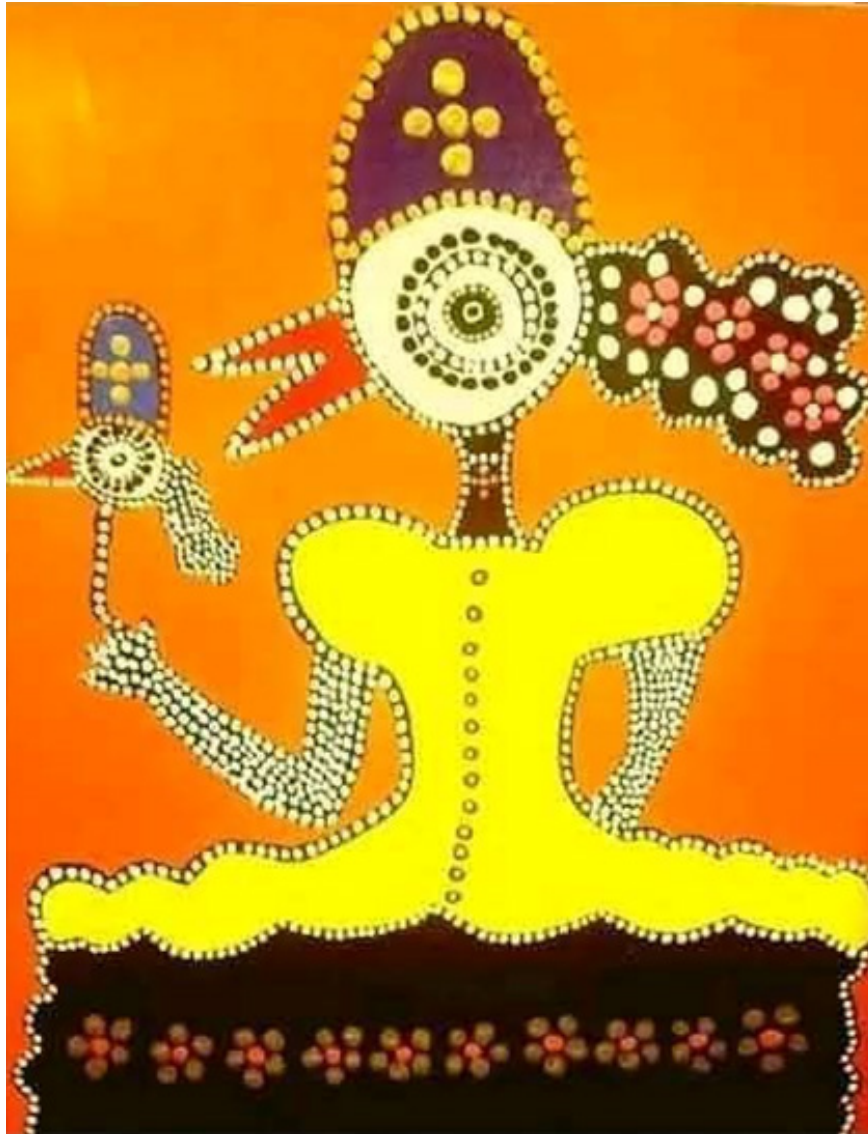




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Crisis in Lebanon and distance learning. The student perspective

Elias Kaawe y Christelle Stephan-Hayek***

Abstract

This article explores the relationship between students' perception of the teaching style and their evaluation of the academic year among Lebanese students, assessing the effectiveness of distance learning during two major crises: the COVID-19 pandemic in 2020 and the September 2024 war. Data collected from 400 students reveal that in-person teaching remains largely preferred, but the impact of teaching methods on student satisfaction varies: it is significant during the pandemic (with interactivity acting as a compensatory factor) and not significant during the war (where the emotional context outweighs the method). These findings highlight the need to integrate targeted psychosocial support into educational policies during crisis periods, and to differentiate support strategies according to the nature of the crisis.

Keywords: Distance Learning (DL); Crises, Student Perception; COVID-19; War; Teaching Style; Lebanon; Psychosocial Support

*Holy Spirit University of Kaslik, Jounieh, Lebanon. ORCID : [0009-0004-9721-6987](https://orcid.org/0009-0004-9721-6987)
E-mail: kaawelias@gmail.com

**Holy Spirit University of Kaslik, Jounieh, Lebanon. ORCID: [0000-0002-7854-9074](https://orcid.org/0000-0002-7854-9074)
E-mail: christellestephan@usek.edu.lb

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Crisis en Líbano y enseñanza a distancia. La percepción estudiantil

Resumen

Este artículo explora la relación entre la percepción de los estudiantes sobre el estilo de enseñanza y su evaluación del año académico entre estudiantes libaneses, evaluando la efectividad del aprendizaje a distancia durante dos crisis mayores: la pandemia de COVID-19 en 2020 y la guerra de septiembre de 2024. Los datos recolectados de 400 estudiantes revelan que la enseñanza presencial sigue siendo ampliamente preferida; sin embargo, el impacto de los métodos de enseñanza en la satisfacción estudiantil varía: es significativo durante la pandemia (donde la interactividad actuó como un factor compensatorio) y no es significativo durante la guerra (donde el contexto emocional prevalece sobre el método). Estos hallazgos destacan la necesidad de integrar un apoyo psicosocial específico en las políticas educativas durante periodos de crisis y de diferenciar las estrategias de apoyo según la naturaleza de la crisis.

Palabras clave: Aprendizaje a Distancia (AD); Crisis; Percepción Estudiantil; COVID-19; Guerra; Estilo de Enseñanza; Líbano; Apoyo Psicosocial

Introduction

In Lebanon, distance learning (DL) is no longer a mere technological option; it has become a reflection of crises, a lifeline, though often fragile, for thousands of students. The evolution of DL has been shaped by a variety of factors, ranging from technological advances to educational imperatives dictated by major events. Our educational system has been severely tested on several occasions, transforming DL from a modernist alternative into a vital necessity.

The first turning point occurred in the spring of 2020, when the COVID-19 pandemic forced Lebanon into a sudden shift to online learning to “save” the school year. This episode quickly revealed the structural and logistical challenges of DL.

More recently, history has tragically repeated itself. In the fall of 2024, the war between Israel and Hezbollah imposed a new school lockdown. During this war, which began in September 2024, the closure of schools, particularly in the affected regions, necessitated a swift transition back to distance education.

These two periods of crisis required immense dedication from teachers, parents, and administrations to overcome numerous obstacles and ensure educational continuity, often through dedicated platforms. Despite institutional efforts, it is essential to emphasize the significance of teachers’ initiatives and personal commitment. Faced with limited preparation for such emergency situations, especially during the first crisis, they had to create and disseminate video lessons and other learning materials within extremely short timeframes, showing that even in times of crisis, the commitment to teaching remains unwavering.

However, it should be emphasized that distance learning in the Lebanese context is an uphill struggle. It is not just a matter of applications; it is a matter of daily life. *“Students are not familiar with new technologies in distance learning. In practice, left to their own devices, they sometimes struggle to master certain concepts; they find it difficult to follow the pace of distance learning... They struggle to follow their courses online. Between daily power outages and poor internet connections, pursuing distance learning is not always easy for Lebanese students...”* (Awit, 2021). Furthermore, many families face a lack of adequate technological equipment or low purchasing power, limiting their children’s access to online courses.

