The Impact of the Multiple Crises on Learning Loss Among Tenth-Grade Students in Lebanese Public Schools

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Introduction

We live today in an era marked by educational, social, economic, and security crises. These challenges are not confined to Lebanon alone but are evident across various countries in the region. The ongoing economic and social crisis in Lebanon has had severe repercussions on all sectors, particularly the educational sector, impacting students significantly. According to UNICEF's Lebanon Crisis Response Plan 2022-2023, the convergence of social, economic, and health crises,—including the COVID-19 pandemic—has led to 700,000 students being out of school, resulting in significant learning losses. Furthermore, the economic crisis that began in 2020 has excluded 1.2 million Lebanese from the education system. A study conducted by the Center for Lebanese Studies found that since 2016, students in public schools have lost a total of 765 actual teaching days.[1]

Therefore, the situation reveals that public school students, compared to their counterparts in high-quality private schools, have been disproportionately impacted by a series of crises. These crises have led to prolonged school closures over four consecutive years, beginning with the economic crisis, extending through the COVID-19 pandemic, and culminating in intensified social and security crises. These educational disruptions were further compounded by strikes and the migration of teachers, which resulted in a significant reduction in the number of instructional weeks—from an average of 32 to just 18 weeks. The number of educational days varied widely among schools, failing to meet even two-thirds of the 165 days typically implemented before the crisis. In the last academic year, 2022-2023, the number of instructional days did not exceed 110 days, with some schools experiencing as few as forty days.

Based on these data, our study primarily addresses the learning loss among tenth-grade secondary school students. Our aim is to improve the educational outcomes for both Lebanese and Syrian students in public schools across three subjects: mathematics, Arabic language, and English language. The severe crises that Lebanon has experienced have impacted all residents, regardless of their nationalities. We chose these three subjects because they are fundamental in studying learning loss, and they have been adopted in several studies.[2] These studies, which include reports from the Ministry of Education, the Educational Center for Development and Research, UNICEF, and the World Bank, supported by various organizations, have established how learning loss is quantified and the mechanisms to overcome it.

The methodology for assessing learning loss in these subjects was determined in the context of selecting the sample itself. The tenth-grade students had participated in official exams just four months prior to the implementation of this study. These official exams for the Intermediate Certificate serve as the benchmark for successfully completing the third cycle.

We then adopted exams conducted in previous official examinations as tools to measure competencies defined by the Ministry of Education. We also adhered to their specific grading criteria. However, to investigate both the learning loss from the last academic year and the cumulative learning loss before and after the crisis, we referred to previous cycles selected based on our established criteria, in order to evaluate the students' acquired competencies from the preceding year, along with the standards for the educational level of ninth-grade students. This led us to take into consideration the specificity of each exam, and to segment the correction and the grading criteria to yield precise results within the framework of our study.

We established three sessions, categorized the competencies within each exam and each question, and aligned them with the competencies defined by the Center for Educational Research and Development across all preceding years, up to the last year.

1   Nehma Nehma (2023). Report: The Cost of Education in Lebanon -Treasury and Society Expenditure. [Available online]

2   Qitabi 2 Literacy And Numeracy Baseline Report [Available online]

UNICEF (2023). Trapped in a Downward Spiral. [Available online]

World Bank (2021). Foundations for Building Forward Better: An Education Reform Path for Lebanon. [Available online]

In this way, we can assess learning loss using the required passing grade in official exams. This approach allows us to determine the cumulative learning loss over the crisis years by comparing the overall exam scores with the results of these subjects in the years they were conducted.

The Current Situation

The choice of this topic stems from our background in the field of education and our observations of declining educational standards among students, whether through our direct interactions with them or through reports issued by the Ministry of Education, UNICEF, the World Bank, the Center for Educational Research and Development, and the Center for Lebanese Studies.

Regarding the studies and reports that addressed learning loss, the Center for Educational Research and Development conducted the "Learning loss" study in January 2023 across eight governorates in both public and private schools. This study, which involved surveys for the third and sixth grades—each representing a different educational cycle (first and second phases respectively)—revealed significant deficiencies in the three subjects. For instance, in Arabic language, 75% of the third-grade participants scored between zero and 67.6%, while 25% scored between 67.7% and 100%. Results also indicated low performance in written expression in foreign languages. In mathematics, the scores did not exceed 4.4%, 14.7%, and 71.9% across various math sections.

In September 2022, the "Qitabi 3 Project"[3] funded by USAID, released a study titled "Assessing the Performance of Students in Public Primary Schools in Lebanon." This study evaluated second, third, and sixth graders in Arabic, foreign languages, and mathematics. The results indicated a significant weakness in these three subject skills.

Furthermore, in a report published by UNICEF in December 2023 titled 'Trapped in a Downward Spiral'[4], it was noted that 26% of families in Lebanon do not send their school-aged children to school, due to economic constraints among other reasons. These results point to more than just leaning loss; they indicate a learning deficiency that leads to students dropping out of school.

The World Bank also issued a statement in a press release dated June 6, 2021, in a report titled 'Foundations for Building Forward Better: An Education Reform Path for Lebanon.'[5] This report highlighted the critical state of the educational environment in Lebanon, pointing out the lack of education quality and declining learning levels. It emphasized that the escalation of crises in Lebanon, including the Syrian refugee crisis and other subsequent crises, has exacerbated the educational decline. This situation calls for urgent actions to halt the acceleration of educational setbacks and reduce school dropout rates.

We have outlined and reviewed several studies and reports. We hope our study will yield valuable results that can be applied in developing educational workshops designed to address and mitigate learning loss among students.

During our analysis of these reports and studies, we found that they mainly addressed the learning loss experienced by Lebanese students in the first and second cycles. We saw it necessary to expand our focus to include students of various nationalities, particularly Lebanese and Syrians, given their numbers in public schools and specifically in the ninth grade, to measure competencies of the third cycle. The study is conducted at the beginning of the year, four months after the completion of the ninth-grade studies, which will offer new insights into the field of study in terms of the educational stage and nationalities of the sample. Additionally, one of the main reasons for choosing this educational stage is that this group of students has experienced five years of interrupted education since 2019.

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3   QITABI (2020). QITABI 2 LITERACY AND NUMERACY 3 BASELINE REPORT

4   UNICEF (2023). محاصرون في دوامة الانهيار.

5   World Bank 2021. التعليـم فـي لبنــان فـي خطــر: نــداء عاجــل للإصلاح ومعالجــة التراجــع فـي النتائـج التعليميـة للتأسـيس لمسـتقبل أفضـل

What is learning loss?

Learning loss refers to the gap between the competencies students are expected to learn and those they actually acquire and apply. This term describes a general or specific loss in knowledge and educational skills, significantly affecting subsequent educational progress. The primary cause of learning loss is the temporary or prolonged disruption of students' education and learning processes (Al-Ramhi, 2021). This concept aligns with our definition of cumulative learning loss.

Study Objectives

1. To identify learning loss in three subjects—mathematics, Arabic and English languages — among tenth-grade students in public schools, by conducting exams held in previous official examinations.

2. To study the cumulative deficiencies in each educational subject.

3. To focus on the fundamental objectives and key lessons to compensate for gaps in the educational curriculum.

4. To determine the causes of learning loss, its consequences, and ways to address it.

Study Questions

Is there learning loss among tenth-grade students in public schools?

This primary research question has led to the following sub-questions:

1. Are there differences in the level of learning loss between male and female students?

2. Are there differences in learning loss between Lebanese and Syrian students?

3. Are there differences in learning loss between students who have repeated a grade and those who have not?

4. Are there differences in the level of learning loss among the three subjects?

5. Are there regional differences in learning loss across the various Lebanese governorates?

Methodology

We adopted a descriptive investigative research methodology, involving a broad group of students to collect and analyze their data; this was most suitable for our study. We employed exams as questionnaires during fieldwork to determine the learning loss among the students and then we analyzed the results we obtained.

Given our extensive experience in the field of education and firsthand observations of the challenges students face—particularly in the wake of Lebanon's numerous crises—we opted to undertake a field study focused on learning loss among tenth-grade secondary students. We selected this specific sample for two primary reasons: first, these students are required to pass a unified official exam applicable across Lebanon; secondly, they have endured significant challenges, including strikes over four years, during which their official exams should have covered competencies from three consecutive academic years (seventh, eighth, and ninth grades).

Our sampling approach was random to suit the study's needs, detailed later. The sample comprised 272 male and female students, both Lebanese and Syrian, distributed across two or three sections from eight different schools, each located in one of five selected governorates (Beqaa, South, North, Beirut, Mount Lebanon). Thus, the study covered eight secondary public schools across Lebanon: three in the South, two in the North, one in Baalbek, one in Mount Lebanon, and one in Beirut.

We began by defining the problem, and then proposed a hypothesis about the impact of the crises Lebanon has undergone on the learning loss among ninth-grade students. We contacted about 65 teachers across all governorates, specialists in the three main subjects: Arabic language, foreign language, and mathematics, along with school principals and directors, who facilitated our contact with the students. We arranged for 15 teachers to administer the exams, assigning five teachers per subject.

We also collaborated with nine teachers responsible for marking these exams during official examinations. Each group of three are specialized in their respective subject. They helped to review past exam sessions, present competencies, and analyze the tests. This process enabled us to select the exam that best aligned with our objectives. After the exams were conducted, these teachers marked them according to the correction principles adopted by the official examination department of the Ministry of Education.

Over recent years, the curriculum for certain subjects has undergone modifications, leading to the reduction or removal of some fundamental competencies previously taught to students. To accurately assess the current learning loss of students and compare it with the pre-crisis period, we selected exams that aligned with our research goals.

For the Arabic language, we opted for the 2015 special session as a tool to measure learning loss, given its alignment with our research objectives mentioned above. For mathematics, we selected the 2018 special session exam, since it also allows us to measure both first and second learning losses. The English language exam chosen was from the 2017 regular session, which include the same required competencies despite some topics being omitted. Thus, the English language exam allows us to measure only the second learning loss.

> In the following section, we detail each exam content. It is important to note that in both Arabic and mathematics subjects, we relied on two learning losses:
>
> - The first identifies the deficiency in acquiring competencies throughout a student's educational   years.
>
> - The second identifies the deficiencies in acquiring the required competencies in the last academic year (2022-2023).

