

ORIGINAL ARTICLE

Educational Loss among Students with Special Educational Needs and Disabilities during COVID-19 in Lebanon

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Ethical Statement

Consent forms were distributed. Ethical board approval was granted (No: LIUIRB-240504-AHEA-350).

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Conflict of Interest

No conflict of interest is present in the conduction or the reporting of this study.

ABSTRACT

The COVID-19 pandemic affected various industries, including education, around the world. Students with special educational needs and disabilities (SEND) were disproportionately affected by school closures during the pandemic, leading to considerable educational setbacks. This study aims to explore the educational loss among students with SEND during the COVID-19 pandemic in Lebanon through a phenomenological research design. Data were collected using maximum variation purposive sampling from 6 inclusive teachers (IT) and 5 inclusive school principals (ISP) selected from 9 schools across Lebanon's 8 governorates through semi-structured interviews. Findings revealed that students with SEND experienced significant educational loss across learning, social, psychological, and physical dimensions, with variations in the scope and extent of the impact. To address this loss, schools used 5 key strategies. Three focused on academics, while the other 2 aimed at social, psychological, and physical recovery. This study offers recommendations for policy makers and practitioners, highlights limitations, and suggests directions for future research.

Keywords: Educational loss, Learning loss, Special educational needs, Disabilities, COVID-19.

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INTRODUCTION

Background

The novel coronavirus pandemic (COVID-19), which emerged in late 2019, has negatively and disproportionately affected different sectors in almost all countries around the world. Education is one of the sectors that have been greatly affected by the COVID-19 outbreak in the form of forced closure of educational institutions and sudden and unplanned shift to online learning modality. According to the World Bank (2020a) and the United Nations [UN] (2020), 94% of students globally, or around 1.6 billion students (Azevedo et al., 2020), were out of school at the peak of the pandemic. Moreover, this rate rose up to 99% in Low-and-Middle Income Countries [LMICs] (UN, 2020).

Prior to the emergence of the COVID-19 pandemic, education systems worldwide were already in a learning crisis (World Bank, 2020a), with 258 million grade 1-12 students were not attending school (United Nations Educational, Scientific, & Cultural Organization [UNESCO] Institute for Statistics, 2020), and the rate of learning poverty was 53% in LMICs (World Bank, 2019). This means that more than 50% of all children aged 10 were not able to read and demonstrate comprehension of a simple text (World Bank, 2019).

Based on a simulation study by Azevedo et al. (2020), under a conservative 5-month school closures scenario, 0.6 year of basic schooling could be lost, resulting in a decline from 7.9 years to 7.3 years. Azevedo et al. (2020) add that there could be an increase in learning poverty by 10%, from 53% prior to the pandemic to 63% during it. They highlight that vulnerable groups, including students with special education needs and disabilities (SEND), may be subject to increased levels of marginalization, inequity, and exclusion because of the pandemic. Students with SEND may exhibit a wide range of challenges, which include: learning difficulties (LD); chronic health problems; psychosocial disorders; intellectual impairments; physical impairments; visual impairments; hearing impairments; and speech, language and communication impairments (United Nations Relief and Works Agency [UNRWA] for Palestine Refugees in the Near East, 2013). Students with SEND have limited access to online learning resources and are less likely to return to school after the pandemic (Azevedo et al., 2020). The World Bank (2020b) argues that school closures during the COVID-19 pandemic will cause learning loss, rising student dropout rates, particularly among the most disadvantaged and marginalized student groups, and escalating inequality. Moreover, extended school closures would result in different types of losses among students across different educational cycles. While learning loss refers only to learning opportunities and experiences involuntarily missed by students due to forced school closures, educational losses comprise learning, social, psychological, and physical losses experienced by students for the same reason. In line with this, Demir et al. (2022) contend that students experience different types of problems, including learning, social, emotional, psychological, and behavioral problems, and increased student dropout rates, due to school closures. Such individual and social losses will take place in case schools do not develop and implement plans for compensation (Demir et al., 2022). Despite the attempts by educational systems to avoid learning losses through implementing online learning modality during school closures, learning losses were likely to occur due to three reasons (Demir et al., 2022). They are as follows: limitations of online learning modality, shortened education periods in comparison with normal education, and difficulties students encounter while trying to have access to educational opportunities (Demir et al., 2022).

Research Problem

Lebanon, an Arab country located in the Middle East, is a lower-middle income country after being classified as an upper-middle income country for 25 years (Hamadeh et al., 2022). It was one of the countries that were heavily



impacted by the COVID-19 pandemic. The Ministry of Public Health (2024) states that Lebanon, as of January 10, 2024, has reported around 1.25 million confirmed COVID-19 cases, with around 11, 000 deaths. This represents a significant portion of the total resident population of Lebanon of roughly 7.12 million people consisting of 5.4 million Lebanese citizens (United Nations Population Fund, 2024); estimated 1.5 million displaced Syrians (Government of Lebanon & UN, 2023), of whom 784, 844 are registered with the United Nations High Commissioner for Refugees [UNHCR] (2023); 211, 400 Palestinian refugees (Government of Lebanon & UN, 2023); and 11, 645 refugees of other nationalities (UNHCR, 2023). The refugee population, around 1.72 million, makes up around 32% of Lebanon's 5.4 million citizen population. These refugee figures have made Lebanon the country hosting the highest number of refugees per capita and per square kilometer in the world (Government of Lebanon & UN, 2023; UNHCR, 2023).

Since 2019, Lebanon has been facing unprecedented financial, economic, health, and social crises (Government of Lebanon & UN, 2023), political unrest, and impacts of the Beirut port blast which took place on August 4, 2020 (Ministry of Education & Higher Education [MEHE], 2021). According to the World Bank (2021), the Lebanese economic and financial crisis could be considered one of the top three most critical crises around the world since the mid-19th century. This multi-faceted crisis significantly affected all populations and sectors in Lebanon, including the educational sector (MEHE, 2021).

The World Bank (2020c) and Pushparatnam et al. (2023) contend that prior to the emergence of the COVID-19 pandemic, the effective or actual learning time for the average Lebanese student is 6.3 learning-adjusted years of schooling (LAYS) out of 10.2 years of schooling students undergo in Lebanon. Hence, there is a loss of 3.9 years of schooling in normal situations for students during their educational journey in Lebanon (Shaaban, 2023). The average of 6.3 years of effective learning is less than the median for the Middle East by 1.6 years (World Bank, 2020, as cited in MEHE, 2021). Moreover, there has been reduction in effective learning time caused by school closures due to the multi-faceted crisis in Lebanon (MEHE, 2021). Pushparatnam et al. (2023) argue that, based on a simulation model for learning loss developed by Azevedo et al. (2021), students in Lebanon experienced 1-1.2 LAYS a result of COVID-19-related school closures.

According to a decision by the Lebanese Minister of Education, schools were kept closed between the end of February 2020 and April 2021, for 49 weeks (Save the Children, 2022), except for hybrid learning schooling for a short period of time in October 2020 (MEHE, 2021). This closure resulted in students' completion of around 50% of the scheduled schooling days in the school year 2019/2020 (MEHE, 2021). This also applied to the school year 2020/2021 yet with a condensed curriculum (MEHE, 2021). Afterwards, schools unevenly opened as of April 2021 (MEHE, 2021).

In response to the schools closure, educational institutions had to shift to remote learning modality starting March 2020 during the COVID-19 pandemic within a three-track National Distance Learning Project: online, television, and paper-based (MEHE, 2021). However, MEHE did not amend educational curriculum objectives and content to comply with the requirements of online educational model (Shuayb & Doueiry, 2023). In addition, Shaaban (2023) argues that the online learning experience during the COVID-19 pandemic was not successful, and education quality decreased. Pushparatnam et al. (2023) emphasize that the educational disruptions due to the COVID-19 pandemic affected all students disproportionately. One of the learner groups who were heavily impacted by these disruptions were students with SEND. Furthermore, MEHE did not offer reasonable accommodations or online educational equipment, such as tablets or laptops, for students with SEND (Shuayb & Doueiry, 2023); this hindered their access to remote learning opportunities and compromised their learning experiences and outcomes. As schools closure spanned 49 weeks during the school years 2019/2020 and 2020/2021 (Save the Children, 2022) and 11-25 weeks during the

school year 2022/2023 in public schools, many educational losses, including significant learning loss (Chahine et al., 2024), would have been observed in students, particularly those with SEND.

Significance of the Study

Bozkurt et al. (2022) argue that most research on the COVID-19 pandemic has been conducted in health sciences. They, however, note that there is a noticeable lack of studies addressing the impacts of the pandemic in education, humanities, and social sciences. They add that there is a need to conduct more research on the COVID-19 pandemic in education given the large impact of the pandemic on teaching and learning and on related education stakeholders, as well. In addition, Namkung et al. (2022) contend that limited empirical data are available for evaluating the COVID-19 pandemic actual impact on student learning. In line with this, Di Pietro (2023) highlights the need for more research on the impact of the pandemic on student learning.