Moreover, this transition has also transformed teaching styles. Human contact, often reduced to speech alone, limits interaction and, potentially, understanding. While some private schools had already adopted this mode of learning since the popular uprising of October 2019, using platforms such as Google Classroom or Zoom, its effectiveness remains uneven. While some students benefit from complete virtual classes, others receive only simple revision sheets or basic concepts.

These disparities highlight the divide between schools. Father Boutros Azar, former Secretary General of Catholic Schools in Lebanon, had already expressed his concern about this issue in March 2020: *“I am not worried about large private establishments or schools linked to religious orders, be them Christian or Muslim... I am, however, concerned about those establishments that do not have the possibility of developing distance learning...”* (El Hajj, 2020).

Hence, the primary focus of this article is not solely technical; it is fundamentally human, examining students’ perceptions of distance teaching methods during periods of crisis in Lebanon.

Beyond access and logistical issues, what is the real impact of distance learning on learners’ engagement, motivation, and effective learning of learners, given the variety of virtual teaching styles, some of which may be suboptimal? Understanding how students have experienced the evolution of distance teaching, particularly its modes (synchronous versus asynchronous, interactive versus lecture-based), is essential. Examining this perception is a necessary starting point for drawing lessons and improving the resilience of the Lebanese education system in the face of potential future crises.

Literature Review

1.1. The Importance of Collaboration in Distance Learning

Thanks to available communication platforms, students can exchange ideas, discuss information, and share educational resources such as scientific articles, literary documents, or interactive videos. In this educational context, the teacher plays a central role by proposing group projects that encourage and motivate learners to work together and organizing opportunities for students to meet virtually to review and discuss what they have learned. Collaboration among students fosters interactive learning, enriched by the exchange of perspectives and knowledge, while collaboration among teachers creates a dynamic community of mutual support, based on resource sharing and pedagogical innovation, ensuring more inclusive and effective distance teaching.

1.1.1. Collaboration Among Learners

Collaboration among learners generates a rich and diverse learning dynamic, where interaction enables a cultural exchange of perspectives and well-structured sharing of information. As Johnson et al. (2020) point out, “*active collaboration in online learning allows learners to benefit from direct interaction, which is essential for enhancing their understanding and cognitive development*” (Johnson et al., 2020, 103). Furthermore, this collaboration stimulates reflection, encourages creativity, and helps develop essential and fundamental social skills. Additionally, it contributes to a more appropriate distribution of knowledge, where each student can contribute their own insights, according to their level, thus reducing skill gaps and fostering a more inclusive distance-learning environment. In summary, in this mode of teaching, exchanges among learners go beyond simple communication to become genuine collaboration. This encourages a diversity of perspectives and the sharing of intellectual knowledge, making the educational environment more vibrant and dynamic.

1.1.2. Collaboration Among Teachers

To promote effective collaboration, teachers share resources, documents, video lessons, and teaching materials to enrich their course content. This approach creates a genuine community of mutual support in which teachers are encouraged to support each other, particularly when facing technical issues or difficulties related to distance learning. This mutual support and active collaboration create a supportive working environment, where each educator can find solutions to everyday challenges. In addition, teachers regularly hold virtual meetings to create a valuable space to share experiences and identify areas for improvement.

This sharing of educational resources and materials is more than just a pooling of resources. It aims to diversify teaching methods and accommodate the variety of students’ learning styles. Thus, each teacher can adapt their lessons to the needs of their students, creating a dynamic and enriching educational environment. “*Collaboration among teachers in online learning environments is a key driver for continuous improvement and pedagogical innovation*” (Garrison & Anderson, 2017, 105).

Ultimately, this collaboration, based on the sharing of resources and experiences, is essential to ensuring high-quality distance education. Through this collaborative work, online teaching adapts, evolves, and better meets students’ needs, thereby offering a richer and more effective learning experience.

1.1.3. Pedagogical Interactivity in Digital Learning Environments

In digital learning environments, the distinction between a lecture-based class and an interactive class becomes particularly significant. A lecture-based approach generally consists of one-directional communication, where the teacher delivers explanations while students remain mostly passive listeners. By contrast, interactive digital teaching involves active student participation through discussions, real-time questioning, collaborative tasks, breakout-room activities, and the use of shared digital tools.

These practices can be interpreted through the TPACK framework (Technological Pedagogical Content Knowledge) framework (Mishra & Koehler, 2006), which emphasizes the integration of technology, pedagogy, and disciplinary knowledge in effective digital

teaching. According to this model, the effectiveness of online instruction depends not only on technological tools but also on the teacher's capacity to combine pedagogical strategies with digital resources in ways that foster engagement and meaningful learning.

1.2. Students' diligence and actual attendance

Student diligence also plays a crucial role in the success of distance learning. To benefit fully from online education, students must demonstrate remarkable discipline, exceptional motivation, and an exemplary sense of responsibility. This means attending classes regularly, actively participating in discussions, and meeting deadlines set by their teachers. The following key points highlight the importance of diligence in this teaching modality:

1.2.1 Active Engagement: Diligence is not simply a matter of attendance; it also involves active engagement. This means being involved in online discussions and interacting with others, while also putting questions whenever necessary. One of the main challenges of distance learning remains the difficulty in building strong connections between students and teachers. For example, here is what a ninth-grade student at École des Pères Antonins in Bouchrieh-Metn, Lebanon, said, as reported by the head of the cycle during the COVID-19 pandemic in 2020: *"We are losing the richness of contact with our teachers..."* Education researcher Flore Morneau-Sévigny mentioned that *"taking the majority of classes remotely is associated with little contact with teachers, students, and the campus, which could affect the level of stress and distress..."* (Morneau-Sévigny, 2017, 86). It is thus important for teachers to demonstrate flexibility in their teaching approach. Using multiple teaching aids helps keep the students engaged. By diversifying activities, teachers can better cater to different learning styles, making the educational experience richer, more varied, and more engaging. To boost student motivation, teachers can also incorporate fun and creative elements. For example, online competitions, group projects, challenges, or even educational games can turn distance learning into a more dynamic, lively, and enjoyable experience. This not only helps maintain students' diligence but also increases their active participation.

1.2.2. Communication with the teacher: Learners should develop the habit of communicating regularly with their teacher when they encounter difficulties or have questions. The teacher thus becomes a valuable resource, offering individual and personalized advice and support. Distance learning can sometimes seem monotonous, as it eliminates active and traditional interactions with friends and physical activities that punctuate school life. Some students find it difficult to maintain motivation and focus when they are away from school and their peers. *"Regular interactions between students and teachers are crucial to prevent isolation and maintain learner engagement in a distance learning environment"* (Tinto, 2021, 58). To prevent this, teachers should organize online discussions by diversifying their teaching methods to stimulate student engagement and make the learning experience more dynamic and livelier, as it is often more difficult to maintain motivation in a virtual environment than in a face-to-face classroom.

1.2.3 Time management: It is important to consider screen time and the use of videoconferencing tools, which may vary depending on the age of the students. Time management is crucial. Students need to organize their schedules to dedicate sufficient time to their online courses to stay on track and avoid being overwhelmed by other distractions.

Furthermore, students must respect deadlines for submitting their assignments and plan their revision schedules in advance to avoid last-minute stress before exams.

1.2.4. Self-discipline: Online learning requires a great deal of self-discipline. Students must take responsibility for logging in regularly and staying focused and alert.

1.1.5. Access to technology: It is essential to ensure that students have access to the necessary computer equipment and a reliable internet connection, enabling them to participate consistently and without interruption in online classes.

