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Factors contributing to learning losses among primary school children: a scoping review

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Article Info

ABSTRACT

Learning loss pertains to the decline or regression in knowledge and abilities, as well as setbacks in academic advancement. This phenomenon typically arises from prolonged interruptions or gaps in the pupil's educational journey. Learning loss can be observed in diverse manifestations due to many factors. One example that can be illustrated is the disruption of formal education due to the COVID-19 pandemic that struck the world in 2019. As a result, this phenomenon has impacted students' academics, whether at the school level or higher education institutions, especially primary school students, thus causing learning poverty. This scoping review aims to identify the degree of reading literacy among primary school students and to investigate the factors that contribute to the learning losses of primary school students from the reading aspect. Four databases, including Scopus, Education Resources Information Center (ERIC), Bielefeld Academic Search Engine (BASE), and Directory of Open Access Journals (DOAJ), were used in this research, which found 40 articles for eligibility. Only 20 articles are eligible for analysis and reference after the exclusion and inclusion process for data collection. The findings show that learning losses have impacted the education sector, leading to poverty, especially among primary school children.

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1.   INTRODUCTION

The global impact of the COVID-19 epidemic has given rise to a significant academic setback known as learning loss. This catastrophe has compelled educational institutions, including schools and colleges, to undergo prolonged closures and could lead to skill loss [1] if no prevention is taken. The closing of these educational institutions has disrupted formal education, as students worldwide are compelled to engage in online learning sessions [2], [3]. The influence of this phenomenon is seen in the scholastic achievements of individuals, particularly in the context of primary school pupils. The decrease in academic performance has been attributed to the phenomenon known as learning poverty [4], which has been spreading widely among students at all education levels.

The World Bank reported that 53 percent of children in low and middle-income nations cannot read and comprehend basic text by completing their primary education [5]. Thus, in order to target a better quality

of education for everyone, especially for primary students in developing countries, the crisis or learning loss should be overcome as the most important factor for attaining many other sustainable development goals (SDGs) is education [6]. Anyone can escape the poverty cycle when given access to high-quality education [7]. Education contributes to gender equality and reduces inequities [8]. Additionally, it encourages individuals everywhere to live more sustainably and healthfully. Education is also essential for promoting interpersonal tolerance and creating a more peaceful society [9].

The primary objective of this scoping review is to highlight the significance of learning losses and parental perceptions towards such issues. This is accomplished through an extensive collection and synthesis of past studies to establish a comprehensive overview of this domain's current state of knowledge. Furthermore, unforeseen events such as the pandemic have yielded unwelcome implications concerning learning losses. The outcomes of this scoping review are poised to enhance the understanding of educators and parents, thereby raising awareness about the issues under examination. A total of 20 articles were identified and analyzed that contribute substantially to this scoping review, offering diverse research perspectives and empirical insights that augment our comprehension of the subject matter. These studies are relevant to the research focus, specifically the parental perspectives on learning losses among primary school children.

2. METHOD

The current scoping review was conducted using preferred reporting items for systematic reviews and meta-analyses (PRISMA) standards [10] to ensure data analysis and reporting quality and accuracy in this scoping review. The methodological framework proposed by Arksey and O'Malley [11] was utilized in the present scoping review, which consists of the following steps: i) formulating research questions; ii) identifying pertinent studies; iii) selecting relevant studies; iv) organizing and extracting data; and v) synthesizing, summarising, and reporting the findings. Although many factors contribute to learning loss among primary school children, there is still zero awareness about the crisis of these academic setbacks. Table 1 provided the six significant research questions constructed based on the research objectives of the population-concept-context (PCC) framework to be a guideline in this scoping review.

Table 1. Research questions created based on PCC

No.	Research questions	Specific objectives
1.	How are the previous studies on learning losses distributed?	To examine the temporal and geographical setting of previous research
2.	What are the research designs used by previous studies on learning losses?	To identify the research design employed in previous studies on learning losses
3.	What are the research purposes of previous studies?	To examine the study objectives of previous investigations on children's learning losses
4.	What are the factors found in the previous studies on learning losses?	To examine the factors contributing to learning losses in previous studies
5.	What are the findings of the previous studies on learning losses?	To provide the findings of previous research on learning losses among children.

