Characteristics of Early Grade or Emergent Literacy Research in Central America

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[1] The State of the Region is the Central American component of the State of the Nation Program, an academic initiative promoted in 1994 by the public universities of Costa Rica through the National Council of Rectors (CONARE), which has been conducting research since 1996 to monitor and analyze social, economic, environmental and political trends, as well as the regional integration process of the region´s seven nations (Guatemala, Honduras, Belize, El Salvador, Nicaragua, Costa Rica and Panama). Its activities have included the publication of five State of the Region reports (1999, 2003, 2008, 2011 and 2015) and it is currently preparing the Sixth Report, which will be published in 2020.

Summary

The aim of this study, conducted at the request of the Central American and Caribbean Early Literacy Network (RedLEI)[2], was to learn about the progress on early grade or emergent literacy research in Central America during the 2000 – 2018 period, based on in-depth interviews with researchers and professionals who have held relevant decision-making positions in the field of education and the development of a database of studies found among various accessible Internet sources. The analysis shows broad disparities among the issues addressed, the approaches, the scope and the methodological perspectives of the studies, and points to the lack of interaction among the authors, all of which result from the existing constraints for conducting educational research in the region. During the results discussion, challenges for creating a research body to provide substantive evidence on education policy decision-making were identified.

Contents

Introduction

Reading and writing skills are continuously developed throughout life and, therefore, must be addressed at all levels of the education system. However, it is during the first years of formal education, with emergent or early grade literacy, that one develops the skills, knowledge and capabilities that precede reading and writing, which lay the foundation for future school success and verbal and non-verbal cognitive growth (State of the Nation Program - PEN, 2017: 85).

Early efforts in this regard exceed short-term impacts and are essential for leveling the conditions for those students who come from households with low levels of education. These efforts are necessary because reading and writing are not natural activities, but "second level codes" that must be taught and learned intentionally and systematically (PEN, 2017: 85-86).

International tests, such as the Regional Comparative and Explanatory Studies, have shown significant deficiencies in reading and writing skills among primary school students in Central America and the Dominican Republic. In the third Regional Comparative and Explanatory Study (TERCE) conducted to date, only Costa Rica performed above the Latin America and Caribbean average. The other countries in this subregion, except for El Salvador which did not participate in the evaluation, all performed below the regional average in reading and, in the best case, similar to the regional average in writing (Flotts, et. al, 2015).

In the 2015 PISA (Programme for International Student Assessment), Costa Rica obtained reading scores which were significantly below the average of the OECD countries (OECD, 2018). These results serve as a warning sign at a time when a study by Deloitte (2018) on the global labor market shows that with the upcoming Fourth Industrial Revolution an unprecedented scenario is being raised: An increase in youth unemployment and underemployment due to a lack of qualifications while companies are also finding it more difficult to find personnel with the skills and competencies required to face a context that is progressively moving towards automation, robotization and the use of big data, artificial intelligence, biotechnology and quantum computing. The main concern is that education seems to be falling behind in countries where this phenomenon is stronger. The study suggests that in the coming decades and in the face of a rapidly changing environment, having fundamental skills, such as literacy, numerical competence and digital development, will be essential to achieve strategic job placement.

Research Context

Despite the importance of emergent or early grade literacy, little is known about this topic in the region. A systematic review conducted by the USAID LAC Reads Capacity Program (LRCP) (2016) regarding this issue in Latin America between 1990 and 2015 found that only 108 publications of a total of 9,696 documents collected could be considered as research that was conducive to evidence in Latin America and, of those, only 4 studies referred to the Central American region — 3 were about Guatemala and 1 was about Costa Rica. The studies were mostly developed by researchers from outside the region and with an emphasis on topics other than education[3].

In a series of interviews conducted by researchers and representatives from universities and other education sectors in several Central American countries and the Dominican Republic, there was a consensus on the fact that educational research in the region is generally scarce, and it is even scarcer in the case of early grade literacy. The little research conducted is often not published or disseminated, and

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[3]The three studies on Guatemala refer to the research on the long-term impacts of poor nutrition in preschool aged children, specifically from the educational, socio-economic and labor perspectives among specific populations.

if it is published, it is not always done in indexed journals and subjected to peer-reviews (Vargas, 2019). Some interviewees mentioned that there have been signs of change, but efforts are still incipient, as shown in Image 1, which is based on information from the SCIMAGO Journal and Country Rank (https://www.scimagojr.com/countryrank.php).