1.1.1.6 Social interactions: As Smith points out, *“Isolation in distance learning can reduce the interaction necessary for young students to be engaged, making their concentration even more fragile”* (Smith, 2020, 45). Thus, learners’ diligence can be enhanced by seeking support from classmates, friends, or even family members, which helps keep them motivated, responsible, and diligent. Teachers, for their part, can also collaborate with families to encourage students’ participation. *“Collaboration between schools and families is essential to support students’ engagement and improve academic achievement.”* (Epstein, 2018, 45). In turn, parents play a fundamental role in motivating their children by supporting them in their educational journey and ensuring that they attend online classes, and complete their homework, thereby contributing to a more effective and efficient learning process.

1.3. Tools to Assess Students’ Diligence

Active student participation is essential for successful learning, whether online or in-person. However, distance learning presents unique challenges; in that sense, students often find themselves deprived of direct interaction with their peers and exposed to the distractions of their home environment. In light of all this, it becomes crucial for teachers to develop engaging and appealing strategies to capture learners’ attention and motivate them.

To achieve more concrete results on students’ attendance and engagement in a distance learning environment, several strategies can be employed:

1.3.1 Questionnaires and Surveys

Questionnaires and surveys are effective methodological tools for gathering targeted information on learners’ motivation, expectations, and satisfaction. These tools allow for the collection of both quantitative (frequency of participation, degree of satisfaction) and qualitative (perceptions, feelings, suggestions) data, thus providing a comprehensive view of learners’ engagement. They are particularly useful for adapting teaching practices to the needs expressed by students and for identifying potential gaps between pedagogical objectives and actual expectations. As emphasized by Dörnyei and Taguchi (2010), well-designed questionnaires are a reliable and systematic way to obtain psychological and behavioral information in the educational field. Moreover, their regular administration makes it possible to assess changes in learners’ attitudes over time.

1.3.2 Interaction Analysis

The analysis of interactions within discussion spaces or online collaborative platforms

provides valuable indicators of learners' cognitive and social engagement. By examining the frequency, quality, and nature of exchanges between students and teachers, it becomes possible to assess the participants' actual level of involvement in the learning process. Constructive contributions, proactive initiatives, reformulations, and peer feedback are important markers of active engagement. According to Henri (1992), analyzing exchanges in digital environments can reveal essential dimensions of collaborative learning, such as participation, interactivity, and the cognitive depth of interventions. This approach thus allows for a shift from a simple measurement of attendance to gaining a detailed understanding of intellectual and social participation.

1.3.3 Data Utilization

The utilization of data from digital learning platforms (learning analytics) makes it possible to detect behavioral trends, determine periods of peak activity, and identify areas where learners encounter difficulties. The analysis of digital traces (login time, browsing, completion rates, frequency of interactions) provides teachers with a detailed understanding of each student's learning journey. These data also enable the implementation of rapid intervention strategies to prevent dropouts or support learners facing challenges. According to Siemens and Long (2011), learning analytics is a powerful tool for personalizing educational environments and optimizing learning paths based on the specific needs of each learner.

1.3.4 Online Collaboration and Interactivity

Digital communication tools - such as chats, forums, videoconferences, and collaborative spaces (e.g., Google Workspace, Microsoft Teams) - play a vital role in fostering engagement and creating a learning community. By tracking learners' active participation (questions asked, peer exchanges, initiatives), it becomes possible to assess their level of involvement and sense of belonging to the group. These interactions promote social learning, the co-construction of knowledge, and the development of transversal skills such as collaboration and critical thinking. Garrison, Anderson, and Archer (2000) emphasize the importance of "social presence" and "cognitive presence" in online learning environments: the more learners interact meaningfully, the deeper and more sustained their engagement.

1.3.5 Monitoring Individual Progress

Regular monitoring of learners' progress relies on the use of ongoing formative assessments, such as online quizzes, self-assessments, or interactive homework. These tools enable teachers to collect accurate data on skill development and provide personalized feedback tailored to each student's profile. This feedback, whether immediate or delayed, promotes learning regulation and strengthens students' intrinsic motivation. As demonstrated by Black and Wiliam (1998), formative assessment practices have a significant impact on learning when they focus on constructive and actionable feedback for the learner. Moreover, this personalized monitoring makes it possible to anticipate difficulties and adapt educational interventions in real time.

During times of crisis, distance learning ceases to be a mere method; it becomes a human relationship that must be preserved. How students perceive this unusual school year

depends profoundly on the quality of the connections maintained and the real presence we manage to sustain. It is cooperation, this outstretched hand between the isolated student and their teacher, that creates a supportive learning environment. Through this connection, motivation endures and meaningful interactions are revived, despite the physical distance.

Attendance is not just a matter of rules; it is fueled by inner discipline, warm communication, and the constant support of families. This psychological safety net nourishes students' sense of belonging, ensuring that their educational journey is not disrupted.

Diligence is not only a matter of rules; it is sustained by inner discipline, warm communication, and the constant support of families. This psychological safety net nurtures students' sense of belonging, ensuring that their educational journey remains uninterrupted.

Finally, it is teachers, through their active participation and creative interactive strategies, who bring life to the screen. They are the ones who reduce isolation by making the online experience not only inclusive and dynamic, but above all adapted to the human urgency inherent in crisis situations.

Methodology

In the context of our thesis titled "School education in Lebanon during periods of crisis, pedagogical advantages and disadvantages", we chose to adopt a quantitative approach based on around thirty questions sent to a sample of students, their teachers and their parents spread across different regions in Lebanon. This approach seemed to us the most relevant one, as it does not only allow us to collect quantitative data, but also to highlight general trends and to objectively compare different results. It thus offers us a global and structured vision of the feeling of isolation among students, which is the phenomenon studied in this article.

The sample on which this study is based was carefully selected to represent as accurately as possible the population concerned. The participants are divided into two distinct groups based on their respective contexts.

a. The COVID-19 Pandemic Crisis

This sample includes 200 students who attended school during the COVID-19 pandemic, distributed mainly across five schools, respectively in the Mount Lebanon, North, Bekaa, South, and Beirut regions. These students experienced distance learning over an extended period, with its advantages and limitations, during the 2020/2021 school year, in the midst of the COVID-19 pandemic. The distribution by school was meant to ensure a balanced representation, with 40 students per school.

b. The September 2024 War Crisis

This sample consists of 200 students enrolled in the 2024/2025 academic year, marked by the outbreak of a war in Lebanon (starting September 2024), with the majority distributed across four schools located in conflict zones, namely Mount Lebanon, Beirut, the Bekaa, and the South. These students faced disruptions related to displacement,

power and internet outages, as well as the insecurity of their immediate surroundings. The distribution by school was meant to ensure a balanced representation, with 50 students per school.