A mounting body of research has been conducted on learning loss due to COVID-19-related school closures around the world. However, Betthäuser et al. (2023) and Hevia et al. (2022) indicate that there is a lack of learning loss estimates in LMICs or in countries which enforced extended school closures. Patrinos et al. (2023) and Donnelly and Patrinos (2022) emphasize that more research on learning loss is needed, particularly in LMICs. Similarly, few studies (Bazzi, 2023; Chahine et al., 2024; Shaaban, 2023; Shehayeb, 2023; Shuayb & Doueiry, 2023) have addressed the impact of the COVID-19 pandemic on education and the incurred learning loss in Lebanon, with only one study (Shuayb & Doueiry, 2023) targeting the pandemic impact on the education of persons with disabilities. Moreover, MEHE (2021) notes that there is no accurate and reliable measurement of the magnitude and scope of the learning loss in Lebanon. Furthermore, no studies have yet been conducted on the educational loss due to the COVID-19-related school closures among students in general and students with SEND in specific, as well. Hence, there is a need for such research in Lebanon, knowing that it is a lower-middle income country that enforced extended school closures for 49 weeks during the school years 2019/2020 and 2020/2021 (Save the Children, 2022) and for 11-25 weeks in the school year 2022/2023 in public schools (Chahine et al., 2024).

This study contributes to a deeper understanding of the impact of the COVID-19 pandemic on the education of students with SEND and the incurred educational loss. It represents the first attempt to explore the educational loss among students in general and students with SEND, in specific, up to the researcher's knowledge. The findings can heighten teachers' sensitivity to the unique experiences and needs of students with SEND during the pandemic. This can help build stronger relationships and fosters a more empathetic classroom environment. In addition, by understanding the areas of educational loss, teachers can develop more targeted strategies to address them. Overall, this study can equip teachers with valuable insights and practical strategies to ensure a smoother transition back to normalcy and address the unique needs of this student population.

Purpose of the Study

The purpose of this study is to explore the educational loss students with SEND have experienced due to school closures during the COVID-19 pandemic in Lebanon. Specifically, it aims to achieve these two objectives: (1) examine perceptions of inclusive teachers (IT) teaching students with SEND in mainstream classes and of inclusive school principals (ISP) on the nature, scope, and extent of the educational loss among students with SEND; and (2) investigate the mechanisms implemented by their schools for addressing the educational loss.

The nature of loss refers to the kind of loss students with SEND have experienced. It pertains to the specific



areas impacted. In addition, the scope of loss describes its breadth. It highlights which parts of the student population with SEND across gender, educational cycle, and SEND category were most affected. Finally, the extent of loss refers to its severity. It provides an initial indicator of the seriousness of the educational setback by considering the amount of schooling time lost.

This study seeks to answer the following two research questions:

1. *What are the perceptions of IT and ISP on the nature, scope, and extent of educational loss among students with SEND during the COVID-19 pandemic in Lebanon?*
2. *What mechanisms have been implemented by their schools for addressing the educational loss?*

LITERATURE REVIEW

Learning Loss among Students during the COVID-19 Pandemic

The COVID-19 pandemic has resulted in different kinds of losses for students across different grades around the world. Such losses go beyond the learning dimension to include social, psychological, and physical gaps, and are referred to as educational loss. Moreover, the COVID-19-related educational disruptions have disproportionately affected students (Pushparatnam et al., 2023), with students with SEND having been among the heavily impacted student population.

The learning loss has been the most investigated aspect of student loss due to the COVID-19-related school closures in the last three years worldwide. The Glossary of Education Reform (2013) defines learning loss as “any specific or general loss of knowledge and skills or to reversals in academic progress, most commonly due to extended gaps or discontinuities in a student’s education” (para. 1).

The COVID-19 pandemic exacerbated the achievement gap and widened educational inequity among students with more effects on students from disadvantaged backgrounds (Araya et al., 2022; Bartholo et al., 2023; Engzell et al., 2021; Kuhfeld et al., 2022; Pozas & Letzel-Alt, 2023; Shehayeb, 2023; Zhang et al., 2021). In their longitudinal study, Bartholo et al. (2023) found a learning loss of 35% in mathematics and language among 671 second-year preschool students due to COVID-19-related school closures in Rio de Janeiro, Brazil. They also indicated that students with low socioeconomic status experienced more learning loss than other students (52%). A study by Engzell et al. (2021) revealed a learning loss of 20% of a school year among students in the Netherlands in spelling, reading and mathematics, with students from less-educated families experienced learning loss that was up to 60% greater than their peers. Araya et al. (2022) reported that grade one and four students in Ethiopia experienced numeracy loss of minimum one-third of a school year in the 2020/2021 school year compared to the 2018/2019 school year before the pandemic. They added that considerable learning achievement differences were observed among students in favor of male students, students in urban schools, and those coming from wealthy families. Demir et al. (2022) explored perceptions of 26 teachers regarding learning losses experienced by students in Turkey during the COVID-19 pandemic using phenomenology design. They found that six different facets of learning losses were identified in the students: academic losses, skill development losses, educational equality loss, psychological losses, health and safety loss, and social losses. Shaaban (2023) examined the learning loss in biology among secondary school students due to the economic crisis and the COVID-19-related school closures between 2019 and 2022 in Lebanon. She found a significant learning loss, with more than half of the biology curriculum in grades 10, 11 (scientific section), and 12 (life sciences section) was not covered, and the quality of Lebanese official exams for grade 12 students declined, as well. Another similar study by Shehayeb (2023) investigated the learning loss in mathematics among secondary school students as a result of the

Lebanese economic crisis and the COVID-19-related school closures during the period 2019-2022. The findings revealed a significant learning loss in mathematics accompanied by deterioration in the quality of grade 12 Lebanese official exams, as well. They also exposed that students in public schools experienced much more mathematics loss compared to students in private schools, who normally belong to a higher socioeconomic class, in addition to disparity in the loss among governorates (Gov.) due to security and socio-economic factors. Similarly, Chahine et al. (2024) assessed learning loss in mathematics, Arabic, and English among students in grade 10 across public schools in five Gov. in Lebanon. They found significant weaknesses in these subjects. In addition, Fuchs et al. (2023) discovered dramatically more severe learning loss among grade two students with comorbid LD in mathematics word-problem solving and reading comprehension in comparison with the general student population in the southeastern United States. Furthermore, Suwathanpornkul et al. (2023) explored perceptions, perspectives, and experiences of 12 primary and secondary school teachers on learning loss and psychological health issues among Thai students during the COVID-19 pandemic. They indicated that students experienced learning and psychological losses. Learning losses encompassed losses in the following aspects: cognitive skills and knowledge linkages, positive attitudes toward learning and school subjects, desirable characteristics of students, literacy and numeracy skills, scientific and laboratory skills, and life skills, relationships and collaboration skills (Suwathanpornkul et al., 2023). Moreover, psychological losses comprised decline in motivation, readiness, confidence, and attention; negative emotions, broken relationships, and bad mental health; and decrease of parents' compassion and support (Suwathanpornkul et al., 2023). Similarly, Lee (2020) in a global review examined the effects of school closures on students' mental health during COVID-19. He found increased behavioral problems, including aggression, among students with disabilities. Cenedese and Spirovska (2021) examined learning experiences of marginalized students with poor and migrant background within remote learning during the COVID-19 pandemic in two local areas in North Macedonia and Italy. They highlighted that those students were marginalized, resulting in their learning interruption and absence from classes. Finally, Pozas and Letzel-Alt (2023) discovered that students with SEND had considerably worse coping with remote learning and higher levels of negative activation during the pandemic than students without SEND in Mexico.

Contrary to expectations, recent studies have revealed not only an absence of learning loss among students during the COVID-19 pandemic (Hallin et al., 2022), but also an evidence of learning gains (Iqbal & Patrinos, 2023). Hallin et al. (2022) investigated potential reading learning loss among primary school students in grades one to three during the COVID-19 pandemic in Sweden. They found those students did not experience any learning loss in comparison to their scores prior to the pandemic. They highlighted that students with low socio-economic status were not particularly affected, as well. Iqbal and Patrinos (2023) examined how COVID-19-related school closures affected student learning in Uzbekistan. They found that the mathematics scores of grade five students unexpectedly improved despite school closures.

Mechanisms for Addressing the Educational Loss

Educational loss is a critical issue which needs urgent yet thoughtful interventions to avoid negative short and long-term impacts on student learning, especially those with SEND, to avoid learner demotivation and disengagement, decline in academic achievement, potential dropout, and escalating educational inequality.

The New York State Education Department [NYSED] (2021) set three priorities within its state American Rescue Plan (ARP) for schools to focus on during the COVID-19 pandemic: (1) compensating the lost instructional time and closing academic achievement gaps among students, (2) supporting students socially and emotionally, and (3) implementing data-driven interventions. These efforts will help develop a holistic approach to supporting students



academically, socially and emotionally (NYSED, 2021).

According to the United States Department of Education [US DOE] (2021) and the NYSED (2021), the following mechanisms can be used to mitigate learning loss: extending the school day, implementing after-school programs, operating weekend school, organizing tutoring and summer school programs, and utilizing technology. The US DOE (2021) also recommends the following strategies for addressing the learning loss:

- Developing additional online educational evaluation platforms or employing more evaluators for decreasing uncompleted student evaluations
- Hiring additional educational support staff for students with SEND to decrease caseloads
- Implementing positive behavior interventions and mental health programs for students with SEND
- Expanding access to assistive technology for students with SEND in mainstream classes
- Developing programs aimed at helping students with SEND transition successfully into post-secondary activities
- Increasing parental and community involvement

Das et al. (2020) contend that, based on modeling studies informed by past school closures, support programs are the most significant practice for mitigating the negative impact of the COVID-19 pandemic on student learning. Moreover, there would be significant decrease in the learning loss in the long term if intensive remedial programs were well designed and implemented (Kaffenberger, 2020). Such remedial programs are also an essential measure for bridging the achievement gap, which has resulted among students due to the COVID-19-related school closures (Özer et al., 2021).