Image 1.
Number of peer-reviewed articles on education (in general) published between 2002 and 2017, by year and by country
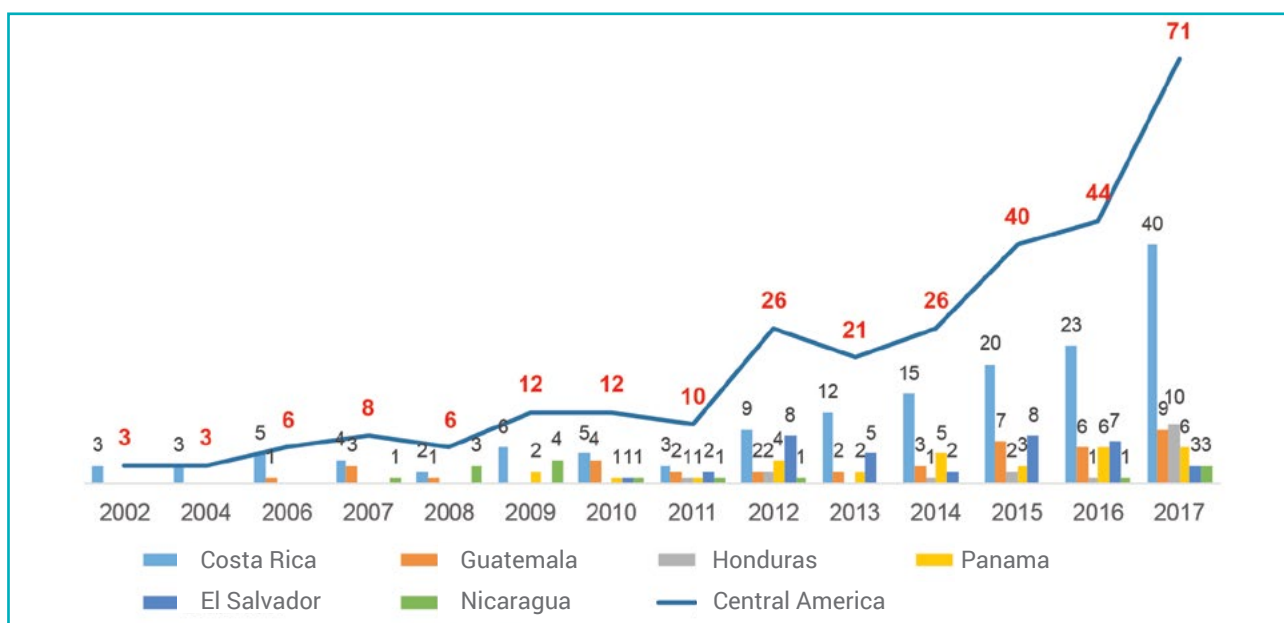
Source: Developed by the author using information from the Scopus® database
(available at: https://www.scimagojr.com/countryrank.php)

Despite the fact that over the past three years Central America has seen a significant increase in the number of peer-reviewed education publications submitted to indexed journals, the production in the region continues to be a small fraction of the publications generated in each country in other fields of knowledge and far below the number of education publications in other regions of the world. It should be noted that these figures refer to education in general, including other issues apart from literacy, and other educational levels beyond early childhood, preschool and the first years of primary school.

The interviewees made reference to the following factors which have an impact on the low level of educational research in the region (Vargas, 2019: 52-62):

- Lack of financial resources. At the national level, there are no noteworthy resources available, with the exception of some competitive funds in Costa Rica, Guatemala and Panama. However, the amounts of these funds are very limited as a proportion of the Gross Domestic Product.

Interviewees mentioned three groups of stakeholders that promote educational research in the region: foreign aid agencies, local researchers and other stakeholders.

Bilateral donors and international organizations have been a leading example in terms of generating research in all countries, except in Costa Rica, as this country is not a priority in their agenda. In some countries, these organizations have positioned the issue on the educational research agenda. Bilateral organizations include USAID, Japan International Cooperation Agency (JICA) and the German Corporation for International Cooperation (GIZ). Multilateral organizations include the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Organization of Ibero-American States (OEI), the Inter-American Development Bank (IDB) and the Central American Education and Cultural Coordination of the Central American Integration System (CECC-SICA).

The group of local researchers includes centers and organizations (such as the Center for Educational Research and Social Action – CIASES, Juárez and Associates, Friends of Learning – ADA, the Ricardo Ernesto Maduro Andreu Education Foundation – FEREMA, the Salvadoran Foundation for Economic and Social Development – FUSADES or the State of the Nation Program in Costa Rica) that conduct research or outsource it, as well as institutes and centers affiliated to the universities and the faculties or schools of education or pedagogy.

Other stakeholders include research networks, such as that of the Jesuit universities or the RedLEI; international non-governmental organizations with a presence in the countries, for example Save the Children or World Vision, and private companies that have little participation in conducting research but may be a relevant source due to the consolidation of corporate social responsibility funds.

- Even in countries where funding for education has increased, tangible aspects (such as school infrastructure, educational supplies and teaching materials, and resources available in the schools) or social aspects (such as teacher policies) end up absorbing the majority of the existing financial resources (personal interviews with Caraballo, Morazán and Castillo, referenced by Vargas, 2019: 57).

- There is little appreciation for research and the importance of taking evidence-based decisions in the region, which translates into a lack of institutional support at the national level and within the universities themselves, where bureaucratic processes hinder the researchers' work and demand a great deal of discipline and planning to comply with the

stipulated phases and timeframes (personal interviews with Morales, Salgado, García, Martin and Carmiol, referenced by Vargas, 2019: 58).

- There are weaknesses in the quality of the administrative statistics of the education system, which have an impact on the research decisions, the contextualization of problems, the definition of samples and the interpretation of results (personal interviews with Garnier, L.R. González and Cruz, referenced by Vargas: 2019: 58).

- There is no research agenda. Research tends to be dispersed and circumstantial, not systematic. It often responds more to particular interests of researchers than to an ongoing and concerted effort to have an impact on improving problems in education (personal interviews with Orozco, L. Sánchez, A. González, Rodino, Carmiol, García and Gálvez-Sobral, referenced by Vargas, 2019: 62).

- Whether due to an absence of resources or research capacity or to the researchers' personal interests, the lack of impact on educational policies and decision-making emerges from the fact that, with few exceptions, the research conducted is concentrated on initial assessments, exploratory levels or baseline studies. As a result, many studies contain no proposals (personal interviews with L.R. González, A. González, Alfaro, Alarcón, Cruz and Morales, referenced by Vargas, 2019: 62).

With regard to the characteristics of the research conducted, there is a perception that educational research tends to not be rigorous and has weak methodological designs. Some connect this weakness to the scarcity of human talent trained in carrying out educational research. There are few researchers who have a doctorate or academic master's degree, and teachers, who are expected to be able to develop research in the classroom by systematizing their work and performing reflective exercises, receive initial training with programs that place very little emphasis on research methodologies (personal interviews with Martin, Morazán, Alfaro and M.E. Sánchez, referenced by Vargas, 2019: 58-59).

Much of the research that can be found, according to interviewees, is closely linked to initial research attempts as a final degree project or a graduation thesis for the normal schools, which are not subjected to rigorous standards with little to no follow-up.