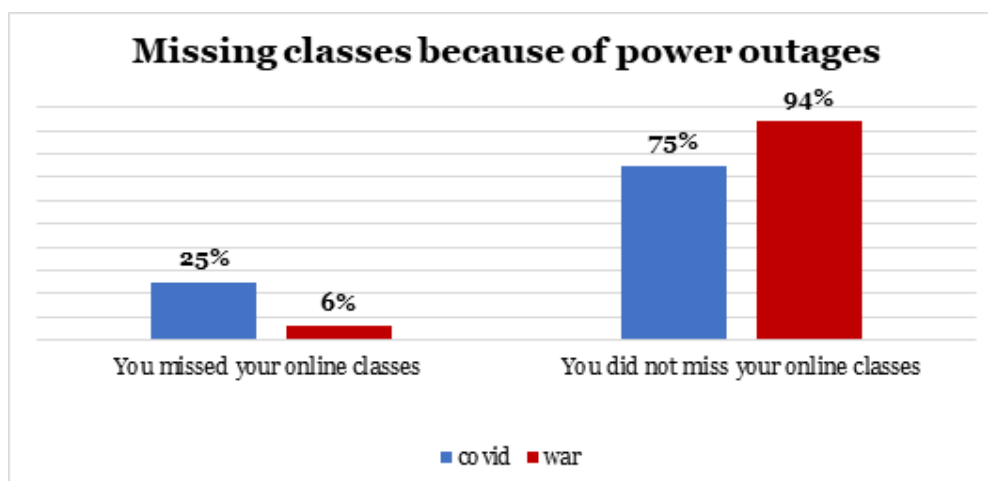
The goal was not only to gather a large number of participants. More importantly, it was to obtain reliable and representative data capable of addressing the research questions. Standardizing the responses made it easier to compare the two contexts (pandemic and war), while respecting anonymity allowed students the freedom to express themselves openly.

A. Statistical facts

Before presenting the central findings of our study, it is necessary to highlight key statistical indicators gathered during the COVID-19 pandemic and the period of war. These data emphasize the critical impact of electricity supply interruptions as well as the nature of the technological hardware used by students. The figures presented are derived from our own survey, based on a 30-item questionnaire administered to our study population. These contextual elements serve to illustrate the reality of the digital divide in Lebanon and its direct influence on the effectiveness of distance learning.

The data collected reveals a contrasting trend in the impact of power outages on learning. It appears that electricity interruptions affected 25% of the study population during the COVID-19 pandemic, compared to only 6% during the war period in 2024. This notable improvement can be explained, on one hand, by the increased adoption of alternative power sources (such as UPS/APS systems or solar energy) and, on the other hand, by the strategic use of asynchronous course recordings. As illustrated in Figure 1 below, these workarounds enabled students to maintain pedagogical continuity despite the instability of state infrastructure

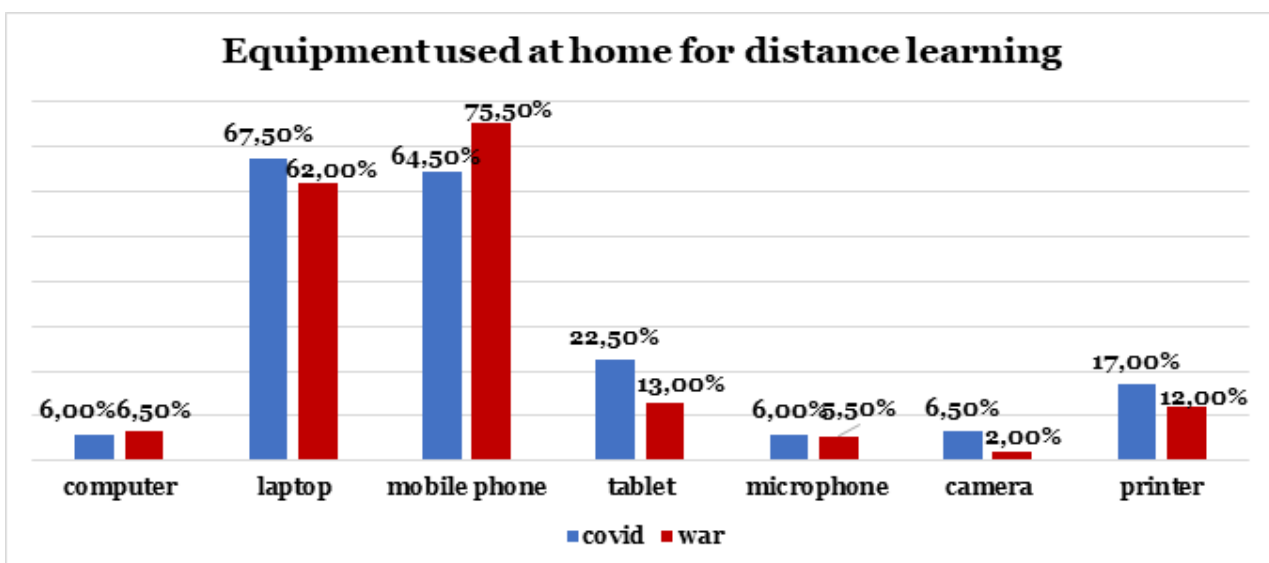
Figure 1: Missing classes percentage because of power outages



The crisis in Lebanese education is characterized by a paradox of high connectivity but low functional access. While internet penetration in Lebanon is nominally high at

approximately 90.1% (DataReportal, 2024), the median fixed broadband speed is very low (approx. 9.39 Mbps at the start of 2024), which is insufficient for high-quality, interactive video education. Moreover, as illustrated in Figure 2 (Percentages do not sum to 100% because some students reported having access to multiple devices), ‘Learning Poverty’ remains critical because access to sophisticated learning tools is inconsistent. While mobile device usage is prevalent, ranging from 64% to 75%, access to laptops remains stagnant between 62% and 65%. Furthermore, the use of tablets has seen a sharp decline from 22% to 13%. Consequently, while a majority of the student population can join a digital call via a mobile phone, approximately one-third of students lack the necessary hardware, such as a dedicated computer, to engage in substantive academic work or complex interactive tasks.

Figure 2: Equipment used at home for distance learning



Questions studied

To collect the information necessary for the phenomenon studied in this article, we have selected three questions from this long and diverse questionnaire relating to the perception of distance teaching style by students during times of crisis. We hereby present the titles of these three questions along with the participants’ responses.

Question 1 (Q1)

It is said that in-person teaching is lecture-based (no discussion between teacher and students), while distance teaching is rather interactive. Do you:

- a. agree
- b. disagree

Results

Figure 3: (Students / COVID) Q1

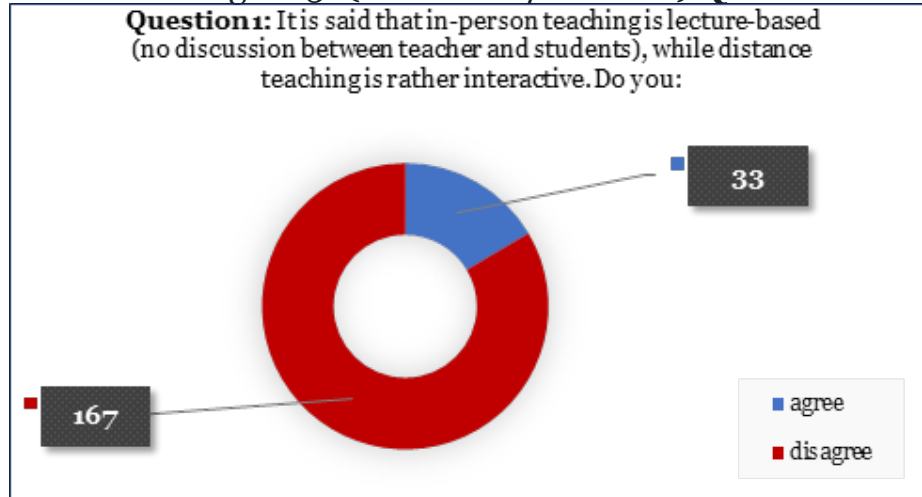


Figure 3 explores respondents' perceptions of the interactivity of in-person versus distance teaching during the COVID-19 period. An overwhelming majority of participants (83.50%) disagreed with the above statement. Only a minority of 16.50% of respondents stated that they agreed. These findings reveal a predominant perception that distance teaching is not necessarily more interactive than in-person teaching, or that in-person teaching is not solely lecture-based.