In response to the learning loss incurred during the COVID-19 pandemic, the Ministry of National Education [MoNE] (2021) in Turkey developed a compensatory education program titled 'I'm in Compensation Program'. The program was designed to last for approximately two months during the summer vacation and aimed to support students academically, socially, emotionally, and physically through academic, social, cultural, and physical activities (MoNE, 2021). Karbeyaz and Kurt (2022) examined opinions of 19 teachers on that compensatory education program. They revealed positive academic and social outcomes for the program. They also found that the program led to increased student happiness and a positive disposition towards learning.

According to Özer et al. (2021), the Turkish MoNE launched the Turkish National Remedial Program (TNRP) following the school re-openings that started in March 2021 to compensate for the learning loss students have experienced. The program was structured into two phases, with the first phase focused on the most disadvantaged students, who had the lowest access to and participation in remote learning, as an emergency remedial program (Özer et al., 2021). The second phase targeted all students in all schooling cycles and aimed to provide academic support for them during the summer vacation (Özer et al., 2021). Özer et al. (2021) sought to evaluate the structure of the second phase of the TNRP by comparing it against international standards and best practices for remedial programs using document analysis. They exposed that the structure of the TNRP met the international standards for remedial programs.

Below are some strategies used by governments around the world to maintain learning continuity and mitigate learning loss (UNESCO, 2021; UNESCO et al., 2020):

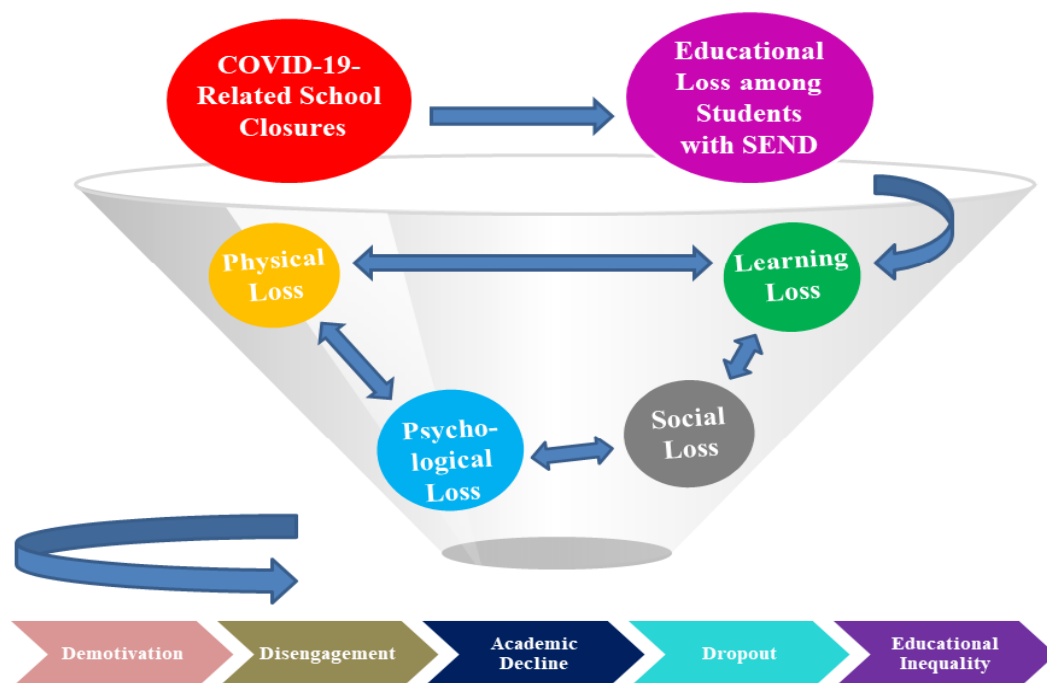
- Supporting mental and well-being of students and teachers
- Modifying the school calendar and schedule for extended instructional time and remedial support
- Adjusting the curriculum in terms of content, structure, and implementation

- Developing and implementing catch-up/remedial programs
- Implementing virtual and hybrid learning
- Identifying students' learning needs through planned assessment
- Focusing on the most vulnerable and disadvantaged student groups, including students with SEND

Conceptual Framework

This study is underpinned by the conceptual framework shown hereunder in Figure 1. School closures due to the COVID-19 pandemic have resulted in educational loss for students in general and students with SEND in specific. This educational loss goes beyond the learning dimension to include social, psychological, and physical gaps which are all interrelated with each other. These interrelated facets of educational loss would cause student demotivation, disengagement, and academic decline. These three causes would eventually lead to school dropout (Azevedo et al., 2020; Demir et al., 2022; UN, 2020; UNESCO, 2021; World Bank, 2020a, 2020b) and would exacerbate educational inequality (Demir et al., 2022; UN, 2020; World Bank, 2020a, 2020b), especially among students from disadvantaged and marginalized groups (UNESCO, 2021; World Bank, 2020a, 2020b), including students with SEND (UN, 2020; World Bank, 2020a), if no proper interventions were implemented to address students' educational needs (Demir et al., 2022; UNESCO, 2021; World Bank, 2020a, 2020b).

Figure 1. Conceptual framework of the study.



METHOD

Research Design

This study employed phenomenological research design. Creswell and Creswell (2023) note that researchers use this qualitative design for describing experiences individuals have undergone regarding a phenomenon in accordance with

the accounts provided by the participants. In the context of this study, the educational loss students with SEND experienced during the COVID-19 pandemic in Lebanon was explored through the viewpoints of their inclusive teachers and school principals.

Research Sample

Purposive sampling, particularly maximum variation or heterogonous sampling (Saunders et al., 2019), was incorporated to explore the viewpoints of IT and ISP from diverse school contexts across different educational cycles in Lebanon. The school contexts in Lebanon comprise the following: public schools, free private schools, non-free private schools, and UNRWA schools for Palestine refugee students (CERD, 2023). This sampling strategy helps researchers obtain a diverse sample, achieve maximum variance in the data for a more comprehensive analysis, capture a broad range of experiences, and explain key themes (Saunders et al., 2019).

The research sample included 11 participants aged between 33 and 59 years, recruited from nine schools across Lebanon's eight Gov. as follows: two public schools, five private schools, and two UNRWA schools. In terms of gender, the sample included two males and nine females. Regarding professional roles, six participants were IT, and five participants were ISP. Detailed demographics of the participants are provided in Table 1.

Table 1. Demographic characteristics of the research participants.

Participant #	Gender	Age	Professional Role	School Context	Governorate
1	Female	34	IT 1	Private	South Lebanon
2	Female	49	ISP 1	Private	Nabatieh
3	Female	59	ISP 2	Public	South Lebanon
4	Female	33	IT 2	Public	South Lebanon
5	Male	45	IT 3	UNRWA	Bekaa'
6	Male	44	ISP 3	UNRWA	North Lebanon
7	Female	36	IT 4	Private	Beirut
8	Female	40	ISP 4	Private	Baalbeck-Hermel
9	Female	46	IT 5	Private	Baalbeck-Hermel
10	Female	40	IT 6	Public	Akkar
11	Female	44	ISP 5	Private	Mount Lebanon

Note. IT, inclusive teacher; ISP, inclusive school principal

IT and ISP were selected to provide a comprehensive understanding of educational loss among students with SEND during COVID-19 in Lebanon. Teachers offered insights into students' day-to-day learning challenges and instructional gaps, while principals contributed perspectives on school level-responses, resources limitations, and policy implementation during the crisis.

Despite the relatively small sample size, data saturation was achieved by the eleventh interview, as no new themes or insights were emerging. The diversity across school type, geographic location, and professional role contributed to a rich data set. The purposive sampling strategy ensured variation sufficient to capture a broad spectrum of experiences, making 11 participants adequate for the in-depth qualitative analysis conducted.

Research Instrument

Semi-structured one-on-one interviews were used to collect qualitative data from participants. Questions of the semi-structured interviews were open-ended to give participants opportunity and freedom to express and share their experiences without any researcher perspectives or findings from past research (Creswell & Guetterman, 2019). Creswell and Guetterman (2019) note that this type of interviews is typical for interviewing participants who are eager to speak, who can express themselves clearly, and who can share their thoughts cozily. Two versions of questions were developed by the researcher: one for IT and another for ISP, with each version consisting of 12 questions. The researcher sought feedback from a special educator with a master's degree in special education. The feedback gathered focused on whether the questions were relevant, clear, and well-worded. Minor revisions were made to the questions



based on the feedback received.

Pilot Study

A pilot study was conducted before the full-scale data collection aiming to improve the quality of the main study. Two pilot semi-structured interviews were conducted at a private school in Tyre, South Lebanon Gov.: one with an IT and another with an ISP of an inclusive school. Accordingly, some questions were rephrased for better clarity, while others were reordered to ensure a smooth and efficient process for the main study.