One of the major weaknesses is conceptual, since researchers have expressed that they have poor knowledge or are not updated on the new educational and research trends, which can be justified due to the fact that there is a language barrier and that many innovations in educational research are published in English.

There is also little connection with field data. The interviewees mentioned that there are numerous studies based on document reviews. There is little statistical management. Most surveys tend to be general surveys with very descriptive and poorly refined analyses where results from very small samples are

often generalized with respect to national populations, assuming that they are valid for everyone (personal interviews with Carmiol, L.R. González, Martin, Orozco, M.E. Sánchez, Vijil, referenced by Vargas, 2019: 61-62).

The statement of research problems is another weak element. In some cases they lack clarity, in other cases they do not take into consideration social needs or, if they do, they are not innovative, so they end up delivering redundant findings (personal interviews with Rodino, Salgado, Villers and Vijil, referenced by Vargas, 2019: 62).

Despite the weaknesses mentioned thus far, some interviewees (including Caraballo, Rubio, Castro and Villers, referenced by Vargas, 2019: 62) stated that there has been progress in the methodological field. Studies are being conducted with more robust samples and more sophisticated processes, and standardized methodologies are increasingly being used to make observations, such as the Classroom Assessment Scoring System (CLASS) or the Stallings method.

Study Objectives and Methodology

In order to obtain a general overview of the research conducted on this topic in the region, this analysis was aimed at specifying the types of studies developed on early grade literacy in Central America (from Belize to Panama) between 2000 and 2018. Therefore, a database of studies performed inside and outside the region was compiled in order to analyze their main characteristics.

Although the results, strategies and information search methods for the USAID LAC Reads Capacity Program (2016) document were considered, this study does not seek to reproduce the information stated in such document or its amendment (Stone et al., 2018). Rather, with the available time and resources, the purpose is to complement those findings by expanding the types of publications included and exploring some additional sources of information.

The findings submitted in this article are part of a broader analysis (due to its geographical extent and the number of issues addressed) which are available in Vargas (2019).

The questions that guided the research, the results of which will be provided in this article, are as follows:

- What are the main characteristics of the studies?

- What have been the main changes, in terms of agenda and characteristics, between the years 2000 and 2018, at both the national and regional levels?

- Who are the most significant producers of research and reports on early grade or emergent literacy in Central America?

Two activities were developed for this purpose between January and April of 2019. First, as a fundamental element to provide context for the rest of the study, 35 in-depth interviews were conducted with 44 participants, including researchers, school representatives, representatives from private organizations and public institutions linked to education, as well as other public figures that have held relevant positions and have had an impact on the issue. The group of interviewees included 3 people from the Dominican Republic, at the request of the RedLEI, as a first assessment of the early grade and emergent literacy research situation in that country.

The sample of interviewees was agreed upon by the State of the Region and the RedLEI, based on the groups' lists of contacts, which were developed according to the interviewees' suggestions (snowball sampling method) or with the names that appeared frequently during the Internet search described below. The study sought representation from all countries, although no interviewees from Panama and

Belize were included because no specific contacts were obtained in those countries. The study also sought representation from different types of institutions, as described in the previous paragraph. Finally, it was intended for interviewees to have different levels of immersion in early grade or emergent literacy, including those who are directly linked to the RedLEI, those who are familiar with the topic but are not linked to this network, and those who have a more general perspective on educational research, in order to help contextualize the specific topic.

For coding and analyzing the in-depth interviews, the QDA Miner program was used.

The second activity involved compiling studies and reports through Internet searches (on Google and on databases of international publications, such as Google Scholar, the Scientific Electronic Library Online —SciELO—, the Network of Scientific Journals of Latin America and the Caribbean, Spain and Portugal —Redalyc—, Dialnet, EBSCOhost, JSTOR and Kérwá) and webpages, repositories and virtual academic research centers, schools of education, international organizations, and organizations linked to research projects on education. The compilation also included documents supplied by some researchers who were in contact with the study.

A total of 74 sources were consulted. The searches were constrained to documents in the Spanish and English languages, using search threads similar to those employed by the USAID LAC Reads Capacity Program (2016) and complemented by specific terms from each of the countries in the region being studied.

The information registered in the database included: author(s), year of publication, document title, type of document, availability on line (and, if available, the link), educational level on which the study was focused, subject descriptors, methodology employed during research for data collection and processing, geographical scope of the study in each country, and the countries involved in the study (it was specified whether the region being studied also included other countries in Latin America or other countries around the globe).

During the processing phase, additional variables were included to enrich the analysis, such as the five-year period, the document´s link to other institutions, etc.

The database was compiled in Excel and the filters available in this software as well as in Tableau were used to generate charts and to cross-reference information.

Study Limitations

The study faced various difficulties and constraints during the research phase where the time available to conduct the search (three months) was a significant element. On the one hand, a large number of online sources were reviewed, each one with its own search engine, syntax and filters. This required a long learning process and a continuous review and adjustment of search strategies, as there was a possibility of there being classification errors in the databases consulted or that the search processes would provide inconsistent results.

There was a great deal of overlapping information among certain sources, mainly among international catalogs. In some cases, this occurred because some articles were indexed in several catalogs at the same time and, and in other cases, because some researchers published parts of a larger study in different media[4].

Access to documents was another difficulty encountered. Since the study's objective was to obtain certain details about the studies, it was important to have access to the whole document or, if not, to a comprehensive summary in order to extract the necessary details. However, this was not always possible and there were documents whose existence was confirmed but could not be included due to a lack of information.

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[4] The criteria adopted in these cases was to always include the most complete document, unless the other publications contained new information or significant updates regarding the information in the original document, in which case all documents were included.