Figure 4: (Students / War) Q1

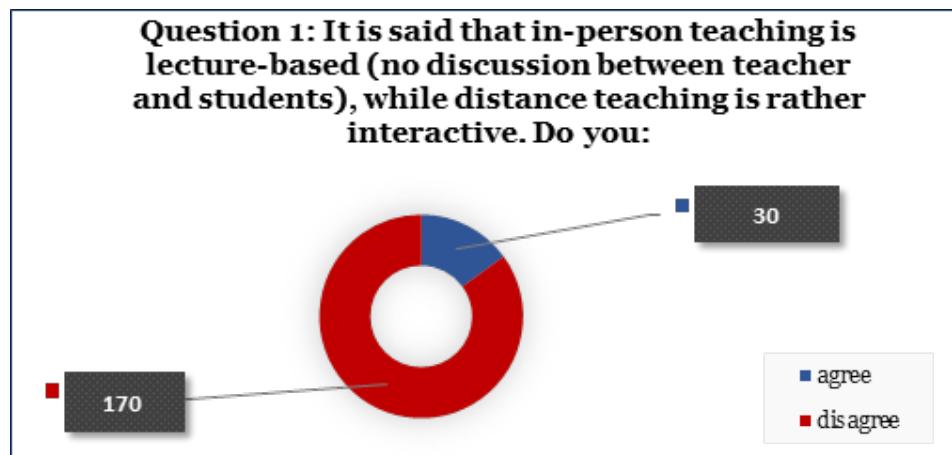


Figure 4 examines respondents' perceptions of the interactivity of in-person versus distance teaching during the 2024/2025 school year, marked by the September 2024 war. An overwhelming majority of participants (85.00%) disagreed with the above statement. Only a minority of 15.00% of respondents stated that they agreed. This reinforces the idea expressed in the graph above.

Questions 2 (Q2)

In your opinion, your school year was:

- a. unsuccessful due to distance learning
- b. somewhat unsuccessful
- c. successful

Results

Figure 5: (Students / COVID) Q2

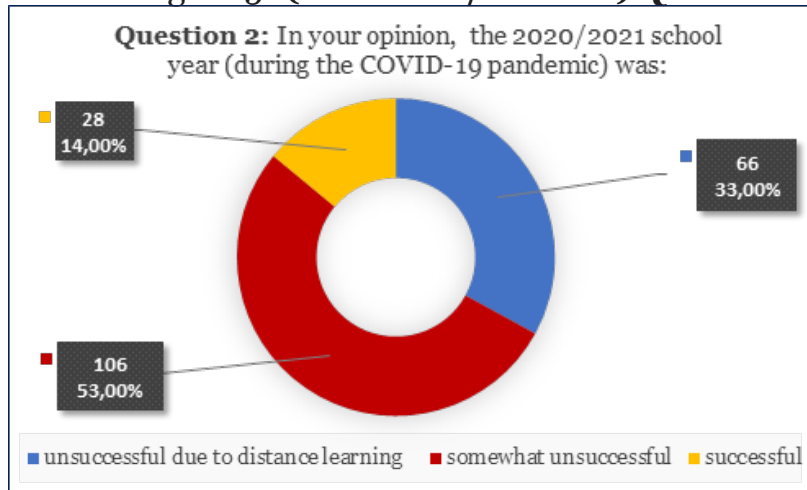


Figure 5 assesses respondents' perceptions of whether the school year was a failure, a success, or somewhere in between in the context of the COVID-19 pandemic. A majority of participants, 53.00%, considered that the school year was somewhat unsuccessful. About one-third of participants, i.e. 33.00%, considered the school year a failure. Only a minority of 14.00% considered the school year a success. Responses indicating that the school year was "unsuccessful" or "somewhat unsuccessful" together represent 86% of the total responses, highlighting the challenges faced by students during that period.

Figure 6: (Students / War) Q2

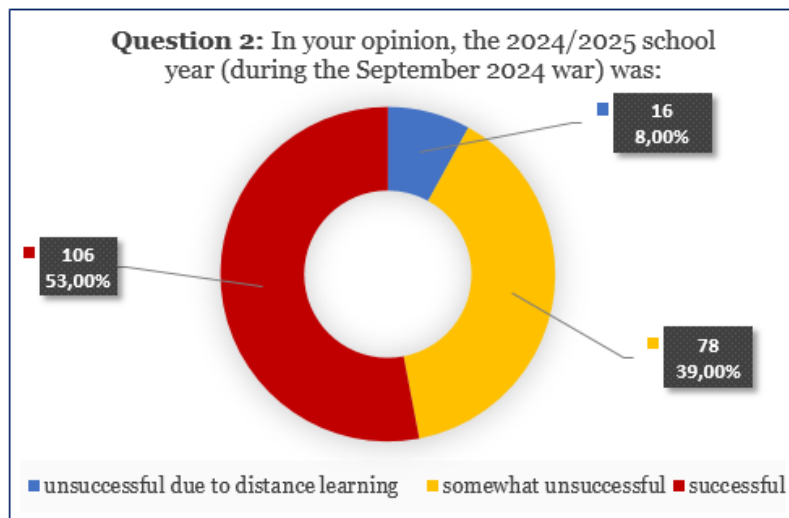


Figure 6 assesses respondents' perceptions of the 2024/2025 school year, marked by the September 2024 war, as a failure, a success, or somewhere in between. A majority of participants (53.00%) considered the school year to be successful. A significant proportion of 39.00% estimated that the year was somewhat unsuccessful, while only a minority of 8.00% considered the school year a failure due to distance learning. The fact that more than half of the respondents viewed the year as successful is notable, indicating a certain resilience and ability to cope with challenging circumstances.

Question 3 (Q3)

In your experience, students learn best with:

- distance teaching
- in-person teaching

Results

Figure 7: (Students / COVID) Q3

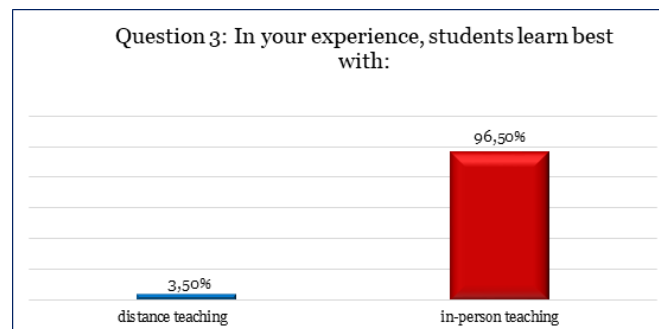


Figure 7 presents respondents' views on the teaching modality, whether distance or in-person, which best supported student learning during the COVID-19 pandemic. An overwhelming majority of participants (96.50%) stated that students learn better with in-person teaching. Only a marginal proportion of 3.50% of respondents said that learning was better with remote teaching during COVID. These data suggest that, despite the forced adoption of remote teaching during the pandemic, the vast majority of students believe that the traditional classroom setting is more conducive to effective learning.