Upon formulating the research questions, this scoping review progressed by identifying pertinent studies and sources of information. The search strategy will endeavor to retrieve both peer-reviewed and unpublished studies. A preliminary restricted search was conducted to identify articles about learning loss. The main words found in the titles and abstracts of the applicable articles and the index terms used to define the articles were utilized to formulate a comprehensive search strategy for Scopus, Education Resources Information Center (ERIC), Bielefeld Academic Search Engine (BASE), and directory of Open Access Journals (DOAJ). The search strategy, encompassing all identified keywords and index terms, will be applied on each database AND/OR source of information included: (parent OR guardian) AND ("Language Loss") AND (Primary OR Elementary) AND (Child OR Student OR Pupil). The study selection undergoes an exclusion and inclusion stage, which the criteria set as tabulated in Table 2. The data is gathered to extract the subsequent components of the study: authors, publication year, country of origin, study source, study objective, research methodology, study elements, and outcomes.

Table 2. Inclusion and exclusion criteria

No.	Inclusion criteria		Exclusion criteria
1.	Articles published within 2019-2023	1.	Irrelevant context
2.	Related to context	2.	Not related to learning loss
3.	Text in the English language	3.	Language other than English
4.	Available in full-text access	4.	Not related to primary children

3. RESULTS AND DISCUSSION

The search string successfully identified 97 from four databases, which are Scopus, ERIC, DOAJ, and BASE. Based on Figure 1, extraction from the Scopus database found 16 titles. ERIC resulted in 45 titles; 22 were extracted from DOAJ, while 14 were downloaded from BASE. Out of the 97 articles from various sources, we excluded six duplicated titles, resulting in the remaining 91 titles being screened for eligibility. Moreover, 51 articles were excluded from the previous process by their title and abstract. Therefore, a total of 40 articles were moved forward for eligibility evaluation through the process of information and data extraction. Among the remaining articles, 20 were excluded from the evaluation based on multiple reasons, including articles that were found to be written in languages other than English and not related to primary school children. Besides, there were articles unrelated to learning loss and irrelevant content. As a result, 20 articles were selected for this scoping review as listed in the matrix of past studies as shown in Table 3.
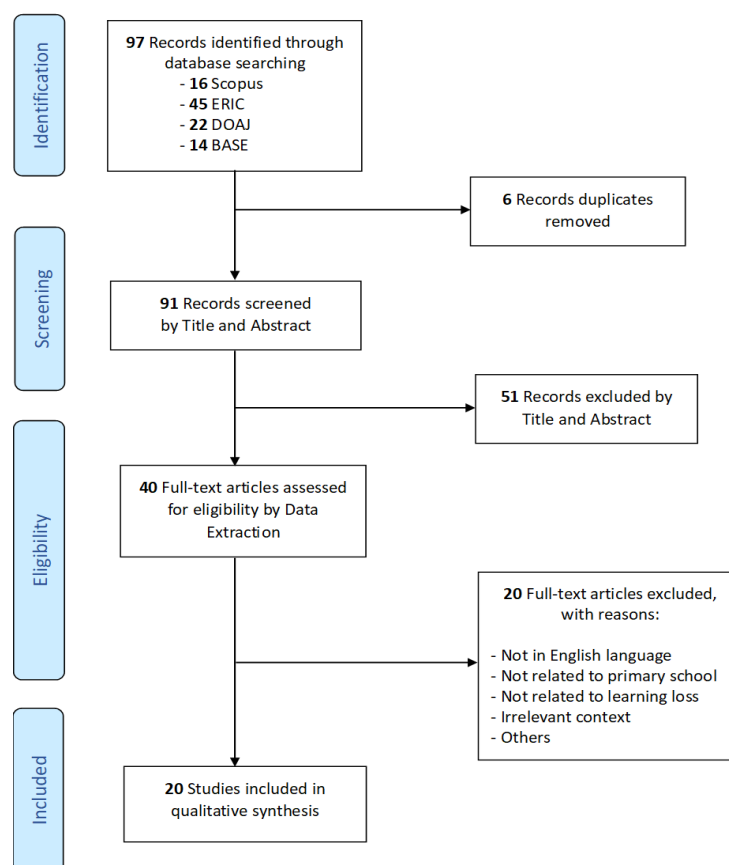

Figure 1. PRISMA flow diagram

3.1. Distribution of past studies

The studies that were included in this review were published between the years 2019 and 2023. In 2019, two articles [15], [24] found research on parental involvement. Furthermore, only two articles were found in 2020 [25], [27], while there were seven articles [12], [19], [20], [22], [28], [29], [31] were found in 2021 in relation to parental involvement, mother tongue, distance learning, economic, socio-economic status, school closure, rotational timetabling schedules. As for 2022, five articles[17], [18], [23], [26], [30] were related to the topic of the study. In 2023, four articles were found [13], [14], [16], [21] that discuss teacher's support, teacher performance competencies, summer vacation, and parental involvement respectively.