In an attempt to solve this limitation, various sources were triangulated. However, as the universe of institutions and researchers involved was unknown, it was not simple to carry out the triangulations. It required an understanding of the existing relationships between international institutions, projects, organizations or local institutions. To a certain extent, the in-depth interviews were very useful in this regard, as was the literature consulted from other documents reviewed. However, in some cases the learning process was delayed, since it was discovered that at one point the same information had been attained through different routes and that one of those routes provided full access to the document or, at least, a better systematization of the information contained in the document itself.

Information provided by interviewees showed that there are studies that could not be accessed because some have not been published, others are not available in digital form and others, despite being available in digital form, have restricted access.

It is important to underscore that the search for studies was focused on the educational field. While the database included studies from other disciplines (such as psychology, sociology, economics or linguistics), this was either because they were referenced during the in-depth interviews or because the Internet searches found documents that referenced centers in non-education areas.

The study faced a great challenge due to the differences of the resources found, in terms of the methodologies applied, as well as the approach and the way of expressing the theoretical and methodological statements. Some authors have specific sections for these statements, while other documents have to be examined in their entirety. The same term was also often applied to very different concepts (for example, the classification of research as qualitative or quantitative in some cases led to contradictory results). Therefore, it was necessary to propose a methodological analysis which would be more focused on clarifying what the author or authors say they are doing in the study, and less on an analysis of how relevant the statement is to the research problem, an issue that will necessarily remain for future analyses of the documents found.

The decisions regarding inclusion of a document in the final database and its classification or grouping according to different variables may not be ideal, but they were always taken thinking that, although some documents may not adapt stricto sensu to the notion of what is or should be good quality educational research, they may be relevant to identify stakeholders in the field of early grade or emerging literacy research or project development in the region.

Finally, as mentioned in the previous section, another limitation encountered was the lack of key informants for the in-depth interviews in Panama and Belize. As a result, information for those countries could only be obtained through Internet searches and no other stakeholders to conduct studies on the issue were found.

Results Discussion

The resulting database includes 145 documents on early grade and emergent literacy or related issues in seven countries (Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama).

Major Stakeholders

After having analyzed the documents' authors, it is clear that there is little collaboration among them. Almost half of the documents (47.7%) have only one author. In the remaining cases, there is co-authorship (21.3% were written with another person, 18.7% have 2 or 3 authors, and the remaining 10.3% of the documents have 4 or more authors).

Image 2.
Networks of authors with more than one publication on literacy in Central America
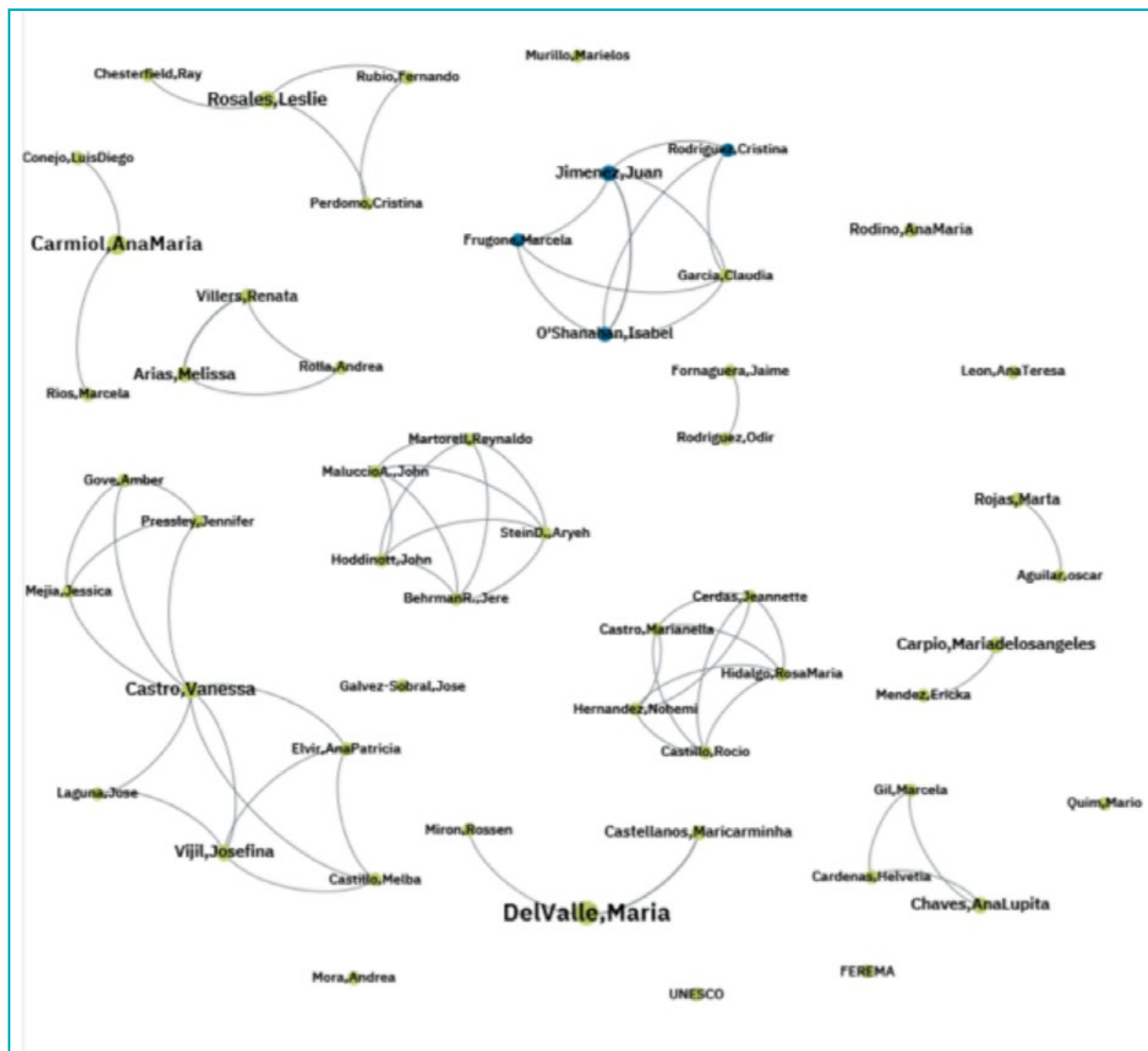
Source: Vargas (2019: 75).

