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SYSTEMATIC LITERATURE REVIEW
Systematic Literature Review.

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Summary

This text aims to address the topic of Systematic Literature Review (SLR) and its application to the teaching and learning of mathematics in the early grades of elementary school. It seeks to establish a guideline that makes it possible to individualize and direct children's knowledge in such a way as to facilitate their learning, highlighting research on topics that deal with the interpretation of texts, both in reading and writing mathematical statements and problems, within the native language.
Keywords: Systematic Literature Review; Mathematics; Teaching: Learning.

Abstract

This text aims to address the topic of the Systematic Literature Review (RSL), and its application to the teaching and learning of mathematics in the initial grades of elementary school. The aim is to establish a line of guidance that makes it possible to particularize and direct the child's knowledge, in such a way that facilitates their learning, highlighting research on themes that deal with the interpretation of texts, both in reading and writing statements and mathematical problems, within the native language.
Keywords: Systematic Literature Review; Mathematics; Teaching: Learning.

Systematic Literature Review

A literature review involves searching for and analyzing relevant texts on a specific topic, which generally presents itself as a search for a solution to a problem encountered. This review can be narrative, integrative, and also systematic, the criteria for which are addressed in this text.

For Galvão and Ricarte (2020), the Systematic Literature Review (SLR) goes beyond the procedures usually carried out to support an academic research work, for example, as it requires that certain protocols, construction stages and logic criteria be followed that allow the elaboration of "a large documentary corpus", since, based on the delimitation of the problem, the databases are selected, the search for documents that deal with the topic to elaborate the systematization of the results obtained, which will provide the necessary and possible answers to solve the problem.

Demerval, Coelho and Bittencourt (2022), when dealing with the Systematic Literature Review (SLR), reinforce the need to outline guidelines; to do a preliminary mapping, to carry out research and establish a protocol to be followed, so that it is possible, regarding the literature to be researched, to know the necessary steps, such as the research question, the careful selection of studies to be referenced, as well as the extraction, synthesis and analysis of data that will support the research.

The following content is considered as a problem to be addressed in this study: "Can the difficulty in interpreting texts generate errors in solving mathematical problems?" And one can also reflect on how teachers who dedicate themselves to teaching present their skills and competencies in teaching mathematics and how the problem of teaching and learning mathematics in elementary school grades is linked to students' difficulties in interpreting text or the format of the classes given.

The purpose of a systematic review is to locate the studies that stand out as most relevant, which address the research questions formulated and enable the evaluation and synthesis of

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your contributions.

Maia (2020) establishes as steps for RSL items that initially involve adequate planning, where it presents its need, problem and objective, directing the search and selection of sources, in a coherent research strategy, in addition to defining the selection, extraction and synthesis criteria to be adopted.

After planning, its execution takes place, with the cataloging of sources, with the selection and evaluation. study compilation, for data extraction and the necessary analysis that will serve as the basis for the report to be carried out below. In the report, the documentation is presented and properly structured, in a coherent and appropriate manner for publication.

In the initial planning, there is a need to develop a protocol, an ordering of the research, in such a way that the review can be conducted from the beginning, and that, in the end, it answers the question defined by the research problem, establishing in advance the methods to be applied, always aiming to achieve the standardization of the research, with the due reduction of possible risks, for better clarification.

Maia (2020) reports the following construction to be followed to define a pre-established protocol, as per Table 01:

Table 01 - Constituent elements of the protocol

Research objective	**Research question**	**Sources of information**
Search strategy	Publication selection strategy	Quality criteria
Criteria for inclusion and exclusion of publications	Criteria for data extraction	Strategy for data synthesis

Source: (MAIA, 2020).

Mendes and Pereira (2020) state that, when researching the literature on productions located in the area of mathematics, it "did not present a specific foundation in stages for the development of the systematic review", as they used the specific stages that were implemented in the health area. This finding led them to develop a plan that was appropriate for the area of knowledge of mathematics, aiming to contribute to a specific research process.