Figure 8: (Students / War) Q3

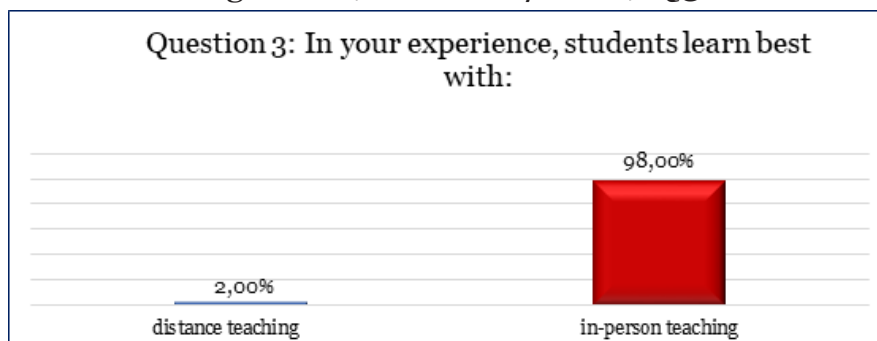


Figure 8 presents respondents' views on the teaching modality, whether distance or in-person, which best supported student learning during the war-torn 2024/2025 school year. An overwhelming majority of participants (98.00%) stated that students learn better with in-person teaching. Only a marginal proportion of 2.00% of respondents said that learning was better with remote teaching. These data suggest that, even after experiencing distance learning, nearly all students perceive the traditional classroom environment as significantly more favorable for effective learning.

B. Analysis and Cross-Referencing of Results

One of the main challenges of teaching in times of crisis lies in the disruption of students' usual social interactions, of enforced distancing, which acts as a powerful filter that profoundly alters their perception of the school year. Faced with uncertainty and loss of bearings, academic achievement, educational continuity, and emotional engagement are all called into question. It is therefore essential to examine how students evaluate their own school year, as this perception serves as a key indicator of both resilience and the effectiveness of educational responses in emergency contexts. In this study, we chose to focus on two key dimensions:

a. The impact of students' perception of the teaching style (described as lecture-based in in-person learning and interactive in distance learning) on their evaluation of the school year

b. The impact of students' perception of the teaching style (described as lecture-based in in-person learning and interactive in distance learning) on their perception of the most effective learning modality

The analysis is based on statistical tests (Chi-square) to determine whether a significant relationship exists between these variables. This approach is intended to go beyond individual impressions and reveal general trends, enabling comparisons between the two contexts examined: the pandemic and the war.

2. Impact of Students' Perception of the Teaching Style (Described as Lecture-Based in In-Person Learning and Interactive in Distance Learning) on Their Evaluation of the School Year

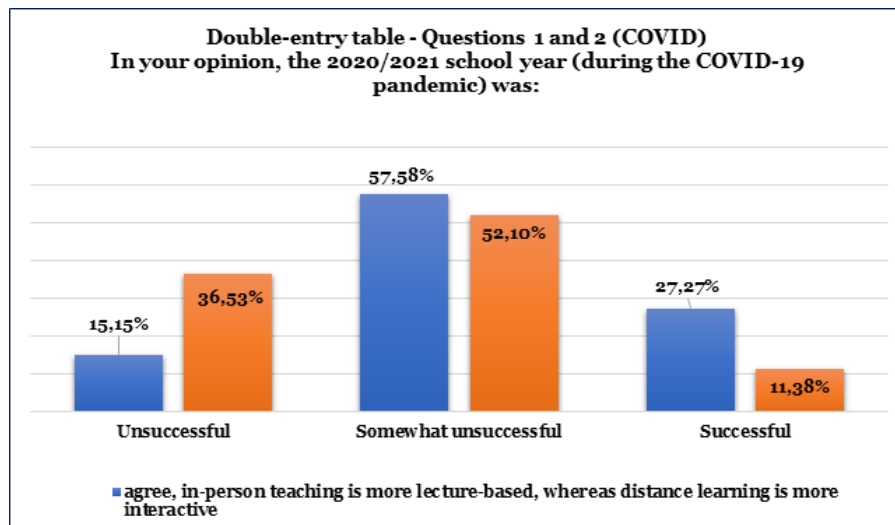
2.1. Questions analyzed:

- Question 1: *"It is said that in-person teaching is lecture-based (no discussion between teacher and students), while distance teaching is rather interactive. Do you?"* (agree / disagree)
- Question 2: *"In your opinion, the 2020/2021 school year (during the COVID-19 pandemic) or the 2024/2025 school year (during the September 2024 war) was:"* (Unsuccessful/ Somewhat unsuccessful / Successful)

2.2. Chi-Square Test Hypotheses:

- Null hypothesis: No statistically significant association was found between students' perception of the teaching style (described as lecture-based in in-person learning and interactive distance learning) and their evaluation of the school year. The two variables are independent.
- **Alternative Hypothesis:** A statistically significant association was found between the perception of the teaching style and the evaluation of the school year. The two variables are dependent.

Figure 9 (COVID-19)



Contingency Table (Figure 9):

It is said that in-person teaching is lecture-based while distance teaching is rather interactive. Do you:	In your opinion, the 2020/2021 school year (during the COVID-19 pandemic) was:			Total
	Unsuccessful	Somewhat unsuccessful	Successful	
Agree	5	19	9	33
Disagree	61	87	19	167
Total	66	106	28	200

2.3. Descriptive Analysis of the Graph (Figure 9):

The graph in Figure 9 presents students' perceptions of the 2020/2021 school year, broken down according to their views on the statement that "in-person teaching is lecture-based while distance teaching is rather interactive."

- *Perception of an "Unsuccessful" school year:* The proportion of students who considered the year "unsuccessful" is significantly higher for those who "agree" (15.15%) with the statement than for those who "disagree" (36.53%).
- *Perception of a "Somewhat Unsuccessful" school year:* This response category is

predominant for both groups, representing 57.58% of those who “agree” and 52.10% of those who “disagree”.

- *Perception of a “Successful” school year:* The proportion of students who rated the year as “Successful” is also higher for the “agree” group (27.27%) compared to the “disagree” group (11.38%).

In summary, the group that “agrees” with the statement that “in-person teaching is lecture-based while distance learning is rather interactive” tends to have a more favorable perception of the academic year (a higher proportion of “Successful” and fewer “Unsuccessful” responses) compared with the majority “disagree” group (a higher proportion of “Unsuccessful” and fewer “Successful” responses).

Interpretation of the Chi-Square Test:

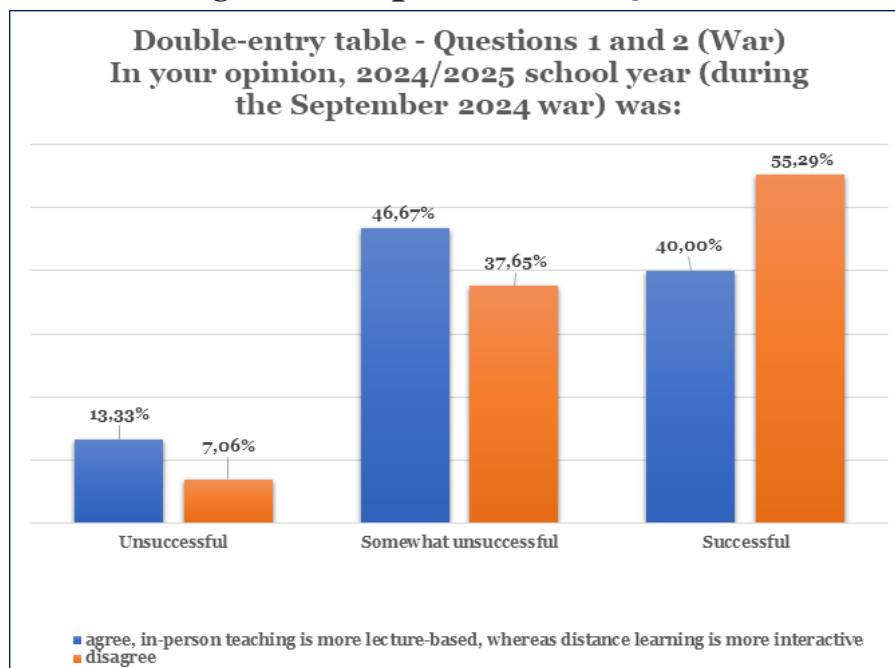
The Chi-Square test was carried out to assess the statistical significance of these observed differences.