Upon doing a network analysis of authors with more than one publication[5] (Image 2), two occurrences are evident: Some networks depend mainly on one person who establishes individual links with other researchers (such as Ana María Carmiol in Costa Rica and María José del Valle in Guatemala).

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[5] In this Image, the thickness of the lines is proportional to the amount of studies in which the two people worked together. A Force Directed Algorithm was applied to depict the network, where the people with the strongest links are grouped in the graph area. Individual dots represent authors who did not develop a co-author relationship with anyone else.

In other networks, members are more interrelated. This is the case of the network comprised of researchers from the Center for Educational Research and Social Action (CIASES) in Nicaragua (made up by Melba Castillo, Josefina Vijil, Vanessa Castro, José Laguna and Ana Patricia Elvir), the Amigos del Aprendizaje group in Costa Rica (with Melissa Arias, Renata Villers and Andrea Rolla), the network made up by researchers from the Education Research Institute (INIE) of the University of Costa Rica (with Rosa María Hidalgo, Jeannette Cerdas, Nohemí Hernández, Rocío Castillo and Marianella Castro), the Guatemalan longitudinal study group on the long-term impacts of malnutrition regarding people's socio-economic achievements which created several publications during the low study period, and the network developed in relation to a postgraduate degree course at a university in the Spanish Canary Islands with the participation of Juan José Jiménez, Cristina Rodríguez, Marcela Frugone, Isabel O'Shanahan and Claudia García.

Eighty-six of the 145 publications in the database have an explicit institutional link: 18 were published by public entities, mainly by the ministries of education in the various countries, with a significant portion of them having been published by the General Division for Educational Evaluation and Research (DIGEDUCA) of Guatemala. There is also a large portion which was sponsored by regional organizations (15 documents) and universities (12 cases, almost all linked to INIE projects).
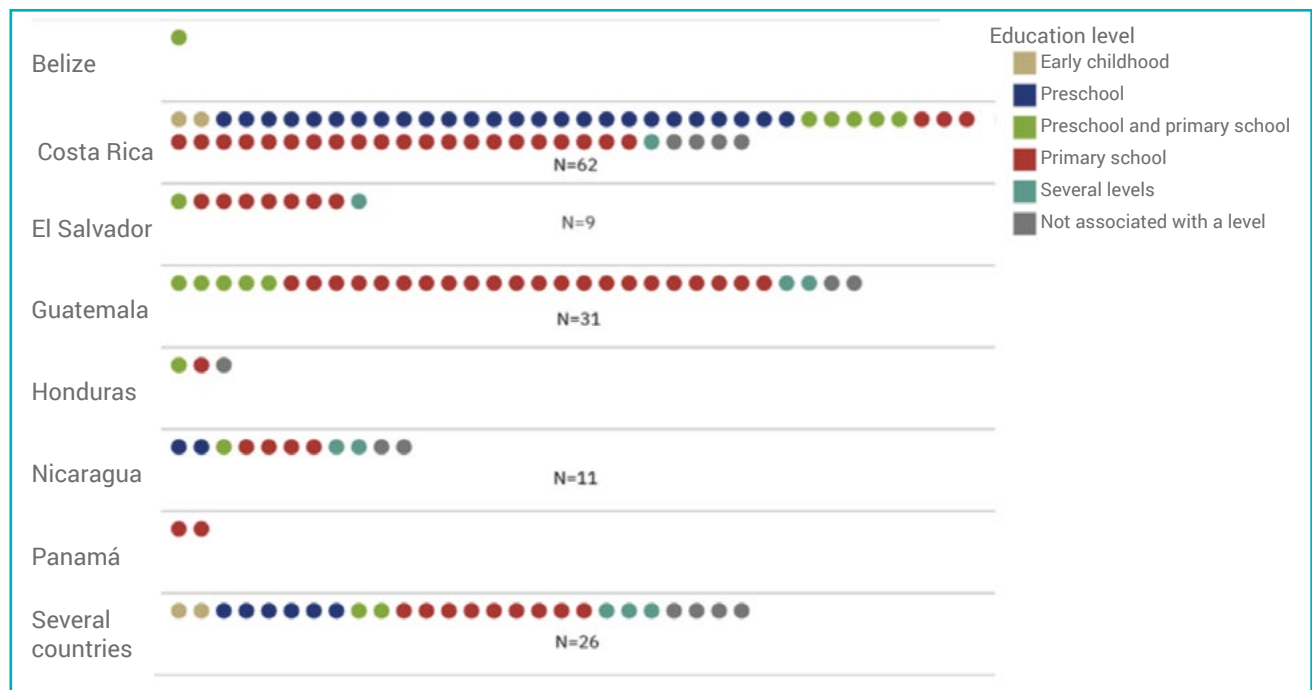
Other national centers or organizations published 19 of the 86 documents; the publications of the State of Education in Costa Rica stand out in this group.

Scope of the Studies and Issues Researched

The bulk of the research in the database (63.2%) analyzes some aspect related to the first grades of primary education, whether exclusively or in conjunction with the preschool level. The latter is researched in almost 4 of every 10 documents in the database (39%). Early childhood was the subject of study in only 3.7% of the cases.

In El Salvador and Panama, only studies on the primary level were found, while there was a greater variety discovered in the rest of the countries (Image 3). In Costa Rica, there has been strong interest exclusively in preschool education. Lastly, despite having fewer studies, Nicaragua has more diversity.