As to the distribution by country, the highest number of studies were conducted in Indonesia with n = 4 [14], [18], [20], [21] and South Africa with n=3 [15], [19], [31] respectively. Meanwhile, nine countries, namely India [25], Nigeria [24], Malaysia [27], United Kingdom [28], Canada [12], Pakistan [29], Finland [26], China [23], and Mexico [30] were recorded with one study for each country. Meanwhile, countries such as Turkey [16], [22] and the United States [13], [17] have conducted two studies for each country.

Table 3. Matrix of past studies

Distribution	Country	Research design	Factors
Hillier [12]	Canada	Observation, Interview	Parental involvement
Aukerman and Aiello [13]	United States	Literature review	Teacher's support
Setyowati et al. [14]	Indonesia	Clinical supervision model	Teacher performance competencies
Visser et al. [15]	South Africa	Stepwise multiple regression analysis	Parental involvement
Baş [16]	Turkey	Meta-analysis model	Summer vacation
Sonnenschein et al. [17]	United States	Exploratory study	Learning environment
Mufti [18]	Indonesia	Semi-structured, online interview	Parents' consideration of book selection
Vos and Fouché [19]	South Africa	Non-empirical research, literature review	Mother tongue
Hasudungan and Ningsih [20]	Indonesia	Descriptive qualitative research	Distance learning
Widodo et al. [21]	Indonesia	Interview	Parental involvement
Şengönül [22]	Turkey	Quantitative surveys	Economic
Yaqiong, et al. [23]	China	Mixed methods	Time constraint
Kiyawa [24]	Nigeria	Interview	Parental involvement
Arulmozi and Bapuji [25]	India	Qualitative analysis	Socio-economic status
Lerkkanen et al. [26]	Finland	Experimental research design	(a) Gender, (b) Parental education, and (c) Task avoidance
Pek and Mee [27]	Malaysia	Questionnaires, phone interviews	Parental involvement
Booth et al. [28]	United Kingdom	Qualitative observation	Socio-economic status
Khan and Ahmed [29]	Pakistan	Estimation technique, logit model	Economic
Hevia et al. [30]	Mexico	Interview	Distance learning
Ardington et al. [31]	South Africa	Quasi-experimental approach	(a) Distance learning, and (b) Rotational timetabling schedules

3.2. Research design used in past studies

From the accumulated 20 studies, n=17 were fully qualitative studies, followed by n=1 was fully quantitative study. Meanwhile, two studies [23], [27] used a mixed-method research design. A total of n=5 studies [12], [14], [17], [25], [28] employed observation as instrument. In addition, n=8 studies [12], [17], [18], [20], [21], [24], [27], [30] used interviews and semi-structured interviews as part of the study pertaining to learning losses. Of the 17 qualitative studies, n=3 [13], [16], [19] were conducted using literature search and meta-analysis. Meanwhile, n=3 studies [19], [26], [31] were conducted using experimental research. There was n=2 studies that applied questionnaire surveys and statistical studies respectively.

3.3. Research aim of past studies

Table 3 shows relevant past studies on learning losses. The educational factor categories [12], [13], [26], [27], [30], [14], [15], [17]–[21], [24] were found to be the most primary aims of the study as there were n=12 articles investigating about it. Next, the category such as the socio-economic factors category [22], [25], [28], and time-related factor category n=3 studies [16], [23], [31] were found to be discussed articles respectively. Meanwhile, on the other hand, only the n=1 article [26] aimed to investigate the scope of behavioral factors.

3.4. Factors of study

Four major factors influence learning losses in education. The educational factors had recorded n=13 articles [12], [13], [26], [27], [30], [14], [15], [17]–[21], [24], while socio-economic factors [22], [25], [28] listed in n=3 articles about socio-economic status, economic and gender which are the ultimate aims of each article respectively. Meanwhile, a category such as time-related factors has n=3 articles that discuss rotational timetabling schedules [31], time constraints [23], and summer vacation [16]. Another aspect involving behavioral factors is the n=1 article [26] that discusses task avoidance.

