality to distinguish correlation from causation. Policy makers and practitioners should not rely on these studies to make decisions about education programming to improve early grade literacy outcomes. More mixed-methods impact evaluations are required to assess what works in improving early grade literacy outcomes in the LAC region

4. What are the effects of Preschool and Early Childhood Education (ECE) on early literacy outcomes?

We did not encounter studies that credibly assess the impact of enhancing preschool quality on early grade literacy in lower middle-income or low-income countries in the LAC region. We only identified

learning disability) and significant problems during social interactions. *Source: Center for Language Disorders at <http://www.csls.org/HyperlexiaDefinition.htm>*

quantitative studies that show a positive correlation between the quality of preschool and early grade literacy outcomes (Campos, Esposito, et al., 2011; Felicio, Terra, & Zoghbi, 2011). However, correlation does not necessarily equal causation and therefore it is important to conduct further research on the effect of preschool and ECE programs on EGL outcomes in low-, middle- and high-income countries.

Research in contexts outside Latin America and the Caribbean indicates that preschool and ECE programs can contribute to early grade literacy outcomes. Robust evidence from the United States suggests that a year or two of center-based ECE for three- and four-year-olds, provided in a developmentally appropriate program, will improve children's early language, literacy, and mathematics skills when measured at the end of the program or soon after (Camilli, Vargas, Ryan, & Barnett, 2010; Wong, Cook, Barnett, & Jung, 2008). A recent meta-analysis including evaluations of 84 diverse early education programs for young children evaluated between 1965 and 2007 estimated the average post-program impact to be equivalent to about a third of a year of additional learning, above and beyond what would have occurred without access to preschool (Duncan & Magnuson, 2013). Recent evidence also suggests that high-quality preschool positively contributes to the language, literacy, and mathematics skills growth of both low- and middle-income children, but has the greatest impact on children living in or near poverty (Yoshikawa et al., 2013). Given the positive effects of ECE and preschool on language and literacy outcomes for both low and middle-income children in the US, it is critical to also conduct further research on this connection in the Latin American context.

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