Image 3.
Number of studies by country and level, 2000-2018

Education level
- Early childhood
- Preschool
- Preschool and primary school
- Primary school
- Several levels
- Not associated with a level

Belize

Costa Rica — N=62

El Salvador — N=9

Guatemala — N=31

Honduras

Nicaragua — N=11

Panamá

Several countries — N=26

Source: Vargas (2019: 76).

In essence, the emphasis of the research on early grade or emergent literacy in Central America is schoolchildren from 6 to 9 years of age. There is a need for more research on this topic during early childhood and in the initial phases of preschool education, which spans over more than one year in several countries.

Image 4 summarizes the issues addressed by the studies, based on a classification of keywords or descriptors associated with each document[6]. It is striking that not even half of the studies considered explicitly mentions literacy or reading or writing individually. Instead, there are several cases where the research mentions capabilities and skills related to literacy, such as phonological awareness, decoding capabilities or lexical variety, to name a few examples. There are studies that delve into factors that explain the students' academic levels of achievement or failure, which are aspects that are usually monitored by statistical data in the education system.

The topic breakdown supports some of the conclusions provided by the interviewees. On the one hand, more attention is paid to teaching (teaching approach, pedagogy and initial teacher training) than to the students' ways of learning. Secondly, the study confirms that there

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[6] As the same document may address several issues, the total number of times an issue has been referenced may be greater than the total number of documents included in the database.

has been a heavy emphasis on researching test results, whether standardized or not, which explains the relative importance of skills and competencies. Thirdly, within the issue of literacy, there has been a greater emphasis on reading than on writing[7].

Supporting interviewees to understand what and how students learn has not been an area which has been sufficiently explored in the region.

Evolution Over Time of The Research on Early Grade or Emergent Literacy

Over the years, variations regarding the importance of certain topics were observed (Image 5). Taking into consideration the four most researched issues from 2000 to 2018 (which together represent more than 50% of the total number of studies), it becomes apparent that during the five-year period from 2010 to 2014 there was a greater focus on the follow-up issues (educational performance and achievement) and less focus on skills and competencies and on literacy, a situation that has been reversed during the last five-year period.

Image 4.
Number of research publications according to issues addressed, 2000-2018

Reading, writing (N=66)

Skills, Competences (N=57)

Follow-up topics (N=35)

Learning (N=35)

Others (N=59)

Teaching (N=58)

Teachers (N=34)

Types of education (N=19)

Supporting materials(N=13)

Predictive/explanatory factors (N=21)
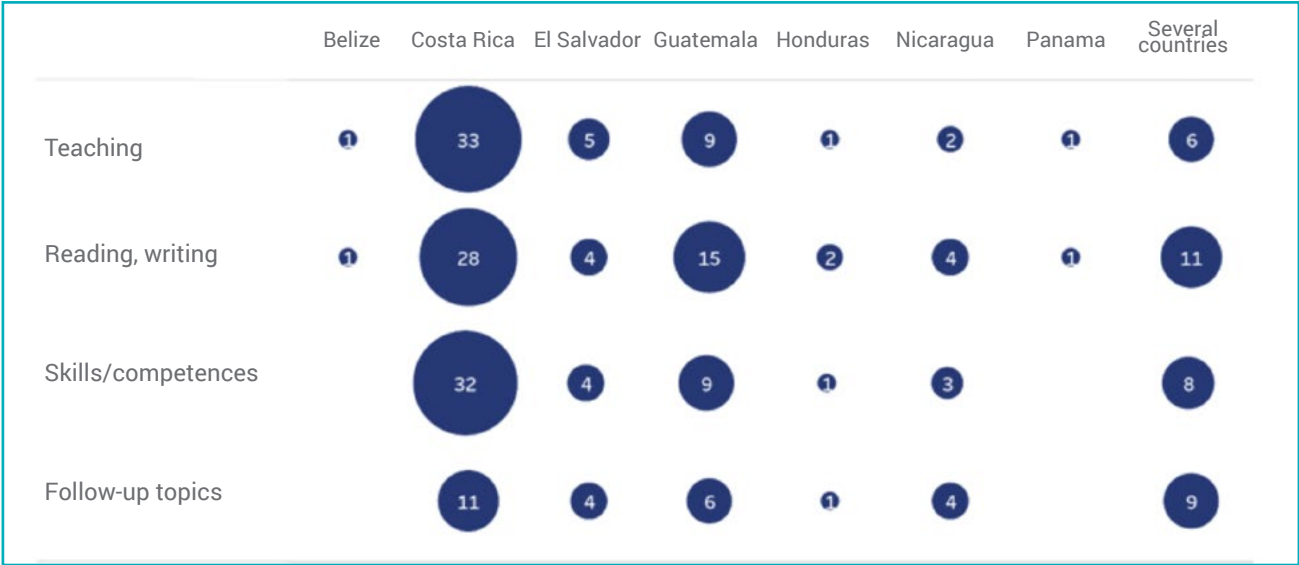
Contents (N=7)

Source: Vargas (2019: 77).

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[7] This emerges into a more specific analysis of the documents which are directly in the database.

Literacy has been proportionally more important in Guatemala than in any other country. It is the most researched issue there, while Costa Rica and El Salvador have placed greater emphasis on teaching and on the skills and competencies of the students (Image 6). Along with the previous Image, this one also only considers the four most widely researched topics.

Over the course of time, the geographical scope of the research has been expanding. Before 2010, most of the studies were focused on smaller localities and communities or on the sites where certain projects were implemented. From that date forward, studies based on broader areas (areas that include several municipalities, departments or provinces) began to gain more importance, as did studies with national relevance. Another trend that was observed is that the studies related to teaching tend to have a smaller geographical scope (confined to where a particular program operates or to schools in specific locations), while in other areas it is the national studies that tend to have greater influence.