Data Collection Procedures

An ethical approval (reference number LIUIRB-240504-AHEA-350) for conducting the study was obtained from the Institutional Review Board (IRB) at the Lebanese International University (LIU). The semi-structured interview questions and informed consent were translated from English into Arabic by a professional translator with extensive experience in the educational field. Subsequently, the Arabic versions were back-translated into English to ensure accuracy and cultural relevance for participants. Participants were provided the informed consent outlining the purpose of the study, the duration of semi structured interview, and the procedures for protecting their identity and securing the confidentiality of the data they would provide. It also assured their right to skip any question or withdraw from the study at any time and for any reason. Participants were asked to give their consent to participate in the research based on the information presented prior to conducting the interviews. Out of the 11 semi-structured interviews conducted, two were carried out face to face, leveraging the geographical proximity of the participants within the researcher's Gov., South Lebanon, while the remaining nine interviews were conducted virtually via the Zoom platform. With the participants' consent, the interviews were audio-recorded to ensure accurate capture of the discussion.

Data Analysis Procedures

Thematic analysis (Braun & Clarke, 2006) was used for analyzing the qualitative data. Braun and Clarke (2006) refer to thematic analysis model as "a method for identifying, analysing and reporting patterns (themes) within data" (p. 79). Their thematic analysis method incorporates a six-stage iterative process.

Reflexivity and Researcher Positionality

As the researcher, I occupy multiple professional roles that have influenced the interpretation of the findings. In addition to my academic role as a university lecturer, I also serve as deputy principal at an inclusive school operated by UNRWA. This dual position has given me firsthand insight into the educational realities faced by students with SEND during the COVID-19 pandemic. While this experience enriched my understanding of the challenges discussed in the study, I remained aware of the potential for bias and took deliberate steps—such as triangulating data sources and engaging in critical reflection—to ensure a balanced and credible interpretation of the findings.

Trustworthiness of Qualitative Findings

The four criteria for ensuring trustworthiness of qualitative findings developed by Lincoln and Guba (1985) are established in this study: credibility, transferability, dependability, and confirmability.

1. Credibility

The strategies of member checking and data source triangulation were employed to establish truthfulness of the findings (Lincoln & Guba, 1985).

2. Transferability

The strategy of thick description was employed to establish applicability of findings in other contexts (Lincoln & Guba, 1985).

3. Dependability



The strategy of audit trail was employed to establish repeatedness of findings (Lincoln & Guba, 1985).

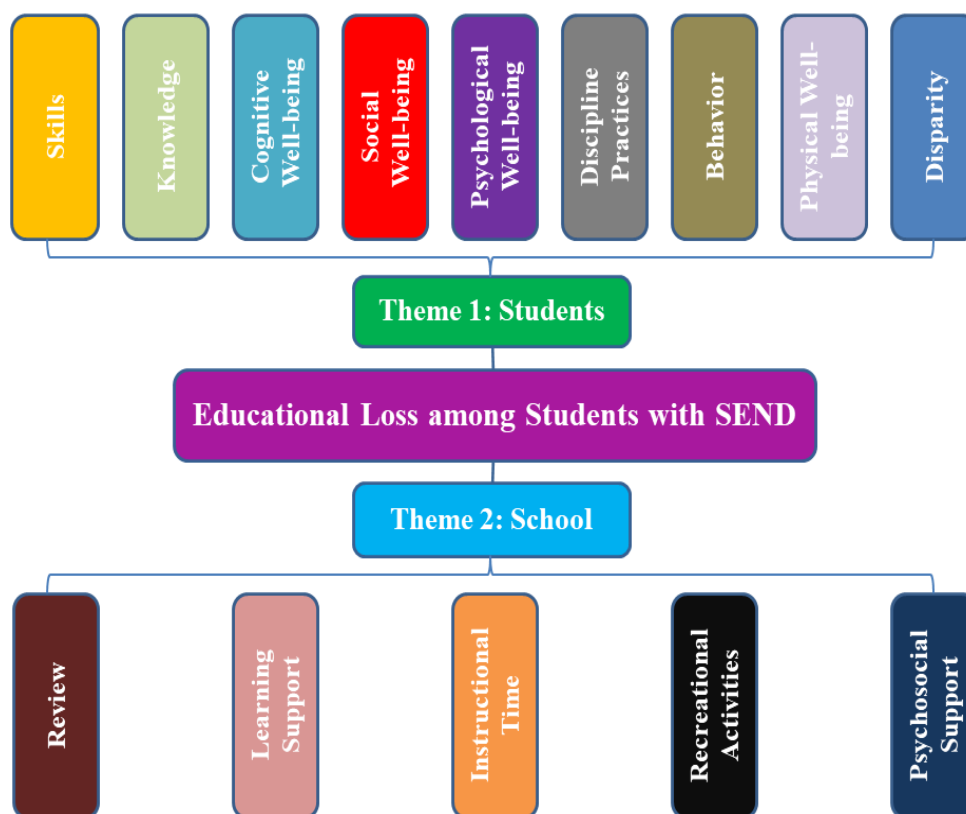
4. Confirmability

The strategies of data source triangulation and audit trail were employed to establish the neutrality of findings (Lincoln & Guba, 1985).

FINDINGS

The thematic analysis of the semi-structured interviews with IT and ISP generated two themes: 'students' and 'school'. The theme 'students' captures the experiences of educational loss among students with SEND during the COVID-19 pandemic including the nature, scope, and extent of that loss. The theme 'school' describes the efforts enacted by the school and its staff to address the educational loss. Figure 2 shows the thematic map, including the two themes with their 14 sub-themes across the 11 participants.

Figure 2. Thematic map.



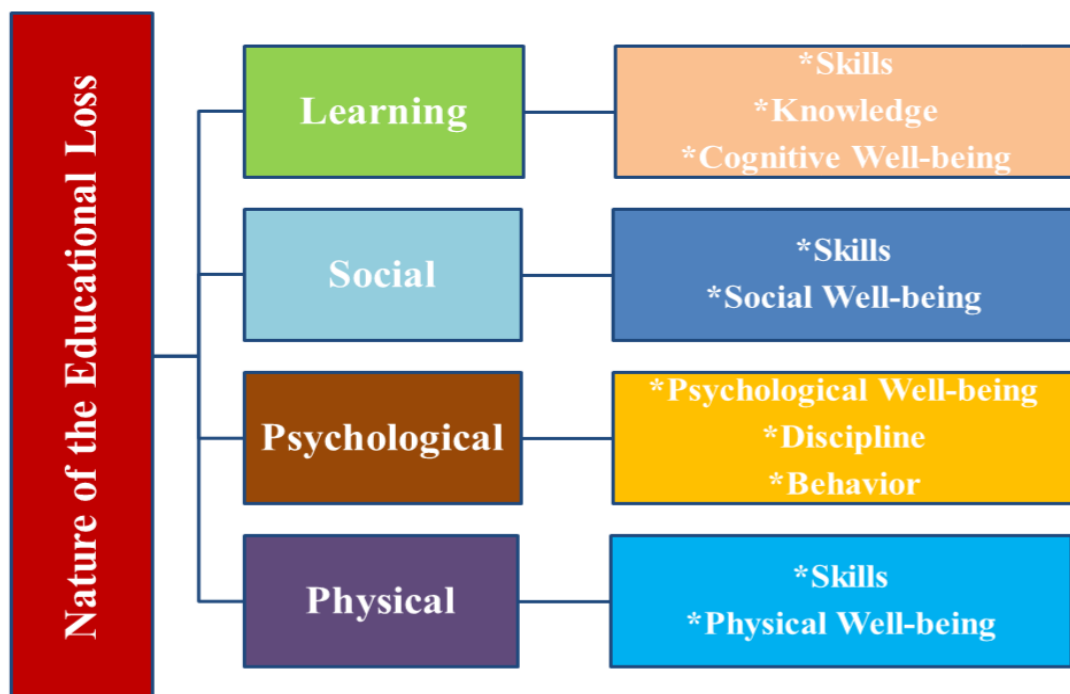
Research Question 1:

What are the perceptions of inclusive teachers and school principals on the nature, scope, and extent of educational loss among students with SEND during the COVID-19 pandemic in Lebanon?

I. Nature of the Educational Loss

Regarding the nature of the educational loss among students with SEND, it encompasses learning, social, psychological, and physical dimensions as proposed in the conceptual framework. Sub-themes relevant to the nature of the educational loss are reported under the theme 'students', as shown in Figure 3.

Figure 3. Nature of the educational loss.



Some participants highlighted that the educational loss was multifaceted, and extended beyond just learning.

- The pandemic left an impact on their (students with SEND) learning progress as well as their psychological, physical, and social well-being. It is no surprise that students with LD have experienced a decline in all four dimensions. (ISP 1, Nabatieh Gov.)
- For me, the educational loss can extend beyond just learning. It also includes psychological and behavioral aspects. (IT 5, Baalbeck-Hermel Gov.)
- The educational loss was not limited to teaching and learning. It encompassed other aspects like social life. (ISP 5, Mount Lebanon Gov.)
- There were learning and social losses. (ISP 3, North Lebanon Gov.)

A. Learning Loss

1. **Loss of learning skills.** Students with SEND experienced a loss in different types of skills in the learning dimension: thinking, language, practical and experimental, and foundational.

As for thinking skills, some participants stated that students with SEND lost their thinking skills, especially understanding and analysis.

- Students (with SEND) are not able to raise questions, make inquiries, conclude, analyze, or explain. (IT 1, South Lebanon Gov.)