Additionally, in both the Arabic and English language subjects, we focused on comparing learning losses in reading, analysis, and written expression. In mathematics, the comparison involved three fundamental sections covered in ninth grade: algebra, geometry, and the coordinate system.

Arabic Language Subject

The grade was calculated based on all the exam's questions for the first learning loss because it assesses all competencies required for the ninth grade. It is important to note that the written expression question about rhetoric, removed in the last academic year, was once a required competency and is critical for this grade as it introduces students to rhetoric lessons in high school. We followed this approach, because we also wanted to measure the learning loss of our students compared to the pre-crisis years, when this exam served as the benchmark for ninth-grade Arabic language level.

For the assessment of the second learning loss, the scores of the reading and analysis questions were used because all the questions in this segment are related to the competencies required in the last academic year. This allowed us to determine the loss based on the lessons provided to the students. As a result, for the Arabic language, we have four distinct grades to determine (1) the first loss, (2) the second loss, and to compare (3) the level of reading and analysis with (4) written expression.

Mathematics Subject

The grade was also calculated based on all the exam's questions for the first learning loss, as it evaluates all the competencies required for the ninth grade. This encompasses questions from lessons not mandated last academic year but deemed essential in previous years and for this grade, equipping students for high school subjects. This approach also aims to measure the learning loss of our students compared to the pre-crisis years, when this exam served as the benchmark for ninth-grade mathematics level.

For the second learning loss, we excluded content not required in the last academic year. We also segmented the exam grade into three sections: algebra, geometry, and the coordinate system. Consequently, we had five grades in mathematics to identify (1) the first loss, (2) the second loss, (3) algebra, (4) geometry, and (5) the coordinate system. This enabled us to determine the cumulative learning loss for each competency and section. It is important to note that the mathematics questions are designed to integrate these three sections, as seen in each question's components combining more than one aspect.

English Language Subject

In the English language subject, we have identified one learning loss because all exam questions derived from the competencies required in the last academic year. The English language exam is unique as the level of question complexity represents a second loss. Previously, these questions required indirect analysis, whereas in recent years they have become more direct and simplified. This led us to evaluate one learning loss in English, along a hidden learning loss in the ability to tackle indirect questions, which is reflected in the analytical questions scores. Thus, we have three distinct grades in the English language subject that identify (1) the learning loss, (2) the level of reading and analysis, compared to (3) written expression.

Work Procedures

On November 25, we began the distribution of exams to students. The examination process lasted a week until December 2. Subsequently, we collected the exams from the responsible teachers and distributed them to the correctors to evaluate them according to the grading standards set by the Ministry of Education. By December 15, the teachers completed the correction, including their notes and recommendations, which will be addressed in the following sections. It is worth mentioning that the teachers involved in this study, tasked with correcting the exams, had prior experience in correcting official exams and developing assessment frameworks for each subject covered in this study.
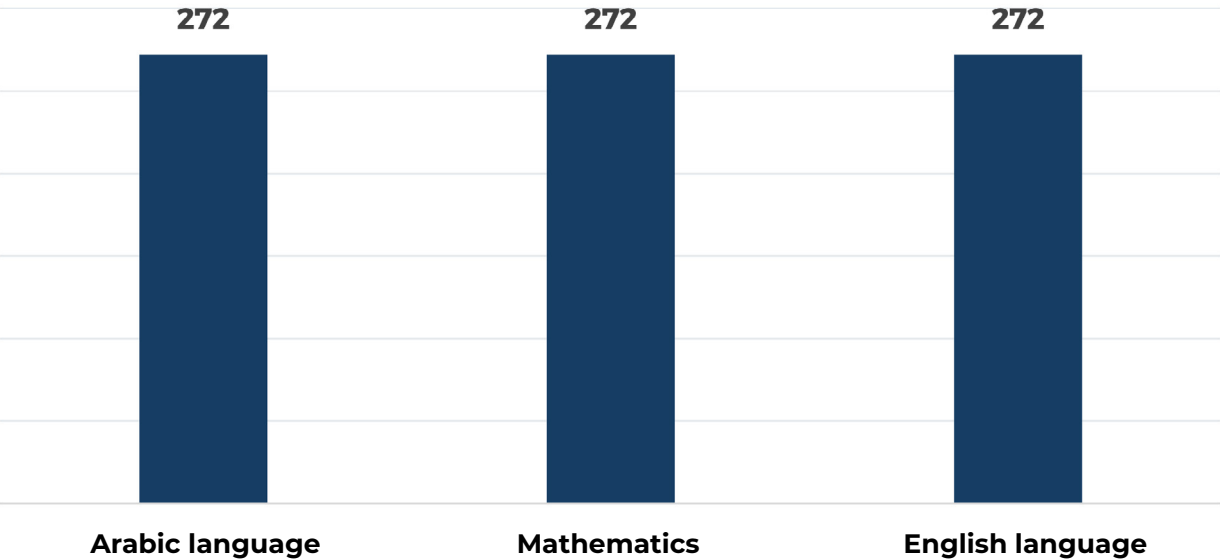
Sample

To verify the presence of the learning loss and its impact on Lebanese students, we conducted three different exams with 272 tenth-grade students distributed across public schools in five Lebanese governorates (Mount Lebanon, Beirut, North, South, and Beqaa), as detailed in the table below.

Sample distribution by governorate
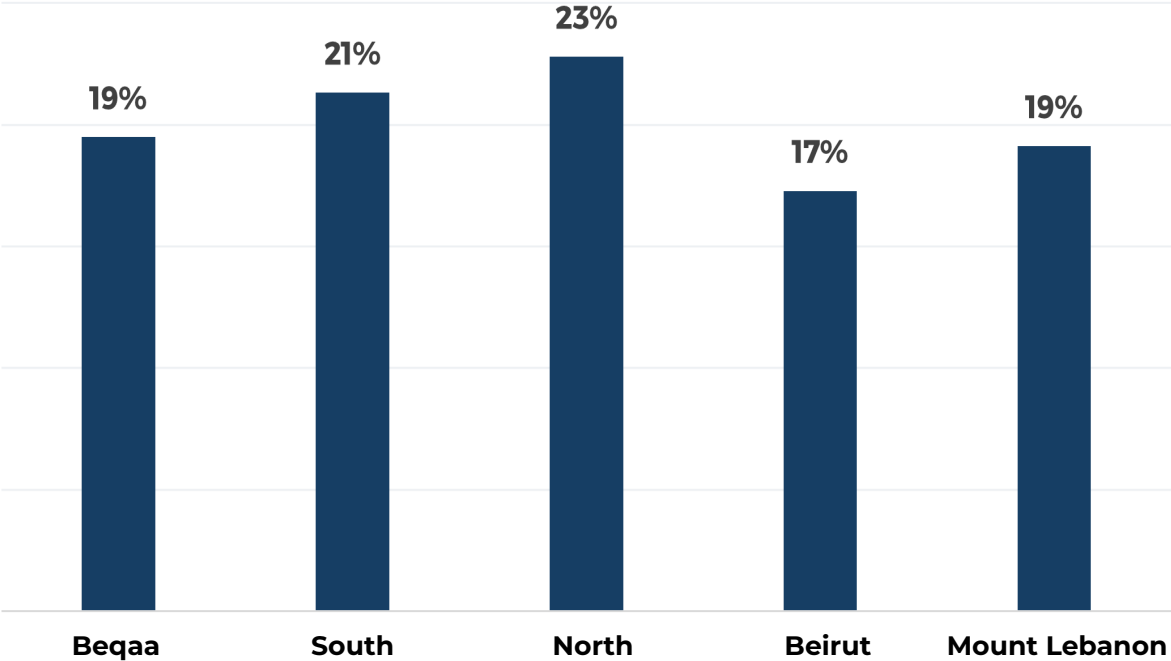
We selected three core subjects for the exams we conducted, which included exams in English language, Arabic language, and mathematics. In total, we administered 816 exams to 272 students from various Lebanese governorates.
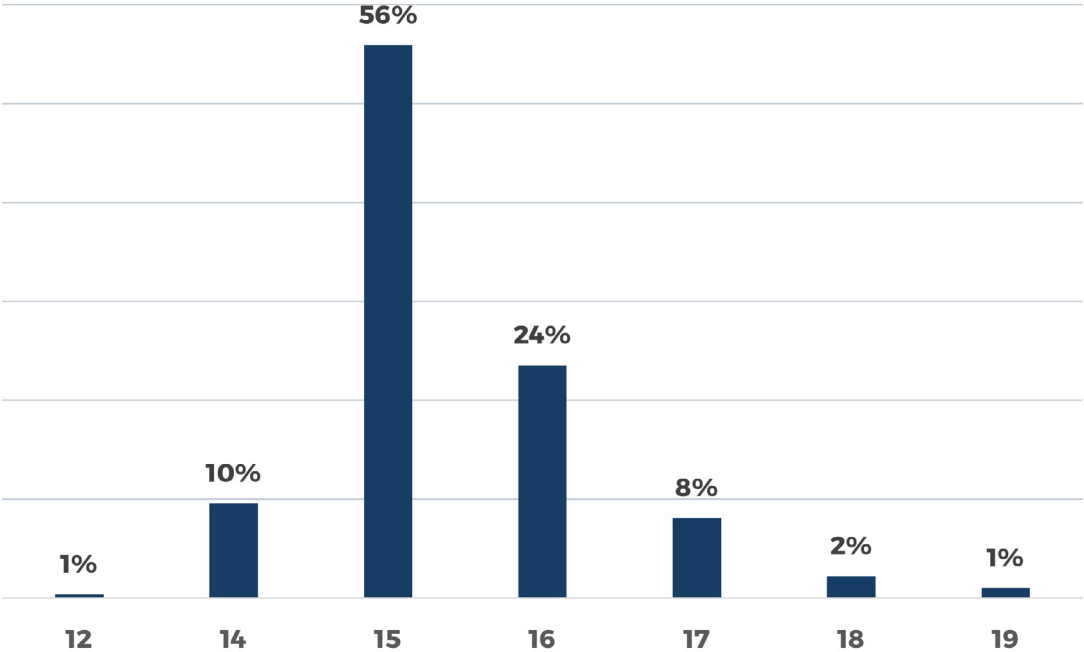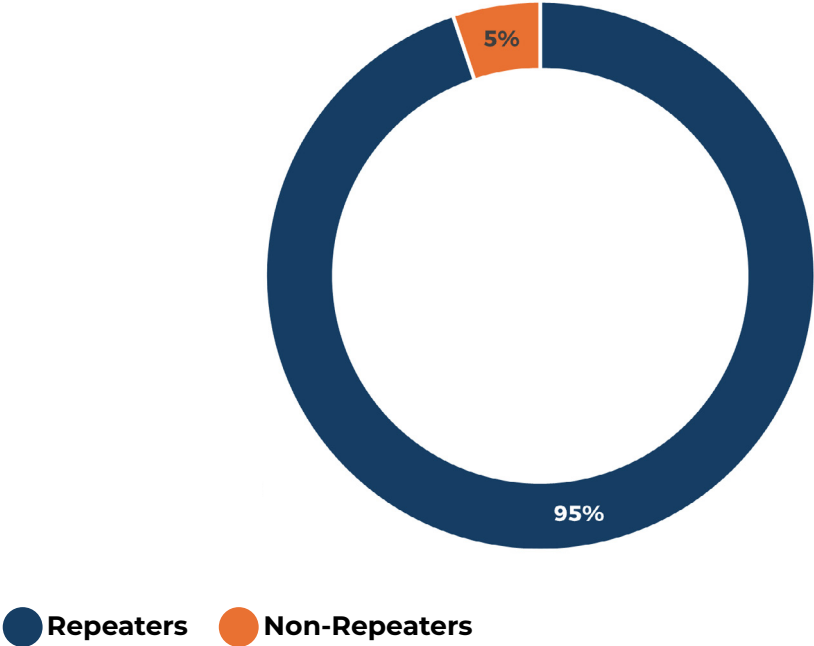
Sample distribution by exam type