3.5. Findings of past studies

This scoping review showed remarkable findings that could be identified from the 20 articles included. The first findings were the learning challenges and loss faced by the students in n=5 studies [12], [13], [20], [21], [26] while findings on family and parental involvement within n=6 studies [15], [17], [22]–[24], [27]. Results from n=3 studies [29]–[31] show the educational impact on learning loss. Furthermore, the findings on teacher and school factors were discovered in n=2 studies [14], [19] and the socio-political factors [16], [18], [25], [28] were provided in n=4 studies.

Learning loss awareness among parents, guardians, and teachers is important to address the emerging educational challenges students face inside and outside formal learning settings. In addition, when parents and guardians are aware of learning loss, they can take an active role in their child's education by directly discussing with teachers and administrators to ensure their child receives the support they require. Learning loss awareness

aims to ensure that every student has an equal opportunity to pursue a successful academic career by addressing both immediate problems and long-term effects. This review identified approximately four major factors contributing to the highest percentage of learning loss among primary school children.

3.5.1. Educational factors

Developing language proficiency among children is necessary to ensure that all children receive a proper education [32]. Focusing on learning outcomes helps children shape self-motivation, which positively impacts each student's performance and internal satisfaction [33]. However, the recent pandemic undoubtedly shifted the dynamic as the total percentage of students worldwide impacted by it reached 94%, with a total of 1.6 billion learners [34]. The closure of schools leads to changes to formal education - be it physical or distance learning students' essential knowledge and skills necessary for personal and intellectual advancement. Consequently, stopping formal education may negatively impact students' educational outcomes in all related aspects [35].

3.5.2. Socio-economics factors

Socio-economics is one of the most discussable issues in every context of studies. Socio-economic disadvantage is a specific type of vulnerability students experience, often narrowly defined based on parental income, education level, and occupational prestige [36]. Children from higher socio-economic status backgrounds have more advanced language skills than their counterparts from lower socio-economic strata of the same age [37]. This can be seen in various aspects of learning, such as the vocabulary, grammar, and communication context, where they were exposed within the education context of language usage earlier to be compared with children or students from lower socio-economic status [38]. Moreover, previous research drew on various SES indicators, investigating the relationship between students' family background and academic language proficiency [39], [40]. In contrast, most of these studies identified the number of books at home as a significant predictor of students' academic language comprehension [41].

3.5.3. Time-related factors

When discussing time, it highlights the time restraint between the education context and the children and the time spent between parents and children [42]. We also will be able to come to understand how complex and important this factor is in a child's language development. The parental support and motivation factors were the most effective contribution to developing children's positive emotions and learning attainment [43]. Parents and other guardians are crucial in helping children regulate emotional arousal, develop coping mechanisms, and effectively manage their behavior [44], [45]. They fulfill this function by offering constructive affirmations, expressing affection and admiration, and fostering safety [46].

3.5.4. Behavioral factors

An individual who purposely avoids or puts off finishing a task or activity is said to experience motivation issues, such as engaging in task avoidance [47]. The immense challenges of providing children's education during the pandemic can amplify existing inequities further and widen the persistent educational gap [48], [49]. This may happen for various reasons, such as stress, a fear of failure, a lack of motivation, or feeling overwhelmed by the activity. These factors can happen in line with the language loss phenomenon among students. Not to forget to mention the related issues of attention deficit hyperactivity disorder (ADHD) among the learners. This behavioral issue can be troublesome as its effects could be considered factors contributing to the gradual decline of language proficiency [50].

4. CONCLUSION

This review provides more insight into how parents perceive and react to the issues related to their children's development within the education context. Roles involved could range from external factors, such as the pandemic's drawbacks, to internal factors, such as the motivation difficulty among the students and the parents. At the same time, all parties involved need to play their roles to ensure that no matter what potential obstacles we have in the future, they do not become a major hindrance to our children and increase our awareness to construct a proper plan of action and strategy to overcome these issues if they ever arise again in the future. In brief, the conclusions of this scoping review highlight the importance of continuous collaboration, adaptation, and strategic planning to guarantee children's sustained growth and achievement within the context of education.

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