- The p-value obtained is 0.0114.
- Compared with a significance level (α) of 0.05, we have $0.0114 < 0.05$.

Statistical Conclusion: Given that the p-value (0.0114) is less than the significance level of 0.05, the null hypothesis is rejected. This means that there is a statistically significant association between the perception of the teaching style and the evaluation of the 2020/2021 school year, a period marked by the COVID-19 pandemic.

Implication 1: Based on these data, it can be statistically confirmed that the perception of the teaching style (described as lecture-based in in-person learning and interactive in distance learning) was found to have a significant influence on students’ evaluation of the school year during the COVID-19 pandemic.

Figure 10 (September 2024 war)



Contingency Table (Figure 10):

It is said that in-person teaching is lecture-based while distance teaching is rather interactive. Do you:	In your opinion, the 2024/2025 school year (during the September 2024 war) was:			Total
	Unsuccessful	Somewhat unsuccessful	Successful	
Agree	4	14	12	30
Disagree	12	64	94	170
Total	16	78	106	200

2.4. Descriptive Analysis of the Graph (Figure 10):

The graph in Figure 10 presents students' perceptions of the 2024/2025 school year, broken down according to their views on the statement that "in-person teaching is lecture-based while distance teaching is rather interactive."

- Perception of an "Unsuccessful" school year: The proportion of students who considered the year "unsuccessful" is 13.33% for the "agree" group and 7.06% for the "disagree" group.
- Perception of a "Somewhat Unsuccessful" school year: This category was chosen by 46.67% of students in the "agree" group and 37.65% of those in the "disagree" group.
- Perception of a "Successful" school year: The proportion of students who rated the year as "successful" is 40.00% for the "agree" group and 55.29% for the "disagree" group.

In summary, the "agree" group tends to have a more negative perception of the school year than the "disagree" group, which has a higher proportion of "Successful" responses.

Interpretation of the Chi-Square Test:

The Chi-Square test was carried out to assess the statistical significance of these observed differences.

- The p-value obtained is 0.2331.
- Compared with a significance level (α) of 0.05, we have $0.2331 > 0.05$.

Statistical Conclusion: Given that the p-value (0.2331) is greater than the significance level of 0.05, the null hypothesis cannot be rejected.

Implication 2: Based on these data, it cannot be statistically confirmed that the perception of the teaching style was found to have a significant influence on students' evaluation of the school year during the September 2024 war.

2.5. Global Analysis

2.5.1. The Pandemic (2020/2021): When Teaching Became the Key to Success

During the lockdown linked to the COVID-19 pandemic, the perception of the teaching style became a determining factor in the overall evaluation of the school year. The data show that the relationship is statistically strong ($p = 0.0114 < 0.05$).

- *Tapping into interactivity:* For students, distance learning was no longer a mere

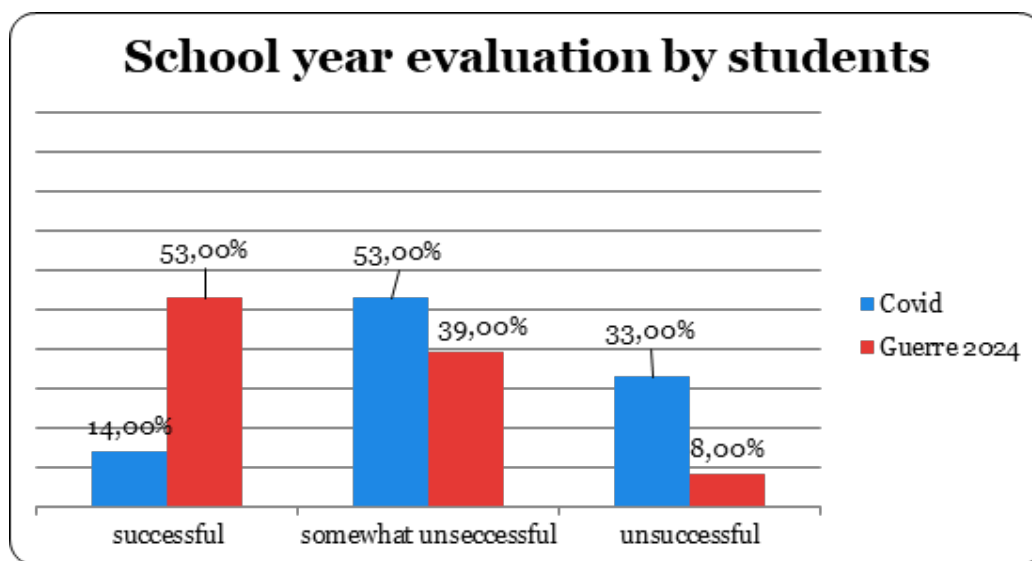
constraint but an opportunity for pedagogical renewal. Those who perceived the distance teaching style as more interactive, vivid, and digital were the most likely to rate their school year as “successful.”

- *Compensation and autonomy:* In the silence of physical distancing, this perceived interactivity acted as a compensatory factor. New practices (exchanges on platforms, use of digital tools) allowed students to regain a vital sense of engagement and autonomy, transforming a crisis situation into an opportunity to reclaim their learning. Pedagogical connection became a psychological and motivational lifeline.

2.5.2. The War (September 2024): When Emotion Overwhelms Method

The link between the perception of the teaching style and the evaluation of the school year was broken during the September 2024 war (the association is no longer significant, $p = 0.2331 > 0.05$).

Figure 11: Comparative graph showing the school year evaluation by students



- *Chaos at the forefront:* This phenomenon may be interpreted through what could be described as an “attention threshold in contexts of armed violence.” When individuals are exposed to prolonged insecurity, fear, and uncertainty, their cognitive and emotional resources tend to prioritize safety and psychological stability over academic engagement. In such circumstances, attention shifts from pedagogical processes to survival-related concerns. As a result, variables such as teaching style, interactivity, or pedagogical structure become less influential in shaping students’ perception of their academic experience. This helps explain why the statistical relationship observed during the pandemic disappears in a context of armed conflict. Unlike the pandemic, where the main challenge was ensuring educational continuity, the war created an atmosphere of chaos, fear, and emotional stress. Students’ minds were dominated

by security concerns, sudden interruptions, and the need to remain psychologically resilient.

- *Pedagogy pushed into the background*: In such a context, the teaching method, whether interactive or not, was relegated to a secondary position. Students did not assess their school year based on the quality of lessons, but rather on their ability to endure the crisis, remain focused despite fear, and avoid disengaging from school. The evaluation of the year thus depended far more on their emotional and security environment than on the teacher or the digital tools used.