As the table below illustrates, the students who took the exams were distributed by age group, which ranged from 14 to 17 years in most cases, with some variations due to some students repeating their current grade.

Sample distribution by age

The percentage of students repeating the tenth grade in secondary school was 5%, while 95% of the participants in the study reported that they were not repeating their current grade.

Students' percentage repeating their current grade


● **Repeaters** ● **Non-Repeaters**

Regarding the sample distribution by gender, male students comprised only 40% of the sample, while female students accounted for 60%. This gender distribution enables us to investigate any performance and learning loss disparities based on gender, a topic we will address in the subsequent sec!tion of this report.

Sample distribution by gender

40%

60%

● **Female**   ● **Male**
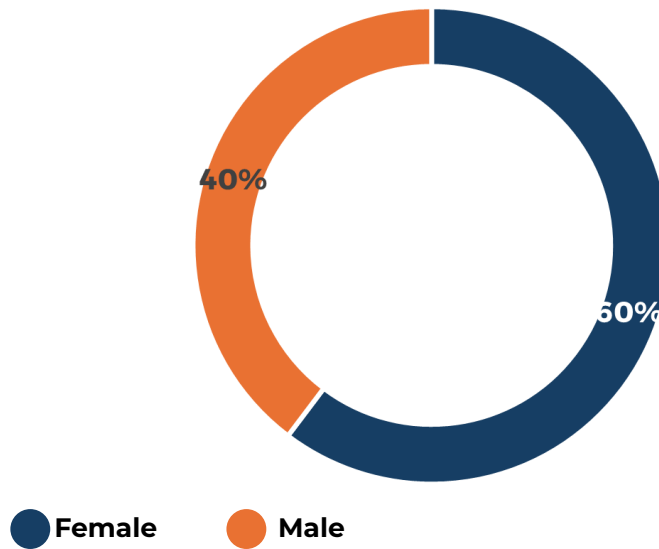
Given our interest in exploring potential variations in leaning loss based on nationality, we ensured the inclusion of Syrian students in our sample. This allows for an examination of educational levels between Lebanese and Syrian students. Consequently, Lebanese students comprised 73% of the participants who participated in the three examinations, whereas Syrian students made up 26% of the total sample.

Sample distribution by nationality

1%

26%

73%

● **Lebanese**   ● **Syrian**   ● **Other**
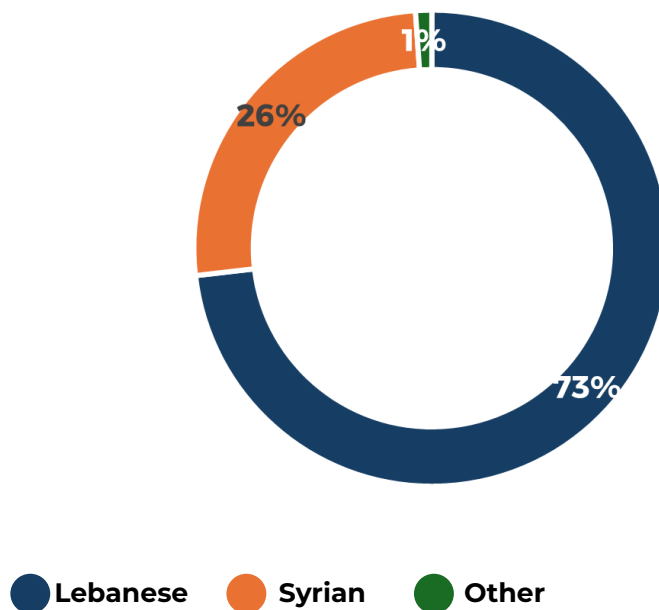
In the following sections of this report, we present the results of the mathematics, Arabic, and English exams, accompanied by an analysis of the key findings and disparities observed in this study. Finally, we conclude the study with a summary and recommendations that reflect the perspectives of the teachers who contributed to this research, focusing on the identified deficiencies and discussing how to address them for each subject.

Study Limitations

Among the limitations of this study is that the sample did not include all governorates and regions in Lebanon, rendering it not fully representative of the entire Lebanese population. Another significant limitation is that the students were not adequately prepared for the assessment, which could have influenced their performance. Furthermore, since the exam was a pilot test, this might have influenced their perception of the assessment and consequently their performance.

Study Results

One of the key findings from this study is that students exhibit significant weaknesses in mathematics, particularly in algebra, with these deficiencies becoming more pronounced in the coordinate system and reaching high levels in geometry. Similarly, significant weaknesses are observed in English, particularly in text comprehension and grammar, with the most pronounced difficulties in written expression. The study also reveals considerable weaknesses in both English and Arabic overall, marked by deficiencies in grammar, substantial challenges in text comprehension, and severe issues in written expression. These weaknesses are prevalent across all Lebanese governorates, affecting students regardless of gender, nationality, or whether they are repeating their grade. This indicates that leaning loss affects all students in Lebanon without exception.

In the subsequent sections, we will present the results of each exam separately to provide a detailed overview of student performance and the unique characteristics of each subject. We will then analyze the exam results in detail, highlighting major challenges and their underlying causes from the perspective of the participating teachers.

Mathematics Exam Results

The pass rate for students in the mathematics exam was 3%, a criterion set for any student scoring 5 or more out of 10 points on the overall exam score, which was recalculated from an original total of 20. We applied the same recalculation process for different sections of the exam (from 20 to 10) to facilitate analysis and comparison between various sections within the same exam.

Pass rate in the mathematics exam

3%
97%

● Failed   ● Passed
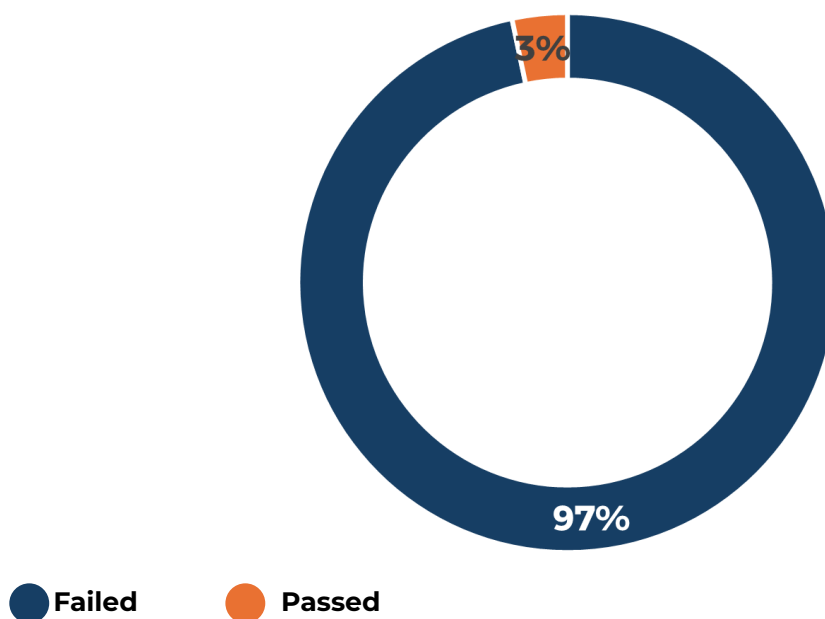
The average students' score in mathematics was 1.78 out of 10. The lowest scores were observed in the geometry section, with an average of 0.55 out of 10. Meanwhile, students scored an average of 2.71 out of 10 in algebra questions and 1.29 out of 10 in coordinate system questions.