- *Correct thinking and understanding of topics are one of the two learning skills students (with SEND) have lost. (ISP 4, Baalbeck-Hermel Gov.)*
- *They (students with SEND) now need simpler tasks; they can no longer handle questions that cater to higher-order thinking and analysis skills. (IT 5, Baalbeck-Hermel Gov.)*
- *There is a loss in basic thinking skills, such as understanding and analysis. (IT 6, Akkar Gov.)*

As for language skills, two participants contended that students with SEND had a loss in all language skills as a whole.

- *There have been gaps in all language skills. (IT 2, South Lebanon Gov.)*
- *Language skills were heavily impacted during the pandemic. (ISP 3, North Lebanon Gov.)*

A loss in the four English language skills had also been reported, with an emphasis on speaking in both English and Arabic.

- *We were not able to work on the four main language skills, including speaking. Therefore, there was a loss in all of them. (IT 6, Akkar Gov.)*
- *At the level of skills, it was clear that there has been a significant learning loss in speaking... speaking in formal Arabic is also a skill that students had a loss in. (ISP 3, North Lebanon Gov.)*

Many participants reported that students with SEND experienced a loss in reading and writing.

- *Writing skills caused a major crisis because they (students with SEND) didn't write; they didn't hold pencils...We condensed our efforts as much as possible outside the classroom to compensate for the loss in reading and writing. (ISP 1, Nabatieh Gov.)*
- *There were gaps in the most important things, reading and writing... I think you can find problems mainly in reading and writing in my classes... reading, writing...all of these things were lost by them (students with SEND) because they stayed at home and learned using the mobile phone (IT 3, Bekaa' Gov.)*
- *Yes, I returned to school after the pandemic to find grade five students, who were in grade two at the time of the pandemic, were unable to read and write. (ISP 3, North Lebanon Gov.)*
- *First of all, students with SEND had a loss in reading and writing... They can no longer know how to read and write. (ISP 4, Baalbeck-Hermel Gov.)*
- *There's been a loss in reading and writing skills. (ISP 5, Mount Lebanon Gov.)*

Only two participants highlighted that students with SEND had a loss in phonemic awareness.

- *Many teachers drew parents' attention to asking children to pay attention to phonemic awareness... But not all parents pay attention to it or know its importance, so students returned to school relying on their memory more than on phonemic awareness. (ISP 2, South Lebanon Gov.)*
- *75% of students (with SEND) learned the name of letters not their sounds; they didn't learn how to blend sounds correctly. (IT 2, South Lebanon Gov.)*

One participant emphasized the effect of the English language in exacerbating the learning loss.

- *There was a notably greater learning loss in subjects taught in English than those taught in Arabic. (ISP 3, North Lebanon Gov.)*

As for practical and experimental skills, only two participants contended that students with SEND experienced a loss in practical and experimental skills.

- *There was a gap in the experimental aspects of biology in particular and sciences in general, such as conducting experiments and writing equations. (IT 1, South Lebanon Gov.)*
- *For students (with SEND) to use real material, this was something they had missed out on ... there was also a gap in geometry. The issue was how to teach them (students with SEND) to use a ruler and guide them to handle geometric tools properly. These skills were lost. (IT 4, Beirut Gov.)*

As for foundational skills, many participants reported a loss in foundational skills, including pencil grip, writing speed, handwriting, letters, and numbers.

- *I had to help children (with SEND) in lower elementary grades to hold the pencil to write their names. They were very slow. (IT 1, South Lebanon Gov.)*
- *... they (lower elementary students) learn letters, numbers ... they (students with SEND) lost all of them because they stayed at home, and learned through the mobile phone. (IT 3, Bekaa' Gov.)*
- *And you also have elementary students who need much guidance regarding handwriting, pencil grip, ruler grip ... these have been lost. (IT 4, Beirut Gov.)*
- *There was a noticeable slowdown in writing, especially among students with LD. (ISP 5, Mount Lebanon Gov.)*
- *Grade two students had a problem holding the pencil ... when they copied one line, they dropped the pencil and complained of pain. (IT 5, Baalbeck-Hermel Gov.)*

2. **Loss of knowledge.** Only two participants reported a decline in information among students with SEND as a learning loss.

- *... they (students with Attention Deficit and Hyperactivity Disorder [ADHD] and Autism Spectrum Disorder [ASD]) ... were not doing anything during the COVID-19. This was evident through their lack of information. (IT 1, South Lebanon Gov.)*
- *Maybe secondary students (with SEND) had a 25% decrease in information they would gain in the classroom. (IT 2, South Lebanon Gov.)*

3. **Loss of cognitive well-being.** Only two participants stated that there was a decline in students' with SEND attention and concentration.

- *... even their (students with SEND) level of attention and concentration declined. (ISP 1, Nabatieh Gov.)*
- *After the pandemic, you can feel that they (students with SEND) are much distracted. (IT 4, Beirut Gov.)*

B. Social Loss

1. **Loss of social skills.** Students with SEND experienced a loss in both communication and teamwork skills in the social dimension. As for social communication skills, most participants emphasized absence of these skills among students with SEND.

- *Of the challenges was social communication. They (students with SEND) suffered from this ... there was a lack of expression and communication among them. (ISP 2, South Lebanon Gov.)*
- *As we said, there was a decline in their (students with SEND) communication skills (ISP 1, Nabatieh Gov.)*
- *There was a loss in social communication skills, of course. (IT 3, Bekaa' Gov.)*
- *Socially, students (with SEND) have been impacted. They have become less open to social interactions. (ISP 3, North Lebanon Gov.)*
- *Students (with SEND) have lost social communication. (ISP 5, Mount Lebanon Gov.)*

As for teamwork skills, only two participants mentioned that students with SEND have lost them.

- *The skill of working with others within a team was lost. We did not work on it. (IT 1, South Lebanon Gov.)*
- *Social skills are important for children's communication and teamwork when they work together in groups. They (students with SEND) no longer have the ability to help each other. (ISP 2, South Lebanon Gov.)*

2. **Loss of social well-being.** Only two participants stated that students' with SEND participation and interaction were limited.

- *I asked students to answer questions and to participate, but students with SEND did not participate much during the lessons. (IT 1, South Lebanon Gov.)*
- *Interaction was the most important thing that was lost. (IT 6, Akkar Gov.)*

C. Psychological Loss

1. **Loss of psychological well-being.** Most participants contended that students with SEND faced emotional and psychological issues, such as trauma, isolation, shyness, low self-esteem, sense of inferiority, personality fragility, boredom, fear and terror, impatience and low endurance...etc.

- *Students (with SEND) are no longer patient. They feel bored in class ... they have become more introverted. They have lost the courage to express themselves. (IT 5, Baalbeck-Hermel Gov.)*
- *Students (with SEND) feel so bored in class. They do not like to learn. (IT 2, South Lebanon Gov.)*
- *They (students with SEND) were in isolation ... they were afraid too ... there was terror among them. (IT 3, Bekaa' Gov.)*
- *Psychologically, they (students with SEND) lost a great deal of love and affection ... their return to school was difficult. Some of them were traumatized and isolated. (ISP 4, Baalbeck-Hermel Gov.)*
- *They (students with SEND) can no longer tolerate staying in the classroom ... the concept of school as a physical structure and a time-bound commitment has become almost undesirable to them. (IT 6, Akkar Gov.)*
- *Some students (with SEND) have developed a preference for being alone ... they can no longer tolerate staying in the classroom for a long time. (ISP 5, Mount Lebanon Gov.)*

2. **Loss of school and classroom discipline practices.** Most participants indicated that students with SEND experienced a loss in school and classroom discipline practices.

- *We struggled to teach them (students with SEND) back how to write their names, to put the right book, notebook ... we also struggled until they learned back classroom rules. (IT 1, South Lebanon Gov.)*
- *We intensified our efforts ... so they (students with SEND) return to adhering to discipline and instructions. (ISP 1, Nabatieh Gov.)*
- *We faced difficulties in getting the students (with SEND) to return to adhering to classroom rules. It feels as though they had been living in a jungle ... they did not accept to wear the school uniform again. (IT 4, Beirut Gov.)*
- *Many students (with SEND) did not obey the teachers' or the supervisor's instructions ... it took us about a month to get them under control again. (ISP 4, Baalbeck-Hermel Gov.)*

3. **Behavioral issues.** Most participants mentioned that many students with SEND exhibited behavioral problems, including violence toward their peers.