It is worth mentioning the guidelines of several authors, as represented in Table 2 below, collected in several publications by Mendes and Pereira (2020), considering the important suggestions that present, such as:

Table 02 - Steps for preparing a systematic review

Sampaio and Mancini (2007)	**Souza and Ribeiro (2008)**	**Comfort, Amaral and Silgo (2011)**	**Benedict (2014)**	**Martinez-Silveira, Silva and Laguar-da (2014)**	**Donato and Donato (2019)**	**Okoli (2019)**
Defining the question	Set the question to be formulated	Prohibited: - Problem - Objective	Planning of the systemic review-theme	Definition of question Criteria of selection	Formulate a question	Identify the goal

Looking for the evidence	Search in various sources all the studies reliable approaching the question	Primary sources laughs *Strings*of search	Evaluation of realization of the review, definition of am-bit, between-quadra-ment and objectives of the RS	Sources of search Strategies of search Selection of studies	Produce a protocol of investigation and carry out your record	Plan the protocol and train the team
Reviewing and selecting studies	From criteria clear of inclusion and exclusion, select the studies	Criteria of inclusion Criteria of qualification Methods and tools	Definition of question of search Protocol and RS registration	Construction of the systematic review matics	Define the criteria of inclusion and exclusion	Apply a selection practical action
Analyzing the quality methodological- - study ca	Evaluate your quality	Schedule-mas, process-samen-to Driving of the search	Realization of the revision	Evaluation of quality	To develop strategies of research and research literary	Search for the bibliogra- - daughter
Presenting- - of the results states	Collect data- of each study and appre-sit them down clear form	Analysis of the results Document--tion - Exits - Alerts Registration and file	Location and selection of all Evaluation of quality of studies Scales of the assessment		Selection of studies Evaluation of quality of studies	Extract the data
	Evaluate the heterogeneous- - age between the studies	Summary of results	*Reporting check-cklist* Extraction of data		Extraction of data Summary of data	Rate the quality
		Theoretical models rich	Presentation of the data, anal-lysis and discussion of the results		Publication	Synthesize the studies
			Conclusions, re-commendations and dissemination			Write to revision

Source: (MENDES and PEREIRA, 2020)

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It is understood that for the review to be considered systematic it requires that its foundation be The review should be based on a well-formulated and outlined question, in such a way that it can identify relevant studies on the topic being researched, and that present proven evidence on the topic studied. Therefore, as stated by Brizola and Fantin (2016), the systematic literature review requires the fulfillment of certain "steps that the researcher needs to understand and follow so that the review work is well done, with a view to minimizing problems that may hinder, or even distort, the final report".

It is observed in the literature that authors and institutions detail and may even diverge or particularize the direction and preparation of the RSL in several stages, without losing its essence, in addition to establishing principles for compliance with the protocol. For this research, in attention to the authors surveyed on the subject, we seek to follow the following parameter:

Figure 1: Systematic mapping search protocol

Source: Author's own

This protocol establishes a sequence of activities, which begins with the definition of the research problem, the establishment of a search protocol, where the location of the sources is established. Then, with the selection of the sources, they are evaluated, considering the collection of data to achieve the research, the results and carrying out the related discussions.

In this context, in a preliminary research, publications of books and periodicals, theses, abstracts, databases, university libraries, digital libraries and Scielo – Brazil are used as search fields. Among them, 20 texts were initially highlighted and selected and ordered according to the following table.