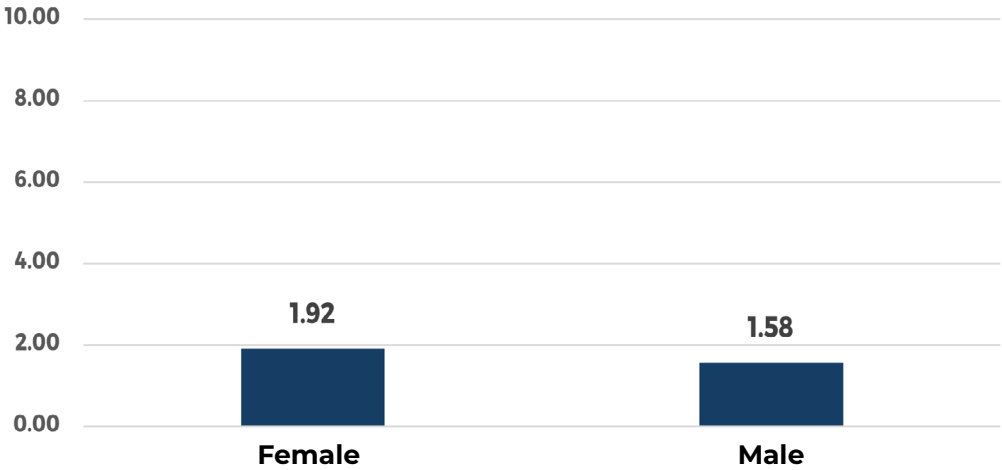**Average scores in the mathematics exam (out of 10)**
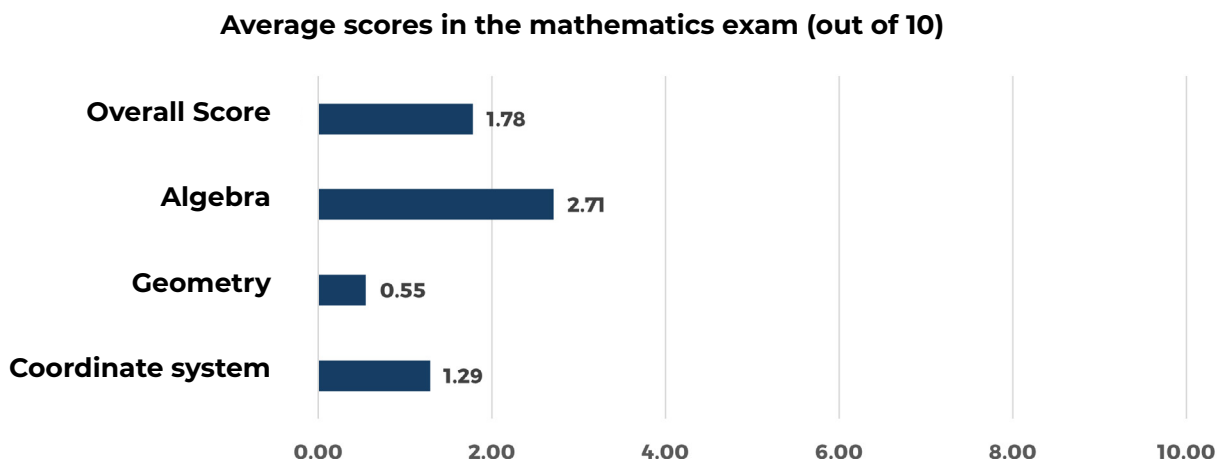
We divided the learning loss into two categories. The first reflects the deficiency in acquiring competencies over the student's educational years. The second reflects the deficiency in acquiring the required competencies in the last academic year (2022-2023) by excluding non-required competencies from the overall score. We observed then that the students' performance showed minimal improvement, increasing by less than one point—from 1.78 for the first learning loss average to 2.37 for the second learning loss average.
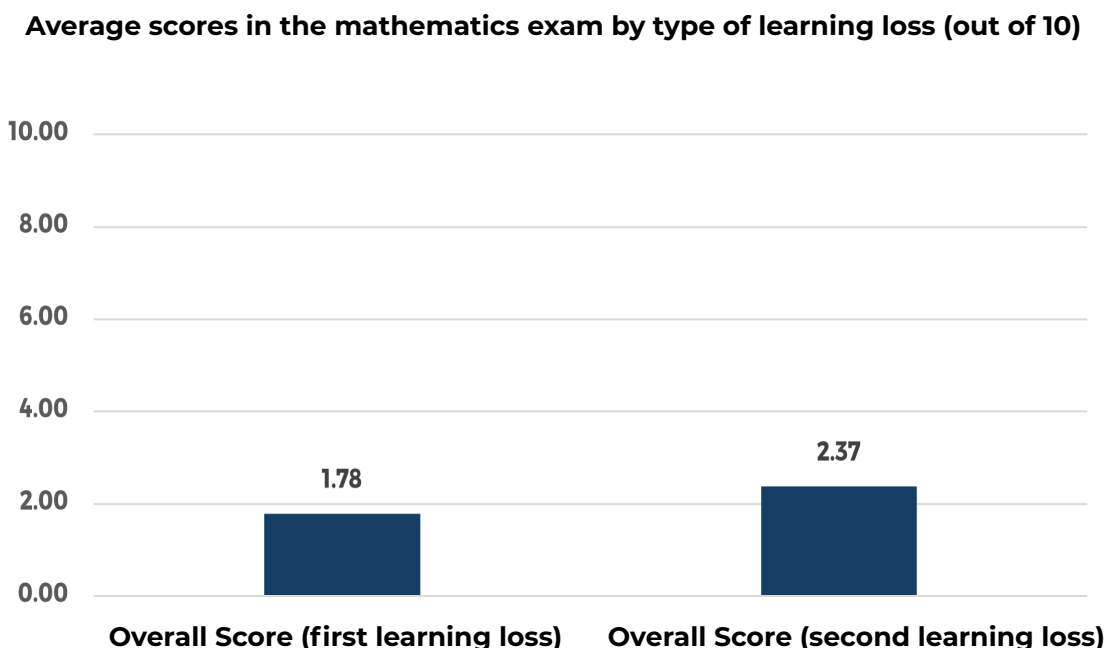
Average scores in the mathematics exam by type of learning loss (out of 10)

Moreover, the study results indicate no significant difference in the average scores between male and female students in mathematics. The average score for males was 1.58, while for females, it was 1.92 as shown in the table below.

**Average scores in the mathematics exam by gender (out of 10)**

In terms of score distribution across governorates, learning loss in mathematics is evident across various Lebanese regions. However, it is noteworthy that Beirut recorded the highest average scores for mathematics at 2.32 out of 10, while the North governorate recorded the lowest average scores at 1.07 out of 10.

**Average scores in the mathematics exam by governorate (out of 10)**
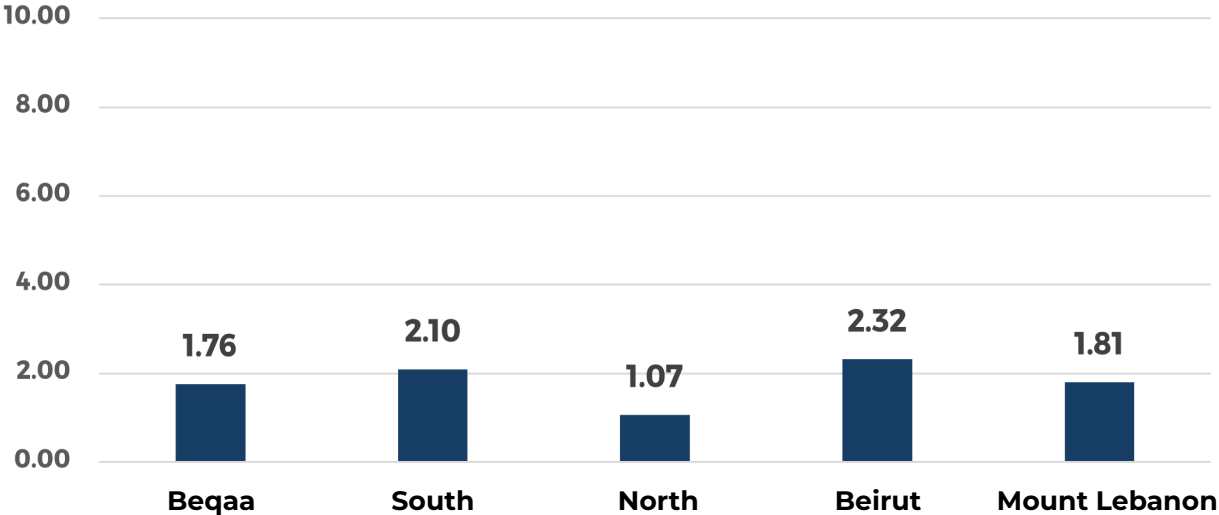
Furthermore, we observed no significant difference in the average scores of students who repeated their current grade (1.48) and those who did not (1.80), suggesting that learning loss affects all students regardless of educational capabilities.

Average scores in the mathematics exam by grade repetition (out of 10)
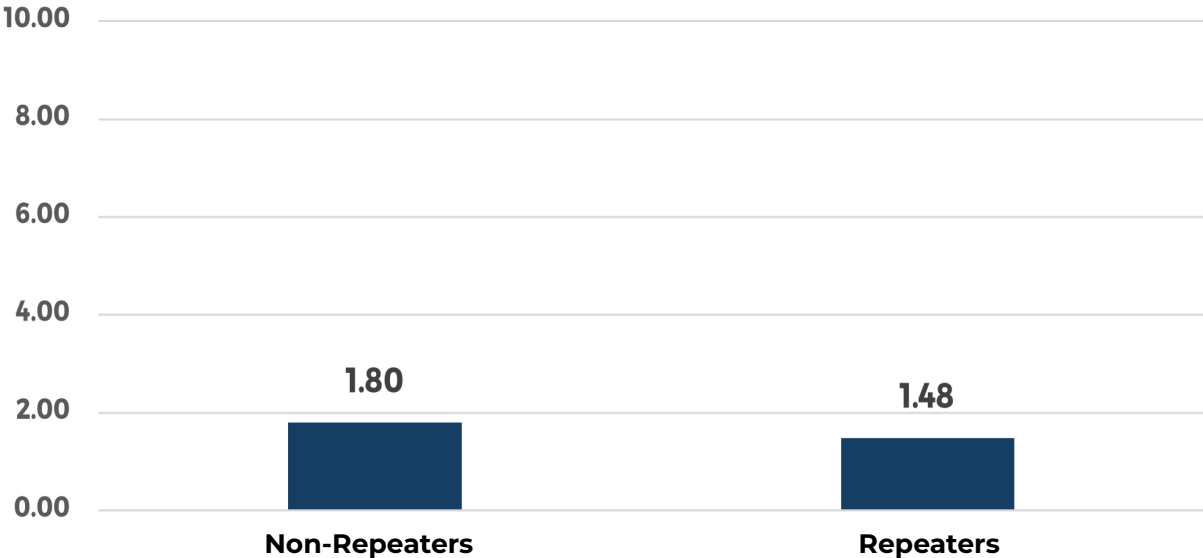
	Non-Repeaters	Repeaters
Score	1.80	1.48

Similarly, in terms of nationality, the results showed no significant difference in the average students' grades based on nationality in mathematics. The average for Lebanese students was 1.77, while for Syrian students, it was 1.79, as illustrated in the table below.