- *Children (with SEND) were frequently getting into conflicts with their peers when we returned to school. (IT 1, South Lebanon Gov.)*

- *We noticed behavioral problems among the students (with SEND) following a two-year interruption in schooling. (ISP 3, North Lebanon Gov.)*
- *We could not control the behavior of students with ADHD ... when they returned to school, they showed no positive behavioral engagement. (IT 4, Beirut Gov.)*
- *Many of them (students with SEND) have become aggressive ... they started running around the schoolyard and pushing their classmates. (ISP 4, Baalbeck-Hermel Gov.)*

D. Physical Loss

1. **Loss of sensory and motor skills.** Some participants indicated that students with SEND experienced a loss in sensory and motor skills.
 - *There are motor skills related to how students (with SEND) physically interact with their peers ... those students lost some of them. (ISP 2, South Lebanon Gov.)*
 - *There was a decline in students' (with SEND) running speed. (IT 3, Bekaa' Gov.)*
 - *Students' (with SEND) learning in kindergarten primarily depends on ... sensory and tactile skills, motor skills ... all of them were lost. (IT 4, Beirut Gov.)*
 - *We were not able to work on students' with SEND sensory-motor coordination skills when they were at home. There was a loss in them. (IT 2, South Lebanon Gov.)*
 - *They (students with SEND) were falling down the stairs a lot. (ISP 2, South Lebanon Gov.)*
2. **Loss of physical well-being.** According to many participants, students with SEND struggled with physical fitness and strength.
 - *There was a significant decrease in their (students with SEND) physical activity level after they returned to school. (IT 4, Beirut Gov.)*
 - *Frankly speaking, they (students with SEND) had a loss in muscles and physical strength. (ISP 4, Baalbeck-Hermel Gov.)*
 - *Students (with SEND) were sluggish, lacked flexibility, and showed low physical activity, especially during physical education classes and school activities. (ISP 5, Mount Lebanon Gov.)*
 - *They (students with SEND) had vision problems due to prolonged screen time at home. (IT 4, South Lebanon Gov.)*

II. Scope of the Educational Loss

Disparity in Scope

There are discrepancies in the effects of the educational loss across gender, educational cycle, and SEND categories, as shown in Table 2. The following sections provide a detailed analysis of these disparities.

Table 2. Disparities in the scope of educational loss across gender, educational cycle, and SEND categories.

Category	Subcategory	Scope
Gender	Male students with SEND	Some participants reported greater educational loss among male students.
	Male and female students with SEND	Others believed the impact was equally distributed across genders.
Educational Cycle	KG and lower elementary students	Almost all participants viewed younger students as the most vulnerable.
	Upper elementary students	One participant perceived older students as more significantly affected.
SEND Categories	Students with ASD and ADHD	Some participants perceived this group as the most affected overall.
	Students with LD	Others viewed this group as experiencing the greatest educational loss.

1. **Disparity in scope across gender.** Some participants contended that male students with SEND were more impacted by the educational loss than female students.

- *In my opinion, males experienced more educational loss effects than females. (ISP 5, Mount Lebanon Gov.)*
- *The effects of the educational loss among males were greater than they were among females. (IT 6, Akkar Gov.)*

However, some participants highlighted that males and females were equal in the extent of the impact of the educational loss.

- *I think there is equality between males and females in the extent of the impact of the educational loss. (IT 3, Bekaa' Gov.)*
- *Males and females are equal in terms of the extent of the educational loss's impact. (ISP 2, South Lebanon Gov.)*

2. **Disparity in scope across educational cycle.** Almost all participants emphasized that students with SEND in KGs and lower elementary grades were the most affected by the educational loss.

- *The most significant impact of the educational loss was on children in KG and cycle one (lower elementary). (ISP 1, Nabatieh Gov.)*
- *The most affected cycle by the educational loss was KG. (IT 4, Beirut Gov.)*
- *I think KG and lower elementary students (with SEND) were the most affected by the educational loss. (ISP 5, Mount Lebanon Gov.)*

However, only one participant contended that upper elementary students with SEND were the most affected.

- *The educational loss was most significant among students (with SEND) in the upper elementary cycle. (ISP 3, North Lebanon Gov.)*

3. **Disparity in scope across SEND categories.** Some participants stated that students with SEND with ADHD and ASD experienced more educational loss's impact than others.

- *Students with ASD and ADHD were the most affected by the loss. (IT 1, South Lebanon Gov.)*
- *Students with ADHD and ASD were among the most affected. (ISP 4, Baalbeck-Hermel Gov.)*

Nevertheless, other participants mentioned that students with LD were the most affected by the educational loss.

- *Students with LD experienced the greatest impact from the educational loss. (ISP 2, South Lebanon Gov.)*
- *The educational loss had a stronger effect on students with LD. (ISP 3, North Lebanon Gov.)*

III. Extent of the Educational Loss

Disparity in Extent

There are discrepancies in the extent of the educational loss across the participants. Some participants indicated that the extent of the educational loss was less than a school year.

- *I can say we lost one-third of the school year. (ISP 1, Nabatieh Gov.)*
- *Students with SEND definitely lost more than half of the school year. (IT 3, Bekaa' Gov.)*

However, other participants argued that students with SEND lost a school year.

- *There is an educational loss of a full school year, not less than a year. (IT 6, Akkar Gov.)*

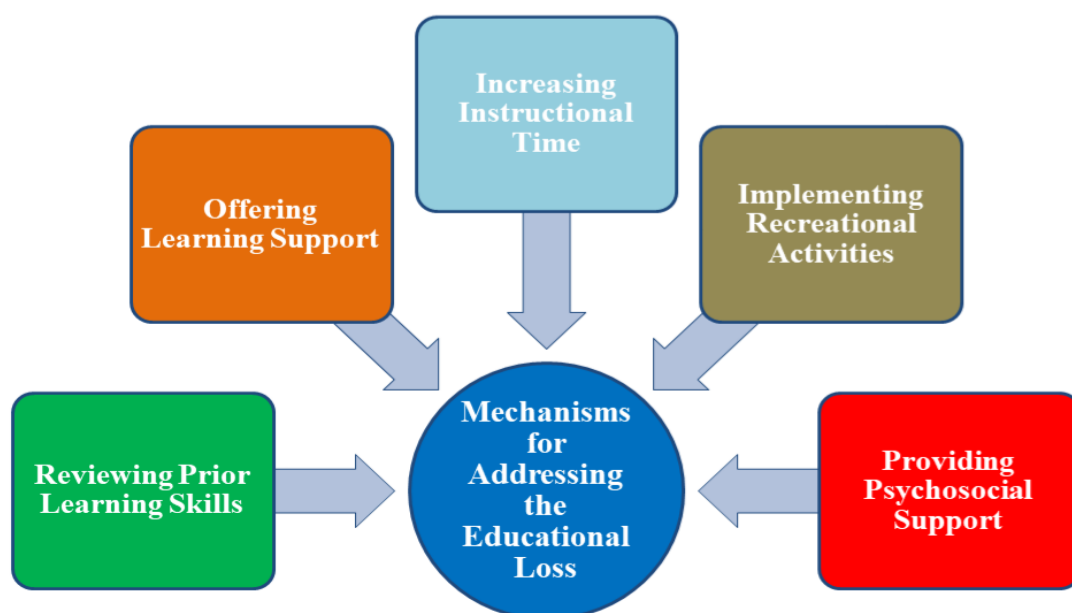
- The educational loss for these students (with SEND) is approximately one school year. (ISP 5, Mount Lebanon Gov.)

Research Question 2:

What mechanisms have been implemented by schools for addressing the educational loss?

Sub-themes relevant to the mechanisms implemented by schools for addressing the educational loss among students with SEND are reported under the theme 'school', as shown in Figure 4.

Figure 4. Schools' mechanisms for addressing the educational loss.



Only two participants argued that the process of addressing the educational loss was comprehensive, and covered all aspects.

- It was a rehabilitation phase that addressed all aspects, including psychological, social, physical, learning, behavioral, and adherence to instructions. (ISP 1, Nabatieh Gov.)
- We developed and implemented a comprehensive and rapid plan during the first four months of returning to school, addressing all aspects. It did not focus solely on academic objectives; there was a psychological aspect, and the activities were diverse. (IT 5, Baalbeck-Hermel Gov.)

Schools' Mechanisms for Addressing the Educational Loss

A. Reviewing Prior Learning Skills

Most participants highlighted that teachers reviewed prior learning skills to address the learning loss among students with SEND.

- A whole term was dedicated to reviewing previous skills. For example, if the students (with SEND) were in grade three, we should have reviewed grade two skills. It was strictly prohibited to introduce any new skills during that term. (IT 1, South Lebanon Gov.)
- We reviewed previous objectives, skills, and competencies. (ISP 1, Nabatieh Gov.)

- *In one of the remediation years, we spent the first half of the school year reviewing the skills from the previous year. Then, we in the second half of the year taught the curriculum of the new year. (ISP 5, Mount Lebanon Gov.)*

B. Offering Learning Support

Only one participant stated that a summer learning support program was implemented to address the learning loss.

- *The school provided learning support to students, including those with SEND. The school launched a summer learning program called "Catch-up Sessions", which was specifically designed for students who did not participate in the remote learning, including students with SEND. (ISP 3, North Lebanon Gov.)*

Only one participant mentioned that teachers prepared learning support cards for students with SEND.

- *Teachers, of course, prepared support cards for students (with SEND) to help them reach the level of their classmates (without SEND) had achieved in the class. (ISP 4, Baalbeck-Hermel Gov.)*

Only one participant argued that teachers intensified pull-out sessions for students with SEND.

- *The first thing we used to do was intensify the pull-out sessions outside the classroom ... to compensate for the loss in reading and writing. (ISP 1, Nabatieh Gov.)*

C. Increasing Instructional Time

Only two participants indicated that teachers set additional schooling days and periods.

- *We had to bring students (with SEND) to school on Saturdays to make up for the learning loss. (IT 4, Beirut Gov.)*
- *The school decided to schedule additional teaching days. Teachers started bringing students, including those with SEND, to school more frequently to cover the learning loss ... the main method we used to compensate for the learning loss was providing additional sessions. (IT 6, Akkar Gov.)*

D. Implementing Recreational Activities

Most participants contended that schools implemented recreational activities to address the social, psychological, and physical loss.