Table 03 - Selected studies on the statement, learning and interpretation of texts in mathematics

N.	Year	Author	Title	Objectives	Content
01	2010	ACOSTA	Math problems without problems	Statements of mathematical problems matics	Mathematics applied
02	2012	ALVES	Difficulties in interpreting mathematical problems in the 9th grade: Causes and solutions	Interpretation of problems	Mathematics applied
03	2013	ARIVANA	Understanding statements in solving mathematical problems in elementary education.	Resolution of mathematical problems matics	Pedagogical Didactics mathematical logic
04	2017	BORGUIL MO-RAES LENDT	Interpretation of mathematical statements	Statements of mathematical problems matics	Teaching of mathematics matics

05	2020	CECILIO	Math Lesson Plans: 20 suggestions for working on problem-solving remotely	Resolution of mathematical problems matics	Mathematics applied
06	2016	FISCHER	Interpretation of problem statements	Interpretation of statements	Didactics in mathematics
07	2020	LOPES KATO	Reading and interpreting math problems in elementary school	Reading and interpretation problem solving	Mathematics applied
08	2018	MAFFI	Problem Solving: calculation and interpretation involving the four basic operations	Resolution and inter-problem interpretation but mathematicians	Pedagogical Didactics mathematical logic
09	2020	MARTINIQUE GREGORY	Promoting social equity in the school education system through the use of Information Technology. The case of the CEIBAL Plan, Uruguay	Teaching and learning zagem	Pedagogical Didactics mathematical logic
10	2013	MOSQUE	The interpretation of mathematical statements and problem solving.	Interpretation of statements	Mathematics applied
11	2012	OLIVEIRA	Reading, interpretation and solving mathematical problems for 5th grade elementary school students.	Reading, interpreting tion and resolution of material problems matics	Mathematics applied
12	2018	OLIVEIRA	Interpretation of mathematical problem statements.	Teaching and learning material handling matics	Pedagogical Didactics mathematical logic
13	2019	ORTEGA	Mathematics teaching	Teaching and learning zagem	Pedagogical Didactics mathematical logic
14	2011	PAVANELLO LOPES ARAUJO	Reading and interpretation of school mathematics problem statements by elementary school students	Teaching and learning material handling matics	Mathematics applied
15	2019	PEAR, PEREIRA and PEAR	Textual production in mathematics: interactive language practices and mathematical problem solving	Production and resolution problem solving	Mathematics applied
16	2021	RODRIGUES MAGALLAES	Problem solving in mathematics classes: diagnosing pedagogical practice.	Resolution of mathematical problems matics	Pedagogical practice magic
17	2017	ROSENBAUM	Comparative study on Mathematics Education present in curricula prescribed for Secondary Education, in Brazil and Uruguay	Teaching and learning material handling matics	Mathematics applied
18	2012	SOARES, SAINT MAURO	Do your students know how to interpret problems?	Teaching and learning material handling matics	Pedagogical Didactics mathematical logic
19	2019	FOREHEAD TELLEZ	Uruguayan teachers confronted with the implementation of the Mathematical Adaptation Platform to learn and teach Mathematics	Teaching and learning material handling matics	Pedagogical Didactics mathematical logic

Prepared by the Author.

It is observed that the selected texts present mathematics as a fundamental factor, the reading of statements, their interpretation as well as the resolution of mathematical problems. They also refer to address the teaching-learning binomial of mathematics, as well as the production and resolution of mathematical problems, also focusing on didactics, the pedagogical practice of teaching mathematics, including its application in the daily lives of students.

However, one work stands out, that of Martinic and Gregório (2020), who consider the importance the introduction of technology in teaching in general, practiced in Uruguay, valuing the rise of information as facilitators of teaching and learning, a measure that interferes with the success of teaching mathematics, whatever the series of its application.

Thus, the choice of the Systematic Literature Review (SLR) for the development of this research

Its main characteristics are the fact that it presents, under rigorous procedures, qualities such as transparency, impartiality, the possibility of being replicated and the fact that it provides, when necessary, for conferences, audits and confirmation of data to continue the research, whenever necessary (MAIA, 2020).

From the study carried out, it can be concluded that the systematic literature review is a detailed research modality, which requires specific protocols in order to establish clear foundations for the question, researched in bibliographic databases. In its detailing, the queries are aimed at selecting scientific articles and submitting them to analysis in such a way that, in the end, evidence is found that can serve as a reference for reaching defined answers.

A systematic literature review requires a high level of evidence that safely guides researchers to the results and conclusions needed to support their work.

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