Image 6.
Number of studies by topic and country, 2000-2018

	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Panama	Several countries
Teaching	1	33	5	9	1	2	1	6
Reading, writing	1	28	4	15	2	4	1	11
Skills/competences		32	4	9	1	3		8
Follow-up topics		11	4	6	1	4		9

Note: The size of the circles is proportionate to the number of studies.
Source: Vargas (2019: 79).

Supporting interview-Methodologies Used

Most of the studies analyzed collect new information from the field and are not just focused on the review and systematization of policies, standards, curricula, programs, class logs or findings from other research, or on the analysis of national or administrative statistics from the education systems. The latter two types of analyses tend to occur more frequently in studies that involve several countries.

The majority of the documents reviewed (88 out of 145) talk about selecting a sample in order to apply a survey, administer tests for evaluating reading or writing skills, make observations, hold focus group sessions, or conduct in-depth interviews. In 58% of those studies, the samples are selected deliberately, based on their appropriateness or are *ad-hoc*, which corresponds to the exploratory nature of many of these studies. This hinders the possibility of scaling up the research results to the entire population being studied. Nevertheless, 38.6% of the studies described have more robust, random or stratified samples.

An analysis of educational statistics, legislation and other documents was also performed in most of the files (as seen in Image 7). Other methodologies were applied in less than 40% of the cases and, in general terms, in less than 30% of the documents registered.

More sophisticated processing, that goes beyond descriptive statistics, was observed in 51 of the 145 documents (which is equivalent to 36.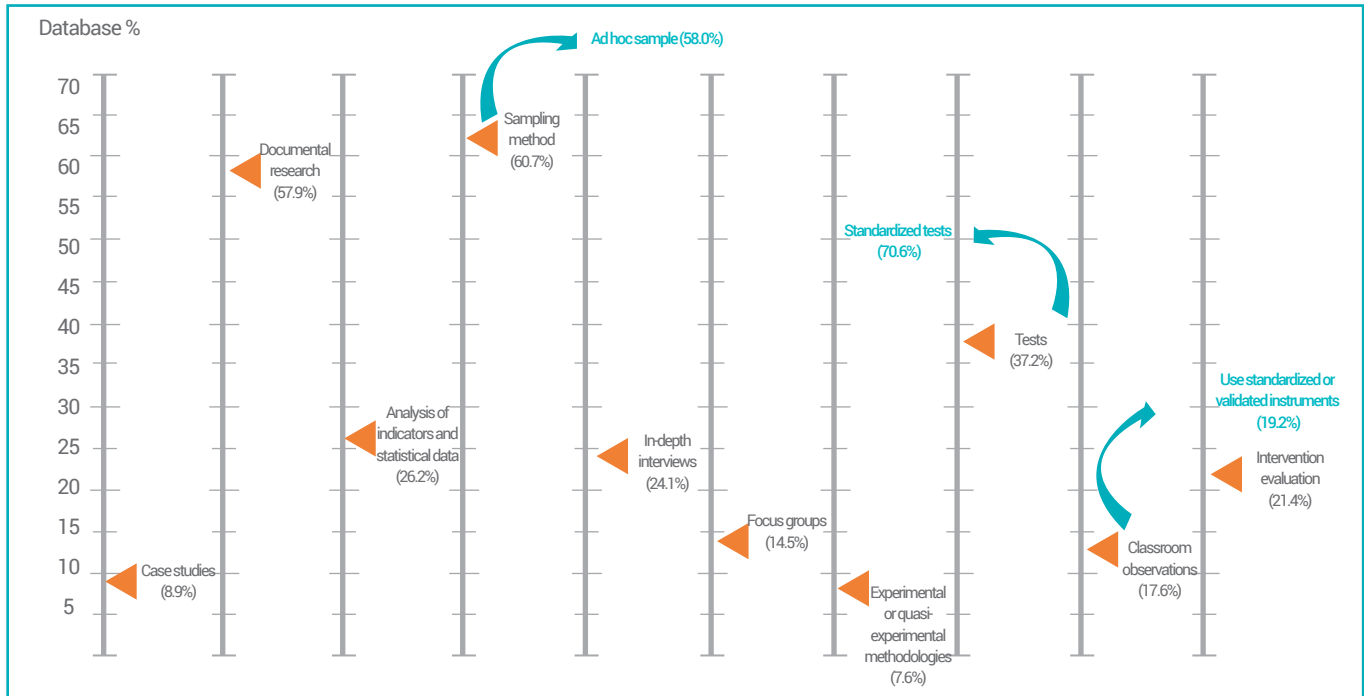5% of the total). This includes various studies with linear regression or multiple regression analyses to probe factors associated with outcomes in reading or writing evaluations, as well as more complex statistical tests. Also included here are studies that use analytical software or apply predictive analytical models.

In terms of reading or writing tests and classroom observations, there was a strong disparity in the use of standardized or validated instruments. While they were used in 70.6% of the cases in the former, they were only used in 19.2% of the classroom observations.

Experimental or quasi-experimental methods and group sessions are the methodologies applied with the least frequency. They were observed in only 11 and 21 studies, respectively.

In 45.5% of the studies (66 of 145), regardless of the methodology applied, a comparative analysis was performed. Typically, this is based on variables such as gender, geographical area, programs or types of schools (public or private). In the case of some longer-term studies, there are comparisons among cohorts. The standard in the multi-country studies is to perform a comparison among the countries included in the study, although in some cases this tends to provide in-depth exploration among only some countries.