- *We used to organize a day without school bags called "The Big Day" on the school playground to provide fun for students, including students with SEND. The idea was to combine fun with learning. (IT 5, Baalbeck-Hermel Gov.)*
- *Teachers organized recreational activities on the first day of students' return to school to help them, including students with SEND, re-engage and adjust to school life after a two-year break. (ISP 3, North Lebanon Gov.)*
- *A carnival-like event was organized for all students upon their return to school and motivate them to engage with school. (IT 4, Beirut Gov.)*

E. Providing Psychosocial Support

Few participants emphasized that schools provided psychosocial support for students with SEND.

- *The school activated the role of the school counselor to communicate with students through "Care Calls", providing psychosocial support, especially to those with LD. (ISP 3, North Lebanon Gov.)*
- *Teachers used to provide psychosocial support to those students (with SEND) ... they also offered moral support through encouragement and material support, including gifts. (ISP 4, Baalbeck-Hermel Gov.)*

- *The "My Book Project" and UNICEF greatly supported us with training sessions for teachers on social-emotional skills and activities. They trained teachers to effectively implement these activities for students. (ISP 2, South Lebanon Gov.)*

DISCUSSION

The purpose of this study is to explore the educational loss students with SEND have experienced due to school closures during the COVID-19 pandemic in Lebanon. Specifically, it aims to achieve these two objectives: (1) examine perceptions of IT and ISP on the nature, scope, and extent of the educational loss among students with SEND; and (2) investigate the mechanisms implemented by their schools for addressing the educational loss. Data were collected through semi-structured interviews with six IT and five ISP recruited from nine schools across Lebanon's eight Gov.

I. Nature of the Educational Loss

The findings revealed that the educational loss encompasses learning, social, psychological, and physical dimensions. This finding is consistent with Demir et al. (2022), who identified six different types of losses among students during to the COVID-19 closures in Turkey: academic losses, skill development losses, educational equality loss, psychological losses, health and safety loss, and social losses.

This finding may be attributed to the limited access to specialized support and resources for students with SEND during the COVID-19 lockdown. Additionally, the inadequacy of accommodations in online learning environments to meet their diverse needs further exacerbated the challenges. Another contributing factor is the reduced interaction with peers and educators, which diminished opportunities for social engagement and emotional support.

A. Learning Loss

1. **Loss of learning skills.** Regarding the learning loss, students with SEND experienced a loss in different types of skills in the learning dimension: thinking, language, practical and experimental, and foundational.

As for thinking skills, students with SEND had a loss in understanding and analysis skills. This finding is in agreement with Suwathanpornkul et al. (2023), who found that Thai students experienced a loss in cognitive skills during the COVID-19 pandemic. Students with SEND experienced a loss in thinking skills during the COVID-19 lockdown because they might have missed out on regular, structured learning activities. These students often depend on tailored teaching approaches and tools to build their cognitive abilities, which were hard to deliver effectively through online education.

Regarding language skills, students with SEND experienced a loss in the four main language skills, particularly reading and writing. In addition, they had a loss in phonemic awareness. This finding is in accordance with Suwathanpornkul et al. (2023), Engzell et al. (2021), and Araya et al. (2021), who showed that students had a loss in reading and writing skills due to the school closures during the COVID-19 pandemic in Thailand, Netherlands, and Ethiopia, respectively. It also corroborates the finding by Fuchs et al. (2023) who discovered dramatically more severe learning loss in reading comprehension skills among grade two students with comorbid LD in comparison with the general student population in the southeastern United States. The decline in language skills may be explained by the following reasons combined: lack of support, the challenges with online learning, reduced practice, and missed interactions with teachers and classmates.

As for practical and experimental skills, students with SEND had a loss in these skills, especially in mathematics and sciences. This finding is in congruence with a study by Suwathanpornkul et al. (2023), which



discovered a learning loss in scientific and laboratory skills among Thai students. The loss in practical and experimental skills may result from the lack of hands-on learning opportunities and limited access to adaptive tools at home.

Regarding foundational skills, students with SEND demonstrated a deficit in these skills. This finding is similar to Suwathanpornkul et al. (2023) and Demir et al. (2022) who reported skill development losses and a loss in literacy and numeracy skills among students in Thailand and Turkey, respectively. Students with SEND demonstrated such a deficit due to the following factors: lack of structured practice, reduced access to therapy services, insufficient adaptations at home, and limited supervision and feedback from teachers and support staff.

2. **Loss of knowledge.** Students with SEND exhibited a decrease in information. This finding accords with a study by Suwathanpornkul et al. (2023) who revealed a loss in knowledge linkages among Thai students. This finding may be attributed to the following factors combined: reduced repetitions and reinforcement, poor parental support, and cognitive and emotional challenges.
3. **Loss of cognitive well-being.** Students with SEND experienced a setback in attention and concentration. This finding corroborates a study by Suwathanpornkul et al. (2023), which highlighted similar deterioration in Thai students' attention during remote learning. Students with SEND experienced a loss in attention and concentration because of the following factors: cognitive and emotional challenges, a shift from structured classroom environment to unstructured home settings, and limited supervision and support.

B. Social Loss

1. **Loss of social skills.** Students with SEND experienced deterioration in both communication and teamwork skills in the social dimension. This finding reflects the finding of two studies by Demir et al. (2022) and Suwathanpornkul et al. (2023), who identified social losses, loss in relationships and collaboration skills, and broken relationships among students in Turkey and Thailand, respectively.

This finding may be attributed to the limited opportunities provided for students with SEND for face-to-face interaction with peers and teachers during the pandemic. These interactions are essential for practicing and developing social skills.

2. **Loss of social well-being.** Students' with SEND participation and interaction were limited during the COVID-19 pandemic. This finding ties with a study by Demir et al. (2022), which discovered social losses among students during the pandemic in Turkey. It also ties well with a study by Pozas and Letzel-Alt (2023), which reported higher level of negative activation among students with SEND than students without SEND during the pandemic in Mexico.

Students with SEND had limited participation and interaction because online learning platforms often lacked accessibility features to meet their needs. It may also be due to the lack of individualized support from teachers and support staff.

C. Psychological Loss

1. **Loss of psychological well-being.** Students with SEND faced emotional and psychological issues during the pandemic. This finding reflects the findings of two studies by Demir et al. (2022) and Suwathanpornkul et al. (2023), which found psychological losses, including decline in motivation, readiness, confidence, and positive attitudes toward learning and school subjects; negative emotions; and bad mental health, among students in Turkey and Thailand, respectively. The psychological losses

among students with SEND could have resulted from isolation, reduced access to support services, and lack of engagement in meaningful activities.

2. **Loss of school and classroom discipline practices.** Students with SEND experienced a loss in school and classroom discipline practices. This finding is consistent with Suwathanpornkul et al. (2023), who revealed a loss in Thai students' desirable characteristics, including responsibility and discipline. This finding may be explained by challenges such as difficulty understanding rules, frustration from unmet needs, or struggles with communication and self-regulation.
3. **Behavioral issues.** Students with SEND exhibited behavioral problems, including violence toward their peers. This finding is in agreement with Lee (2020), who highlighted increased behavioral problems, including aggression, among students with disabilities during the COVID-19 pandemic. This finding may be due to difficulties in managing emotions, frustration from unmet needs, struggle with social skills, or feeling misunderstood.

D. *Physical Loss*

1. **Loss of sensory and motor skills.** Students with SEND experienced a loss in sensory and motor skills. This finding is similar to Sedaghati et al. (2022), who reported significant declines in both gross and fine motor skills among children with intellectual disabilities due to decreased physical activity during the COVID-19 in Iran. The loss in sensory and motor skills may have resulted because students with SEND could not access therapies or do hands-on activities at home and school.
2. **Loss of physical well-being.** Students with SEND struggled with physical fitness and strength. This finding is in accordance with Demir et al. (2022), who highlighted that students had losses in physical health and safety during COVID-19 in Turkey. This finding may be explained by fewer opportunities for exercise, therapy, and physical activities at home and school.

II. **Scope of the Educational Loss**

Disparity in Scope

There are discrepancies in the effects of the educational loss across gender, educational cycle, and SEND category. This finding supports a study by Harmey (2021), which concluded that some students will be impacted by the pandemic more than others, especially those traditionally at risk. The disparity in scope may have resulted from differences in students' with SEND needs and experiences. These differences would explain why the scope of the educational loss isn't the same for everyone.

1. **Disparity in scope across gender.** According to some participants, male students with SEND were more impacted by the educational loss than female students. This finding ties with Mannah-Blankson and Asiseh (2021), who concluded that male undergraduate students experienced slightly higher educational disruptions than female undergraduate students during the pandemic in the United States.

This finding may reflect a higher need among some male students for direct guidance, structured support, and in-person interaction. It is also possible that certain boys found it more difficult to engage with online learning, especially if they benefit more from active, hands-on approaches that were limited in virtual settings. However, these are only possible explanations, and such patterns should be interpreted with caution. Gender-related differences in learning are complex and influenced by multiple contextual factors, including home support, teaching methods, and individual learning styles.

However, other participants highlighted that males and females were equal in the extent of the impact of the educational loss. Both male and female students with SEND may have experienced equal impact because the challenges they have faced were often the same.

2. **Disparity in scope across educational cycle.** Almost all participants emphasized that students with SEND in KGs and lower elementary grades were the most affected by the educational loss. This finding is similar to the Center for Disease Control and Prevention [CDC] (2021) that highlighted that the pandemic has highly impacted early identification of developmental delays and disabilities in young children from birth to age five years. This disruption has led to decreased access to early intervention services for those children.