Average scores in the mathematics exam by nationality (out of 10)

	Syrians	Lebanese
Score	1.79	1.77
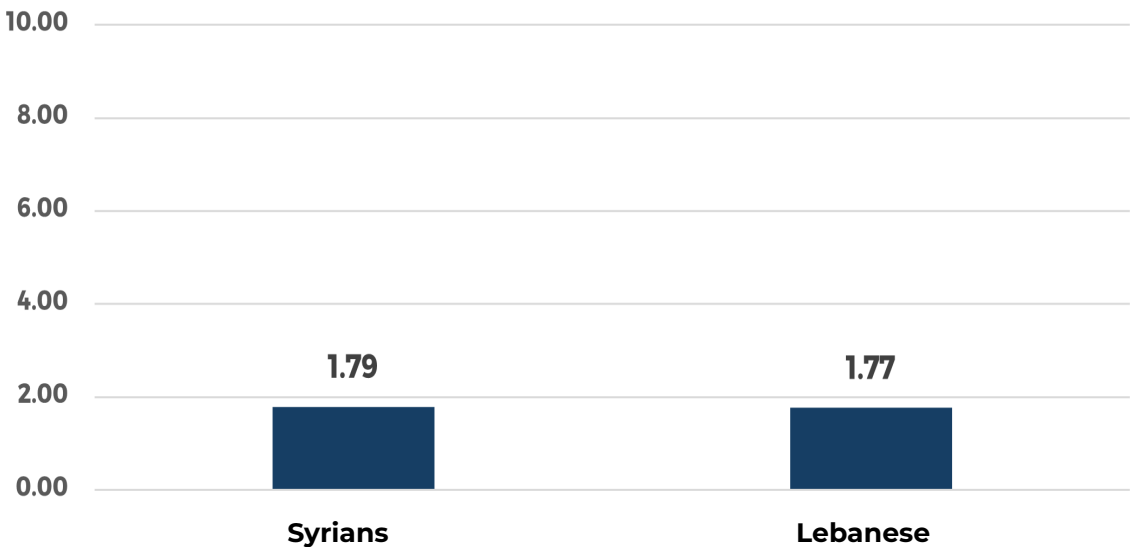
Analysis of Mathematics Exam Results

The difficulty level of the mathematics exam reached 75%, with questions from each required lesson for ninth-grade students. Despite being essential lessons, questions from the required curriculum received notably low grades. For instance, the geometry lesson, addressed in the second question, which is mandatory in grades seven, eight, and nine, had an average student score of only 0.55 out of 10, despite being part of the curriculum in preceding years.

Similarly, the fourth question, which is a challenging question focused on the coordinate system, was a required topic. However, the results were very low (1.29 out of 10). This lesson is crucial as it forms the foundation for students' understanding in high school. It is noteworthy that recent official exams for the intermediate certificate have simplified this topic.

The fifth question, concerning geometry, obtained a score close to zero/the lowest (0.55 out of 10). This lesson was not required in the previous year, and students do not need to master all of it for high school; rather, they will only need certain parts. This is because middle school geometry differs from that in high school. Consequently, while this loss will have some impact on them, it will not be significant. Nevertheless, the zero score given by the study sample indicates a learning loss that has persisted both before and after the crisis, compared to the level of ninth-grade students before and after.

According to the teachers, these outcomes can be attributed to the practice of automatic promotion in certain years, which involves adopting inadequate supplementary exams for failing students, promoting them in some years, and cancelling other lessons that are part of a series of lessons in the educational cycle. This has led to an accumulation of deficiencies in competencies and pressures to achieve lessons in ninth grade, thereby preventing students from acquiring competencies adequately.

For instance, the removal of certain geometry lessons from the curriculum for grades seven, eight, and nine, decided by the committee overseeing mathematics material preparation at the beginning of the third educational cycle, placed significant strain on ninth-grade students. This explains the low scores obtained in the geometry question in the exam.

This flaw has prompted teachers to resort to teaching students problem-solving in a singular manner, whereas previously they employed various methods. This adjustment aimed to help students tackle problems that included sections omitted in previous years. Consequently, this contributed to their failure to acquire the necessary competencies.

Arabic Language Exam Results

The pass rate for students in the Arabic language exam was 8%, a criterion set for any student scoring 5 or more out of 10 on the overall exam score, which was recalculated from an original total of 60. We applied the same recalculation process for different sections of the exam (from 36 and 24 to 10) to facilitate analysis and comparison between various sections within the same exam.

Pass rate in the Arabic language exam

8%

92%

● **Failed**   ● **Passed**
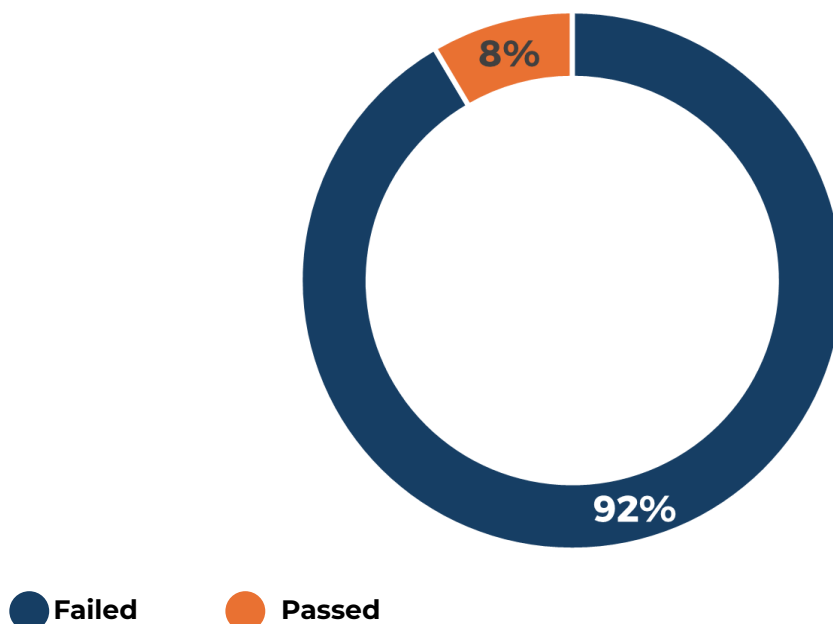
The average students' score in the Arabic language exam was 2.33 out of 10. Their performance was notably lower in the written expression section, with an average score of 0.12 out of 10, while the average score for reading and analysis questions was 3.12 out of 10.

Average scores in the Arabic language exam (out of 10)

Section	Score
Overall Score	2.33
Reading and Analysis	3.12
Written Expression	0.12

0.00   2.00   4.00   6.00   8.00   10.00
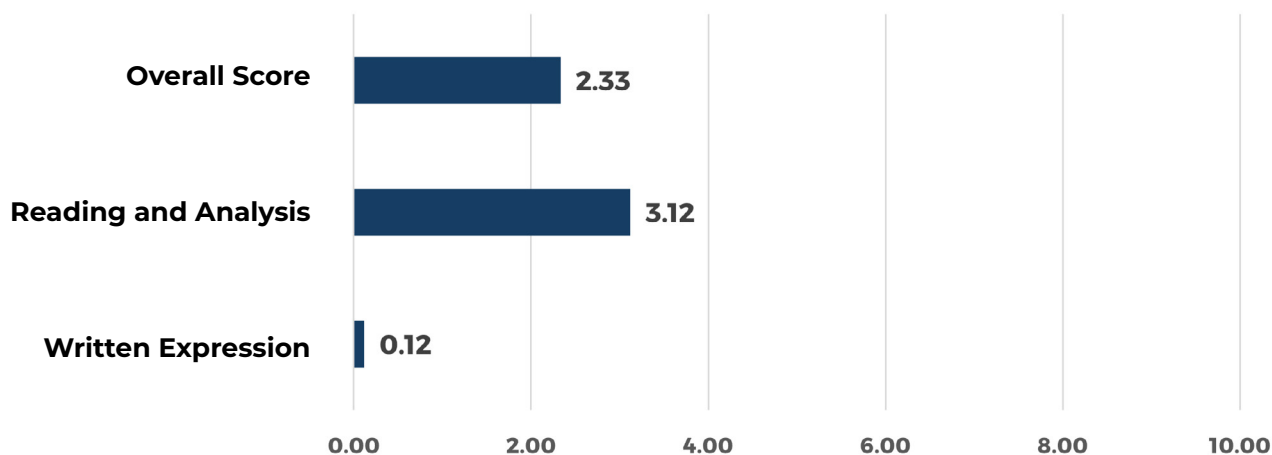
If we divide the learning loss into two parts, the first identifies the deficiency in acquiring competencies over the student's educational years, while the second identifies the deficiency in acquiring the required competencies in the last academic year (2023-2022) by excluding non-required competencies from the overall score. We observe that students' performance has not significantly improved. The average score increased by less than one point, from 2.33 for the first learning loss average to 3.12 for the second learning loss average.

**Average scores in Arabic language exam by type of learning loss (out of 10)**
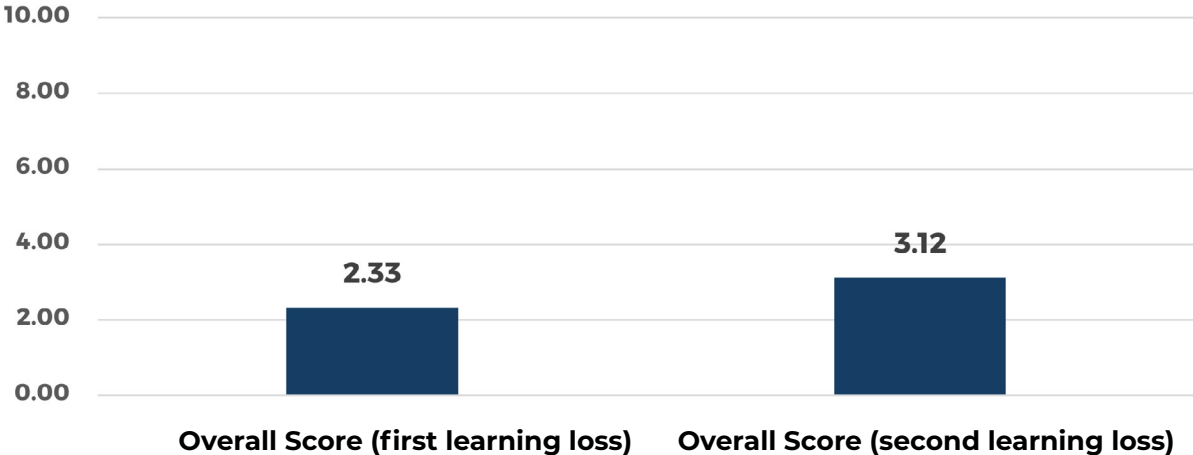
Moreover, the study results indicate no significant difference in the average scores between male and female students in the Arabic language exam. The average score for males was 1.98, while for females, it was 2.56, as shown in the table below.