Image 7.
Summary of methodologies used in the studies in the database

Database %

- Ad hoc sample (58.0%)
- Sampling method (60.7%)
- Documental research (57.9%)
- Standardized tests (70.6%)
- Tests (37.2%)
- Use standardized or validated instruments (19.2%)
- Analysis of indicators and statistical data (26.2%)
- In-depth interviews (24.1%)
- Intervention evaluation (21.4%)
- Focus groups (14.5%)
- Classroom observations (17.6%)
- Case studies (8.9%)
- Experimental or quasi-experimental methodologies (7.6%)

Source: Vargas (2019: 83).

Upon recoding the documents with various methodologies into two main groups (the most documented and those with a more empirical nature), it is observed that over the years there has been an increase in the number of the latter (Image 8). This has coincided with an increase in the number of studies conducted at the preschool and primary school levels.

Image 8.
Number of studies by methodology and geographical scope, 2000-2019
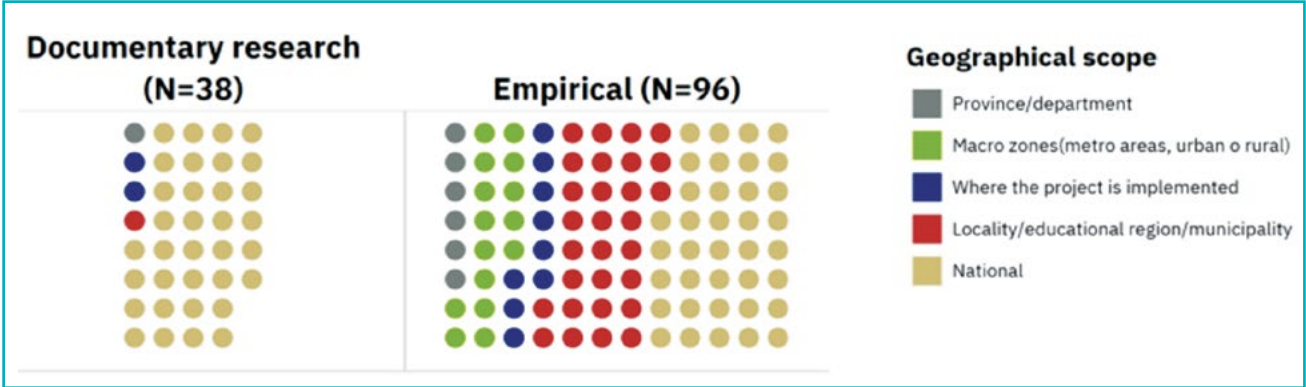
Note: Categories that recorded a single method were excluded, as were the studies that did not focus on a specific geographical scope. Each circle represents one study.

Source: Vargas (2019: 84).

The interviewees from all countries agreed that there is an increasing trend toward the implementation of mixed studies, where quantitative methods supply information about the prevalence of a phenomenon and its correlation with different factors, and qualitative methods provide a deeper exploration of the reasons for the quantitative results.

The interviewees stated that, while more complex longitudinal and quasi-experimental studies on literacy are being conducted (something that is also observed at the level of educational research in general), they are still infrequent.

Concluding Remarks

Despite the number of documents that were compiled in the database and the notion that, based on the interviews conducted, there are more studies that could not be accessed (because, as indicated above, they are not in digital form, have not been published or are in repositories with restricted access), there are great disparities in the scope of the studies (both geographically and in terms of the educational levels that they address), as well as in the issues examined, in the approaches and in the methodological perspectives.

With a few exceptions, the studies and their authors are scattered. There is little knowledge among research centers within the countries and even less among those in different countries. There are researchers from other disciplines, not just from the education field. Some are foreigners who are developing their post-graduate dissertations in the region or participating in specific projects which are published outside of Central America, but they do not always publish their work in the places where the research was conducted. There are other authors who are part of a diaspora of Central Americans that live in other parts of the world whose size and focus of attention are not well known in the domain of early grade and emergent literacy.

The dispersion of researchers was evident in the database analysis, which identified many individual researchers but few networks that generate research on early grade literacy in Central America. Furthermore, some of these are heavily centered on certain individuals and not so much on a continuous interrelationship among various researchers. The exception to this situation are large-scope projects sponsored by international aid agencies (such as the USAID LAC Reads Capacity Program) or projects such as the State of the Region or the State of Education and, more recently, the efforts developed by the RedLEI.

The disparity among the studies and the dispersion discussed above have consequences. First, there is a lack of consistent evidence on the different topics within early grade or emergent literacy: it is difficult to establish comparisons or to extract conclusions on the issue that can be scaled up to large regions, or to the national or regional levels when the conceptual approaches, scope and methodology applied are completely different.

Secondly, the isolation of researchers, the characteristics of the resources available, and the existence of other constraints on conducting research result in the unequal treatment of different aspects of early grade or emergent literacy: various evaluations of certain skills are performed (for example, reading speed in the first grades of primary school) or teachers' classroom practices are observed, while there are still gaps in the information regarding other important issues. Some of the crucial aspects that were said to require more research were emergent literacy in early childhood and early

grade literacy in preschool, that is in bilingual and multicultural environments, and an understanding of what and how children learn to read and write, as well as the factors that have the most impact on these aspects.

A final consequence of the situation described thus far is the lack of impact on the public education policy. According to interviewees, early grade and emergent literacy are not positioned as an important issue on the agenda of decision makers, and to a certain extent, based on the analysis of descriptors in the database compiled, it is also "diluted" within the research agenda. The above, in conjunction with the statement of research problems that does not necessarily agree with public policy information priorities in the sense that studies frequently lack meaningful proposals, that there is a lack of "hard" evidence on the situation regarding the issue and a lack of dissemination of findings, explains the little influence the research on this issue has had in Central America, with few exceptions.

This situation poses several challenges if the purpose is to increase the level of impact: achieve better coordination between research agendas and the information needs of decision makers, which is obtained by improving communication between researchers and research centers in the region and by supporting the dissemination of research results to ensure that previous studies serve as building blocks for subsequent research to expand and complement findings and for filling currently existing information gaps.

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