Students with SEND in KGs and lower elementary grades were hit hardest by the educational loss because online learning made it tough for them to stay engaged, and many of them did not get the one-on-one help they needed. In addition, many parents were not able to provide the same level of support as trained teachers.

3. **Disparity in scope across SEND categories.** Some participants stated that students with SEND with ADHD and ASD experienced more educational loss's impact than others. This finding is in agreement with Zhao et al. (2023), who found that children with ASD were at a higher risk of experienced increased emotional and behavioral problems during the pandemic in China compared to those with developmental delays. This finding may be due to students' with ADHD and ASD heavy reliance on structure, routine, and specialized support, which were disrupted during school closures.

Nevertheless, other participants mentioned that students with LD were the most affected by the educational loss. This finding corroborates a study by Fuchs et al. (2023), which discovered dramatically more severe learning loss among grade two students with comorbid LD in mathematics word-problem solving and reading comprehension in comparison with the general student population in the southeastern United States. This finding may be attributed to students' with LD need for extra support to succeed. They rely on personalized teaching, one-on-one help, and specialized tools or strategies. All of these were hard to provide during online learning. These challenges were further intensified for students facing additional disadvantages, such as low socio-economic status.

III. Extent of the Educational Loss

Disparity in Extent

There are discrepancies in the extent of the educational loss across the participants. Some participants indicated that the extent of the educational loss was less than a school year. However, other participants argued that students with SEND lost a school year. This discrepancy ties well with Harmeý and Moss (2023), who indicated that estimations of learning loss are variable. In line with this, the Education Endowment Foundation (2021) adds that the academic achievement gap for disadvantaged students is large with significant differences among schools in the United Kingdom.

The disparity in the extent of the educational loss during the pandemic may be explained by differences in adapted learning, support at home, and access to technology. These differences across Gov. may have contributed to the varying levels of educational loss.

Schools' Mechanisms for Addressing the Educational Loss

The process of addressing the educational loss was comprehensive, and covered all aspects. This finding corroborates a study by NYSED (2021), which adopted a holistic approach to supporting students academically, socially, and emotionally within its state ARP for schools to focus on during the COVID-19 pandemic.

Addressing the educational loss for students with SEND was comprehensive because these students have many needs, not just learning. This holistic approach covered all aspects to make sure those students could recover and grow in every way.

A. Reviewing Prior Learning Skills

Teachers reviewed prior learning skills to address the learning loss among students with SEND. This finding is consistent with a suggestion by Holmes (2024), which recommends a spiral method by regularly reviewing core skills throughout the curriculum to aid in the recovery of learning loss. Reviewing prior learning skills can be attributed to teachers' belief in the importance of these core skills as a foundation for recovering lost learning.

B. Offering Learning Support

Learning support, including summer programs and support materials, was provided for students with SEND to address the learning loss. This finding is in agreement with the NYSED (2021), the US DOE (2021), Das et al. (2020), Kaffenberger (2020) and Özer et al. (2021), who recommended implementing academic support programs to mitigate the learning loss. Moreover, Karbeyaz and Kurt (2022) examined opinions of 19 teachers on a compensatory education program, which was implemented in response to the learning loss incurred during the COVID-19 pandemic in Turkey. They revealed positive academic and social outcomes for the program.

Offering learning support for students with SEND may be attributed to the belief of education cadres in the effectiveness of well-planned support and compensatory programs in recovering the learning loss and bridging the achievement gap among students.

C. Increasing Instructional Time

Teachers set additional schooling days and periods to address the learning loss. This finding is consistent with UNESCO (2021), UNESCO et al. (2020), US DOE (2021) and NYSED (2021), which suggested increasing instructional time through modifying the school calendar and schedule, extending the school day, and operating weekend school.

Increasing the instructional time for students with SEND may have resulted from students' with SEND need for more time and support to grasp concepts. Extra instructional time would allow teachers to revisit missed lessons, provide individualized support, and help those students catch up on lost skills.

D. Implementing Recreational Activities

Schools implemented recreational activities to address the social, psychological, and physical loss. This finding is in accordance with NYSED (2021), UNESCO (2021), and UNESCO et al. (2020), which recommended supporting students mentally, socially and emotionally.

Recreational activities help students with SEND relieve stress, have fun, and increase their motivation for learning. In addition, these activities enhance physical health by improving motor skills, coordination, and overall fitness levels.

A holistic compensatory program developed and implemented by the Turkish MoNE (2021) led to increased student happiness and a positive disposition towards learning. Furthermore, a study by Labbé et al. (2023) suggested that persons with disabilities can benefit physically, emotionally, and socially from participating in adaptive online leisure-time physical activities during the COVID-19 pandemic.

Implementing recreational activities may be explained by schools' belief in the importance of the aforementioned benefits of these activities for helping students with SEND catch up on the social, psychological, and physical loss after returning to school.

E. Providing Psychosocial Support



Schools provided psychosocial support for students with SEND to mitigate the social and psychological loss. This finding ties with US DOE (2021), UNESCO (2021), and UNESCO et al. (2020), which recommended supporting the well-being of students and implementing positive behavior interventions and mental health programs for students with SEND.

During such unprecedented times, ensuring the mental health of vulnerable students, including those with SEND, became as crucial as addressing their academic needs. Providing psychosocial support for students with SEND may be due to their heightened stress and anxiety resulting from the fear of contracting the virus and challenges of remote learning. It could also be attributed to the availability of professional psychosocial support cadres at schools.

CONCLUSION AND RECOMMENDATIONS

Recommendations

For Policy Makers:

1. The MEHE in Lebanon should develop a unified yet flexible plan to address the educational loss, especially the loss in the learning domain, and monitor its implementation in the private and public educational sectors. It aligns with Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which guarantees the right to inclusive and quality education for persons with disabilities (UN, 2006).
2. The MEHE should provide comprehensive support to schools in the public sector as they underwent extended closures amounting to approximately 270 out of 600 school days over four typical school years (2019/2020-2022/2023) (Pushparatnam et al., 2023) due to economic, security, social, and health crises, including the COVID-19 pandemic (Government of Lebanon & UN, 2023). They experienced greater educational disruptions than private schools (Chahine et al., 2024). These disruptions have resulted in significant educational loss and exacerbated educational inequalities. Article 24 of the UNCRPD calls for support measures that foster academic and social development (UN, 2006).
3. The MEHE should improve its remote learning plan to ensure the provision of essential support and resources, especially during disruptions and crises. Extra care should be given to students with SEND to make sure everyone gets a fair chance to learn. This recommendation reflects UNCRPD Articles 24 and 11, which emphasize inclusive education and protection in emergency situations (UN, 2006).

For Practitioners:

1. Teachers should provide greater support to students with LD, ASD, and ADHD because they were more affected by the educational loss than other students with SEND.
2. Teachers should provide special attention to students in KG and elementary classes, as they were the most impacted by the educational loss.
3. Teachers should address the educational loss among students with SEND comprehensively by considering not only the learning aspect but also the social, psychological, and physical dimensions.
4. Use peer support systems and student buddies, especially in inclusive classrooms, to help SEND students re-engage academically and socially without requiring additional staff or funding.
5. Distribute printed learning packets or low-technology materials for students with limited access to digital tools. Teachers can coordinate simple weekly take-home activities tailored to SEND needs.

6. Leverage free communication tools (e.g., WhatsApp or SMS) to keep in touch with parents of SEND students, share progress tips, and guide home-based learning support.

Limitations of the Study

1. Only three participants were recruited from two public schools located in two Gov. in South Lebanon and North Lebanon, which may limit the transferability of the findings.
2. Three participants, especially in Baalbeck-Hermel and Akkar Gov., were recruited through convenience sampling rather than purposive selection due to logistical constraints. This may affect both the accuracy and transferability of findings.
3. The sample included two male participants and nine females. The gender imbalance in the sample may limit the transferability of the findings.
4. The questions of the semi-structured interviews and the thematic analysis underwent forward and backward translation, which may have impacted the accuracy of findings.

Directions for Future Research

Since only three participants were recruited from public schools, future research should include more participants from these schools. Public schools experienced longer closures and greater disruptions than private schools, making it essential to further explore the educational loss in these settings. Furthermore, since the sample included two males and nine females, future research should aim to include more male participants to provide a more comprehensive understanding of educational loss and its impact. Additionally, future studies could benefit from incorporating the perspectives of parents and children to gain a more comprehensive understanding of the educational loss. Finally, a comparative study could also be conducted to examine differences in educational loss between students with SEND and their peers without SEND.

Conclusion

Students with SEND experienced significant educational loss across learning, social, psychological, and physical dimensions due to school closures during the COVID-19 pandemic in Lebanon. The extent of the loss varied, ranging from less than a school year to a full school year. Both male and female students with SEND were affected equally, though some participants noted that boys struggled more. Younger students in KG and lower elementary were the most impacted, but one participant pointed out that upper elementary students also faced challenges. Among SEND categories, students with LD were the most affected. However, some participants believed that students with ASD and ADHD experienced even greater difficulties.

To address this loss, schools used five key strategies. Three focused on academics- reviewing prior learning skills, offering learning support, and increasing instructional time. The other two aimed at social, psychological, and physical recovery by organizing recreational activities and providing psychosocial support.

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