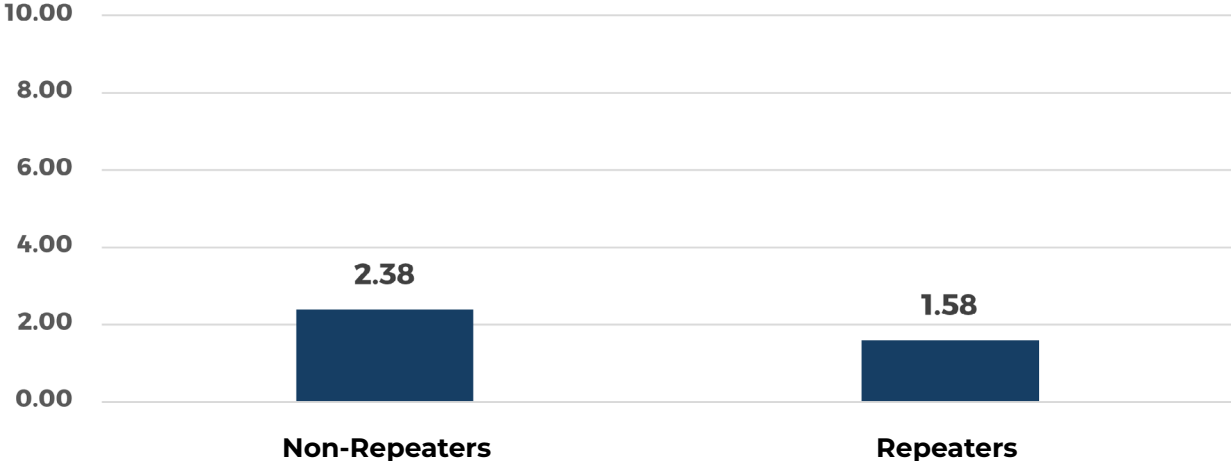**Average scores in the Arabic language exam by gender (out of 10)**
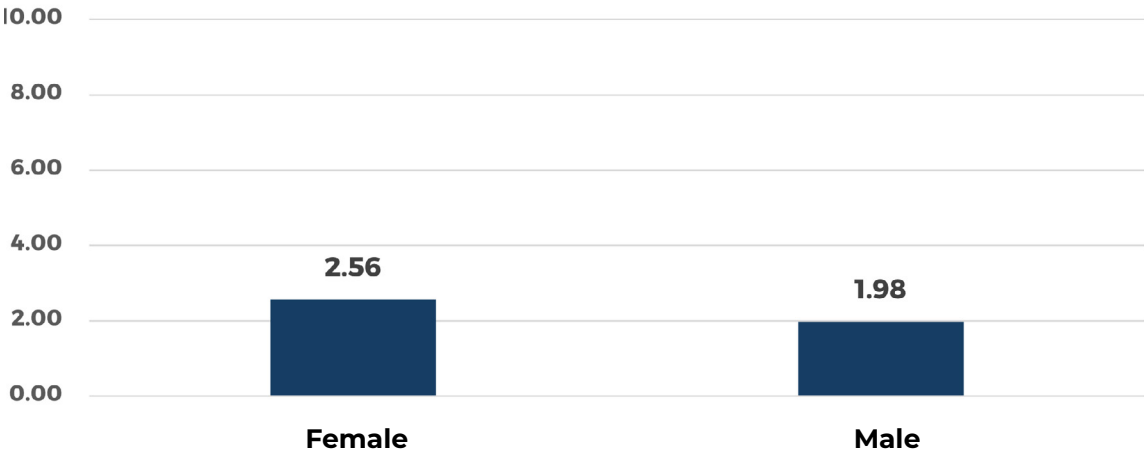
In terms of scores distribution across governorates, the learning loss in the Arabic language exam is evident across various Lebanese regions. However, it is noteworthy that Beqaa governorate recorded the highest average scores for the Arabic language exam 4.23 out of 10, while the North governorate recorded the lowest average scores at 1.60 out of 10.

Average scores in the Arabic Language exam by governorate (out of 10)
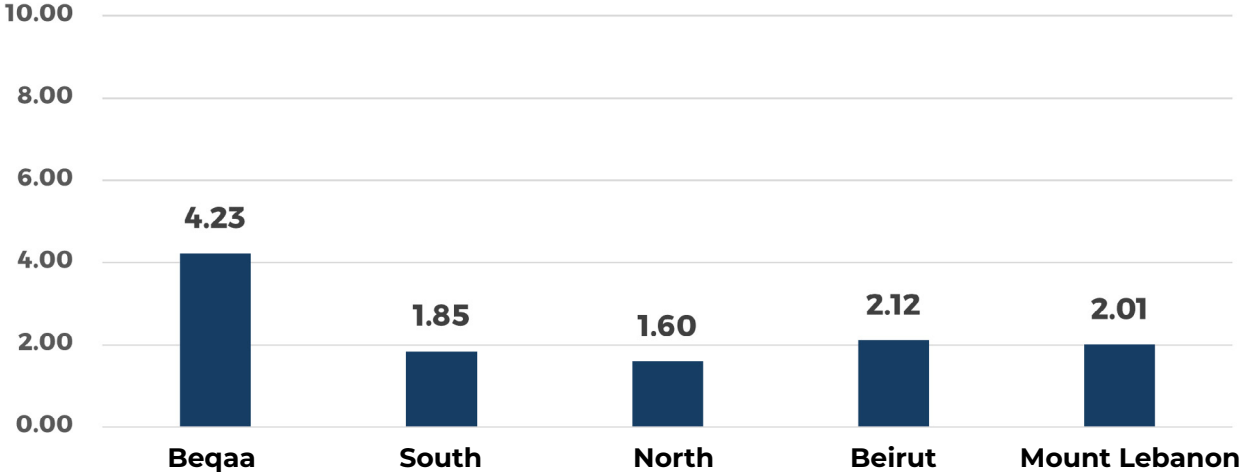

Furthermore, we observed no significant difference in the average scores of students who repeated their current grade (1. 58) and those who did not (2.38), indicating that all students are affected by the learning loss regardless of whether they are repeating their grade or not.

Average scores in the Arabic language exam by grade repetition (out of 10)

Similarly, in terms of nationality, the results showed no significant difference in the average students' scores based on nationality in the Arabic language exam. The average for Lebanese students was 2.36, while for Syrian students, it was 2.30, as shown in the table below.

Average scores in the Arabic language exam by nationality (out of 10)

	Syrians	Lebanese
Score	2.30	2.36
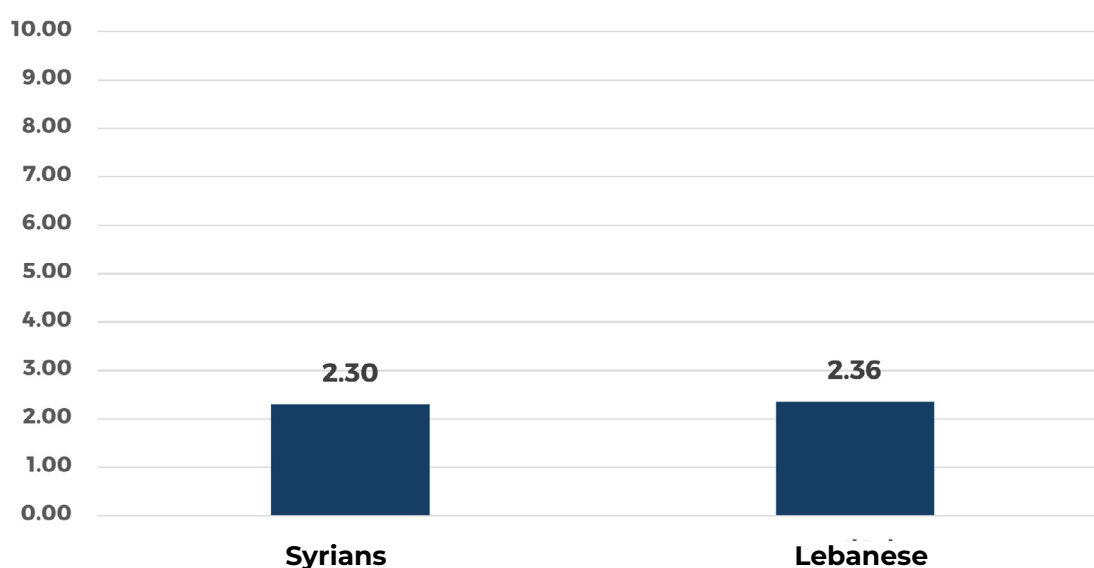
Analysis of Arabic Language Exam Results

The results showed that most students were unable to read and analyze effectively, had weaknesses in grammar, and demonstrated even greater weaknesses in written expression. The teachers also noted that the text was appropriate for the ninth grade level and that the questions were clear and specific. This suggests several factors contributing to the accumulated learning loss in acquiring this competency.

Teachers observed that students face difficulties with reading, a fundamental skill for comprehension and analysis. When students fail to engage emotionally in their reading or to read words thoroughly and attentively, it negatively affects their reading ability. Moreover, when they lack proper reading skills, their thoughts become confused, leading to a lack of text comprehension.

Regarding grammar weaknesses, all grammar questions were mandatory in the previous academic year, yet the average scores were low. This indicates a failure to adequately acquire the necessary competencies.

Upon closer examination, we find that the grammar lessons and exercises in the seventh-grade book are weak in Arabic grammatical analysis (i'rab), whereas those in the eighth and ninth-grade books are good. However, the grammar lessons in the ninth grade are intricate and challenging for students. The increased pressure on students due to the reduction of teaching weeks and lesson durations further complicates the acquisition of these competencies.

The study also revealed weak results in written expression. Although rhetoric was not required in the previous academic year, it had been previously mandated and is therefore part of the cumulative learning loss compared to students' pre-crisis levels. Rhetoric is crucial at this stage of secondary education, and a weakness in this area will be a learning loss that will affect students later on. Teachers confirmed that students only wrote a few sentences in their written expression, indicating that the problem extends beyond not knowing the type of text but rather lies in the ability to express themselves effectively.

The deficiency in written expression is due to several factors, such as students' failure to acquire structured rhetoric writing. They also lack a method for writing sentences that require multiple competencies. Students did not acquire writing skills previously, as they do not possess the necessary tools for expression. Several reasons contribute to this, including the accumulation of strike days and holidays, insufficient teacher training, lack of oversight by the Ministry of Education, and the absence of effective teaching methods.

Lack of language acquisition leads to weaknesses in writing. Most written expressions lack uniqueness and distinction in ideas. This is primarily attributed to students' lack of reading habits due to the demands of their curriculum, particularly the extensive Weaknesses in reading lead to comprehension weaknesses, which in turn translate into analytical shortcomings. A limited linguistic repertoire and failure to acquire writing strategies result in weaknesses in written expression. We will now outline the general and specific reasons behind the weakness in the Arabic language:

- The question pattern in public school textbooks follows a format predating 1997, thus deviating from the structure of questions in official exams.

- Apart from the ninth-grade textbook's omission of various text types and its failure to align with the interests of ninth-grade students, educators are compelled to utilize external resources covering requisite competencies.

- Weaknesses in Arabic language proficiency can be traced to foundational education stages, the practice of automatic promotion in public schools, loss of educational months due to the COVID-19 crisis, prolonged strikes, and remote instruction.

- The lack of supervision over teachers, the failure to adopt effective teaching strategies, and the absence of reading.

- The use of internet language in written communication by learners.

- Most teachers do not speak formal Arabic during Arabic lessons.
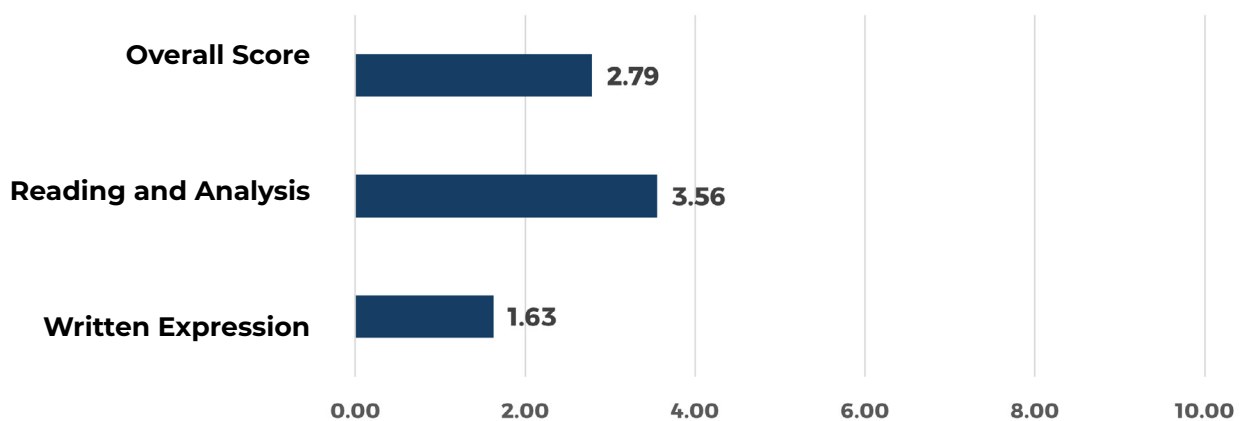
English Language Exam Results

The pass rate for students in the English language exam was 3%, a criterion set for any student scoring 5 or more out of 10 on the overall exam score, which was recalculated from an original total of 20. We applied the same recalculation process for different sections of the exam (from 12 and 8 to 10) to facilitate analysis and comparison between various sections within the same exam.

Pass rate in the English language exam

13%

87%

● **Failed**　　● **Passed**
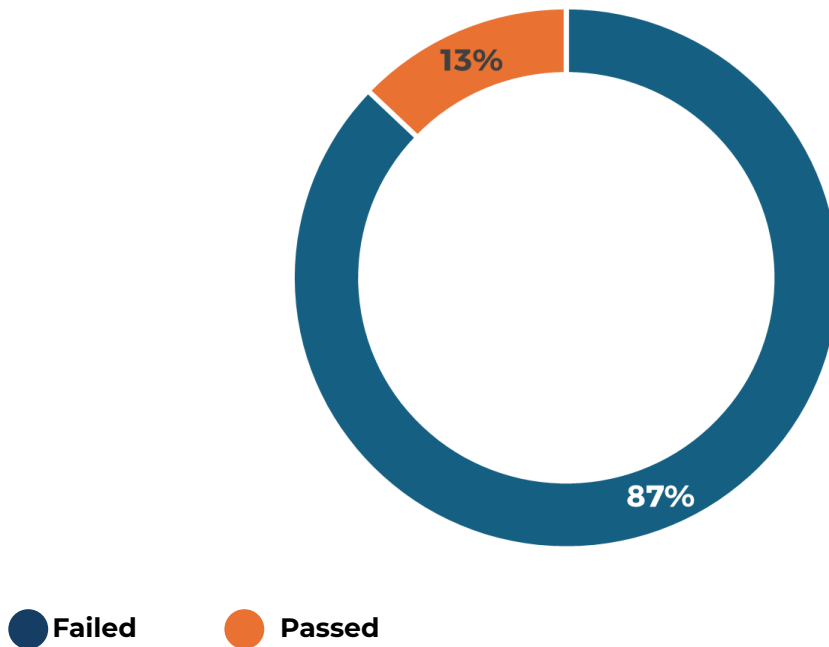
The average students' score in the English language exam was 2.79 out of 10. The lowest scores were observed in the written expression section, with an average of 1.63 out of 10. Meanwhile, the average score in reading and analysis questions was 2.71 out of 10.
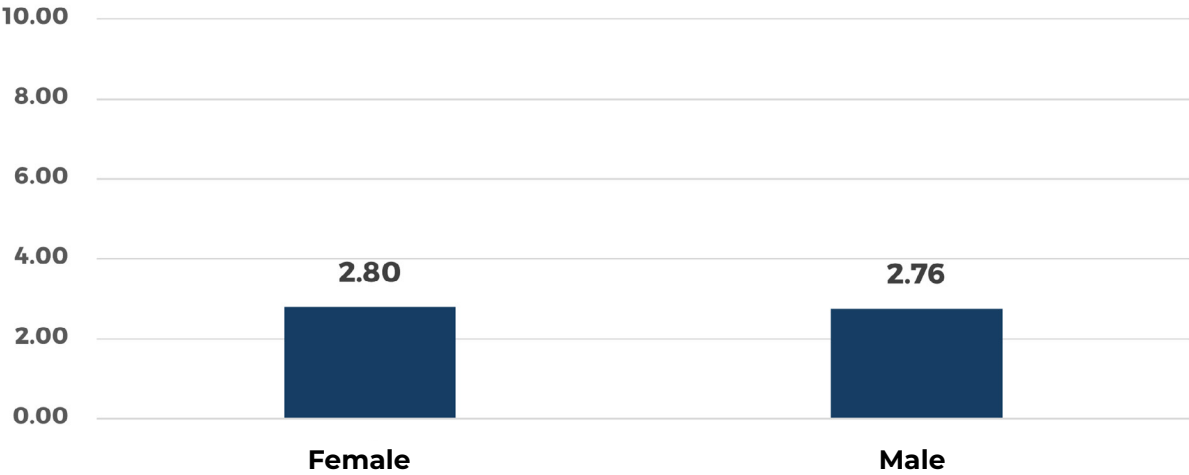
Average scores in the English language exam (out of 10)

|	
Overall Score	2.79
Reading and Analysis	3.56
Written Expression	1.63

0.00　2.00　4.00　6.00　8.00　10.00

Moreover, the study results indicate no significant difference in average scores between male and female students in the English language exam. The average score for males was 2.76, while for females, it was 2.80, as shown in the table below.

Average scores in the English language exam by gender (out of 10)

	Female	Male
Score	2.80	2.76

In terms of score distribution across governorates, the learning loss in the English language exam is evident across various Lebanese regions. However, it is noteworthy that Beirut recorded the highest average scores for the English language exam at 3.42 out of 10, while the North governorate recorded the lowest average scores among the five provinces at 2.03 out of 10.

Average scores in the English language exam by governorate (out of 10)
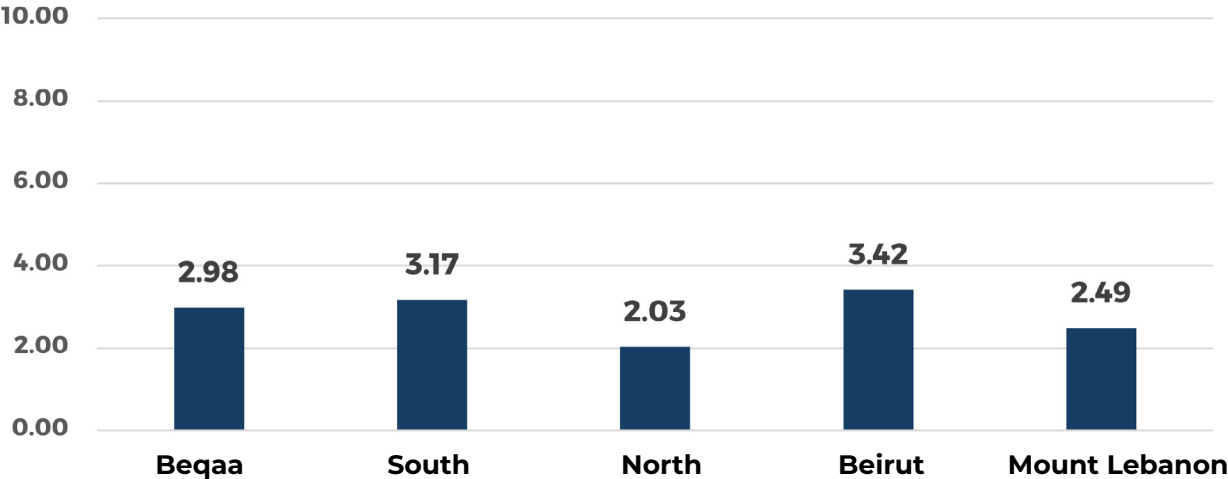
	Beqaa	South	North	Beirut	Mount Lebanon
Score	2.98	3.17	2.03	3.42	2.49

Furthermore, we observed no significant difference in the average scores of students who repeated their current grade (2.16) and those who did not (2.82), suggesting that learning loss affects all students regardless of educational capabilities.

Average scores in English language exam by grade repetition (out of 10)
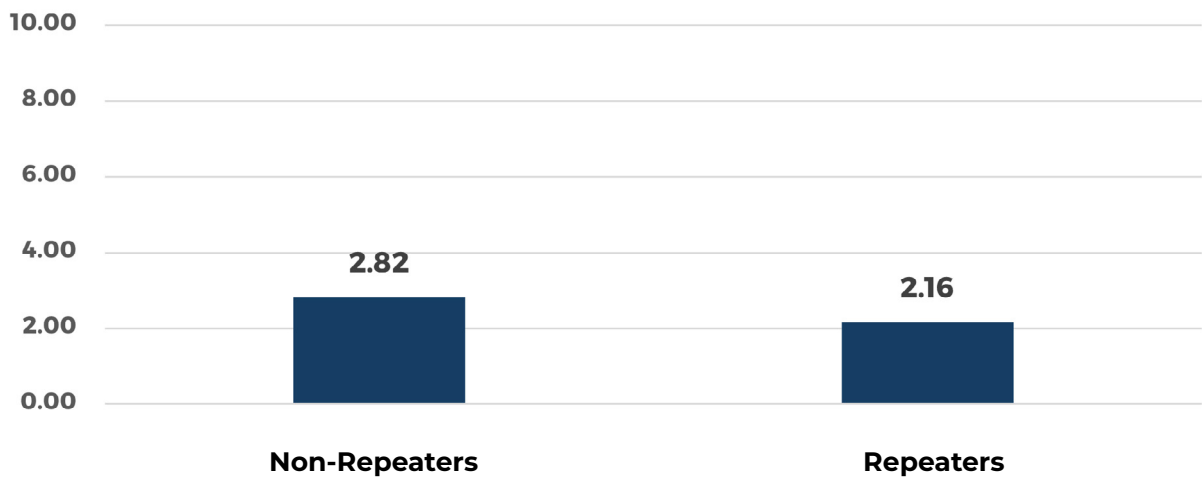
Similarly, in terms of nationality, the results showed no significant difference in the average students' scores based on nationality in the English language exam. The average for Lebanese students was 3.08, while for Syrian students, it was 2.02, as shown in the table below.

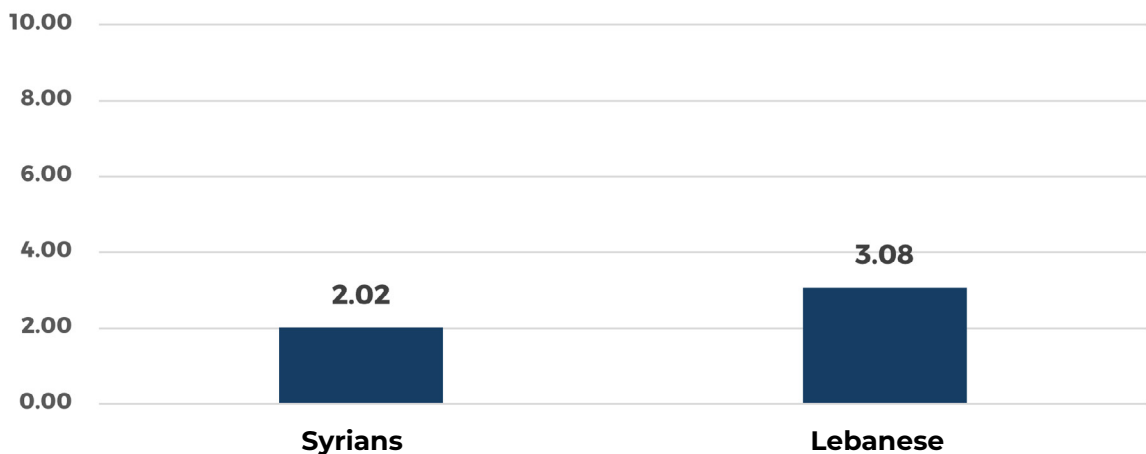**Average scores in the English language exam by nationality (out of 10)**

Analysis of English Language Exam Results

The exam text was considered easy, with some questions being direct, while others requiring analysis. However, overall, the exam is deemed suitable for the ninth-grade level. Nevertheless, students were only able to answer the direct questions, and they did not respond to the indirect ones, which require more analysis.

The results also indicated weaknesses in grammar, inability to express, a lack of linguistic repertoire, and a shortage of ideas related to written expression among some students due to insufficient acquisition of writing skills. Additionally, there was an apparent inability to comprehend the text, even with some clues provided in the questions. Furthermore, questions concerning text comprehension varied between direct and optional.

From the perspective of examiners responsible for grading exams, the reason behind the evident weakness in students' performance might be attributed to incomplete mastery of all competencies, along with accumulated deficiencies from lower grades, particularly noticeable in the ninth grade. This is particularly true for the seventh, eighth, and ninth grades, where there is a sequential progression of lessons in written expression and linguistic repertoire.

A significant challenge arose in students' ability to apply grammar rules within the context of the content, which made solving grammar questions challenging for them. The main issue with grammar instruction is that it relies on memorization with limited practical exercises, whereas learners need to imply grammar in expressive contexts to retain it. Consequently, the success rate for grammar questions was less than 10%.

The lack of proficiency in written expression may result from students' unfamiliarity with the topic and its vocabulary. This is primarily because many middle school teachers provide pre-written expressive texts for memorization, which students reproduce without deeper comprehension. Furthermore, some teachers, especially those in secondary education, are graduates of the Faculty of Pedagogy at Lebanese University and have received training in teaching written expression. In contrast, primary school teachers often lack such specialized training in this aspect of written expression.

It's worth noting that the workshops conducted by "Qitabi" Association or the Center for Educational Research and Development did not address written expression strategies. Therefore, teachers' unfamiliarity with these strategies is one of the reasons why learners are not empowered to write any topic based on their own ideas.

Conclusion and Recommendations

After assessing the economic and social crisis's impact on Lebanon's education sector and the challenges faced by students, particularly following the country's recent crises, we decided to conduct a field study to examine learning loss among tenth-grade secondary students. We selected this sample for two reasons: Firstly, these students must pass an official exam, which is a unified exam to all Lebanese students. Secondly, these students have encountered challenges and strikes over the past four years, precisely when they should have been preparing for their official exam, which encompass competencies from three consecutive years (from seventh, eighth, and ninth grades). To determine the existence of learning losses and their effects on Lebanese students, we conducted three different exams to 272 male and female students across public schools in five Lebanese provinces (Mount Lebanon, Beirut, North, South, and Beqaa).

The study outcomes revealed significant deficiencies in mathematics, Arabic, and English among tenth-grade high school students. These deficiencies were observed across all Lebanese provinces, regardless of gender, nationality, or educational capabilities. However, it is noteworthy that Beirut showed the highest averages in mathematics and English language subjects, whereas the Beqaa attained the highest average in the Arabic language exam. On the contrary, the North province recorded the lowest averages across the three subject exams.

The primary cause of this weakness lies in the accumulation of learning loss. Economic and social crises in recent years have disrupted Lebanon's educational system, resulting in a cumulative learning loss among students. In addition to the failure to acquire basic competencies, it has been observed that students lack essential basic competencies in these subjects, leading to difficulties in understanding the content and solving problems. Moreover, there is a deficiency in teaching methods. According to participating teachers in the study, some educators in public schools do not utilize effective teaching strategies, thereby posing challenges for students in acquiring the necessary competencies.

Based on these findings, we recommend the following measures to address this issue:

- It is essential to develop a comprehensive national plan to tackle learning loss, by providing supplementary educational programs for students.

- Provide training to teachers in public schools on effective teaching methods.

In addition to the general recommendations mentioned above, we offer specific suggestions for each of the three subjects examined in the study:

Recommendations for Mathematics Subject

- Avoid cancelling entire lessons; instead, consider eliminating specific parts of lessons when necessary.

- Avoid cancelling sequential lessons, as students in advanced grades have more educational commitments. Disruptions can pressure students and cause them to fall behind in other subjects.

- Review mathematics curricula regularly to ensure they remain aligned with modern scientific advancements.

- Provide teachers with training on teaching mathematics in a manner that emphasizes understanding the content and problem-solving skills.

Recommendations for Arabic Language Subject

- There is a need to develop a comprehensive textbook containing all the lessons and required exercises, with teachers adopting modern teaching strategies and moving away from traditional methods.

- Adjust the duration of the educational sessions to match the content requirements.

- Grammar lessons in the eighth grade, which serve as a foundation for the ninth grade, should not be omitted.

- Review the Arabic language curriculum to ensure it remains aligned with linguistic and social developments.

- It is crucial to train teachers in Arabic language instruction methods that emphasize the development of reading, writing, comprehension, and analysis skills.

Recommendations for English Language Subject

- Emphasize reading and listening skills to enhance writing proficiency.

- Teach students how to apply grammar rules within the context of content.

- Adopt textbooks that integrate reading passages, comprehensive grammar lessons, practical exercises, and writing assignments. Current textbooks used in public schools often feature reading texts and basic grammar lessons without practical exercises and rules for written expression. This frequently requires teachers to address this deficiency on an individual basis.

- Intensify instruction in written expression, providing diverse essay topics for each unit

-Follow a structured sequence for each grade level

- Review English language curricula to ensure they keep pace with global linguistic developments.

- It is essential to provide teacher training in English language instruction methods that focus on developing comprehension, listening, speaking, and writing skills.

We hope that the required measures will be taken to tackle this issue, enabling Lebanese students to attain the essential basic competencies in these subjects, thereby paving the way for success in both their educational and professional lives.