3. Impact of Students' Perception of the Teaching Style (Described as Lecture-Based in In-Person Learning and Interactive in Distance Learning) on Their Perception of the Most Effective Learning Modality

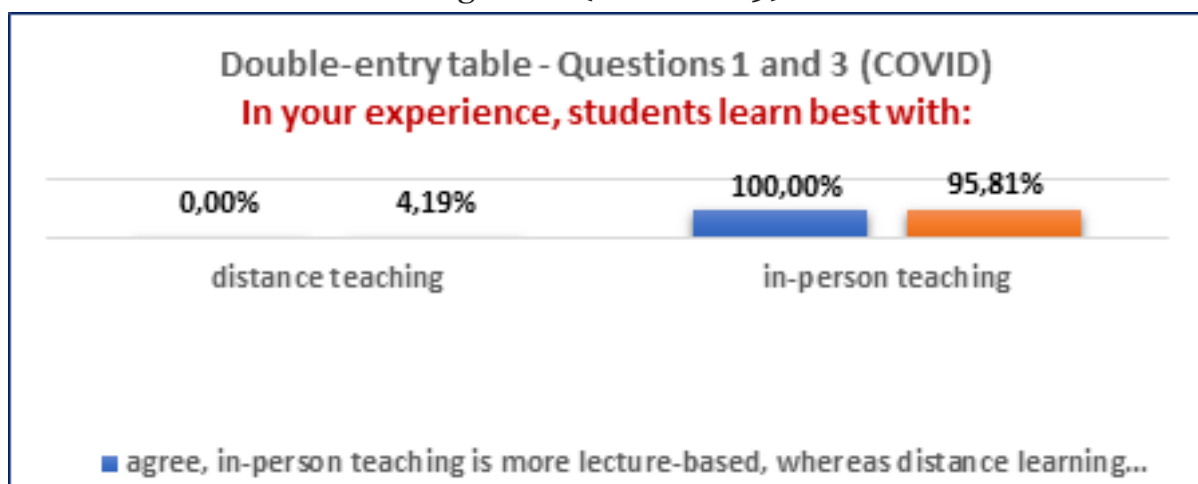
3.1. Questions analyzed:

- Question 1: "It is said that in-person teaching is lecture-based (no discussion between teacher and students), while distance teaching is rather interactive. Do you?" (agree / disagree)
- Question 3: "In your experience, students learn best with:" (distance teaching/ in-person teaching)

3.2. Interpretation of the Chi-Square Test:

- *Null hypothesis*: No statistically significant association was found between the perception of the teaching style and the perception of the most effective teaching modality. The two variables are independent. The two variables are independent.
- *Alternative Hypothesis*: A statistically significant association was found between the perception of the teaching style and the perception of the most effective teaching modality. The two variables are dependent.

Figure 12 (COVID-19)



Contingency Table (Figure 12):

It is said that in-person teaching is lecture-based (no discussion between teacher and students), while distance teaching is rather interactive. Do you:	In your experience, students learn best with:		Total
	Distance teaching	In-person teaching	
Agree	0	33	33
Disagree	7	160	167
Total	7	193	200

3.3. Descriptive Analysis of the Graph (Figure 12):

The graph in Figure 12 presents students' perceptions of the most effective teaching modality, broken down according to their opinion on the teaching style (described as lecture-based in in-person learning and interactive in distance learning), for the 2020/2021 school year.

- *Preference for distance teaching:* This option is a clear minority choice. It was not chosen by any of the students in the “agree” group and was selected by 4.19% of the “disagree” group.
- *Preference for in-person teaching:* This teaching modality is almost unanimously preferred, with 100% of students in the “agree” group and 95.81% of those in the “disagree” group selecting it.

In summary, the vast majority of students, regardless of their perception of the teaching style, prefer in-person teaching.

Interpretation of the Chi-Square Test:

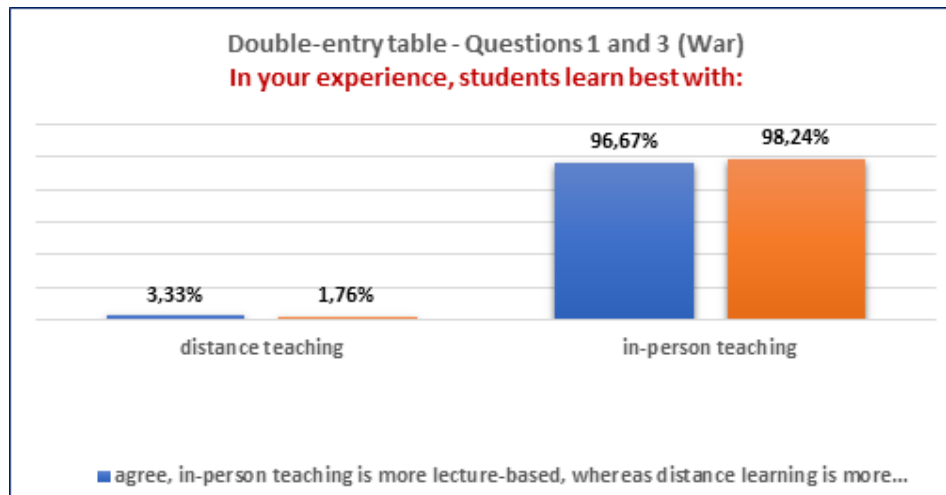
The Chi-Square test was carried out to assess the statistical significance of these observed differences.

- The p-value obtained is 0.2312.
- Compared with a significance level (α) of 0.05, we have $0.2312 > 0.05$.

Statistical Conclusion: Given that the p-value is greater than the significance level of 0.05, the null hypothesis cannot be rejected. This means that the differences observed are not statistically significant.

Implication 3: Based on these data, it cannot be statistically confirmed that the perception of the teaching style was found to have a significant influence on students' perception of the most effective teaching modality during the COVID-19 pandemic.

Figure 13 (September 2024 war)



Contingency Table (Figure 13):

It is said that in-person teaching is lecture-based (no discussion between teacher and students), while distance teaching is rather interactive. Do you:	In your experience, students learn best with:		Total
	Distance teaching	In-person teaching	
Agree	1	29	30
Disagree	3	167	170
Total	4	196	200

3.4. Descriptive Analysis of the Graph (Figure 13):

The graph in Figure 13 presents students' perceptions of the most effective teaching modality during the war period, broken down according to their opinion on the teaching style (described as lecture-based in in-person learning and interactive in distance learning), for the 2024/2025 school year.

- *Preference for distance teaching:* The preference for distance learning is extremely low, with only 3.33% of respondents in the "agree" group and 1.76% in the "disagree" group.
- *Preference for in-person teaching:* This teaching modality is preferred by 96.67% of students in the "agree" group and 98.24% of those in the "disagree" group.

In summary, as in the previous period, students overwhelmingly preferred in-person teaching, regardless of their perception of the teaching style.

Interpretation of the Chi-Square Test:

The Chi-Square test was carried out to assess the statistical significance of these observed differences.

- The p-value obtained is 0.5715.
- Compared with a significance level (α) of 0.05, we have $0.5715 > 0.05$.

Statistical Conclusion: Given that the p-value is greater than the significance level of 0.05, the null hypothesis cannot be rejected.

Implication 4: Based on these data, it cannot be statistically confirmed that the perception of the teaching style was found to have a significant influence on students' perception of the most effective teaching modality during the September 2024 war.

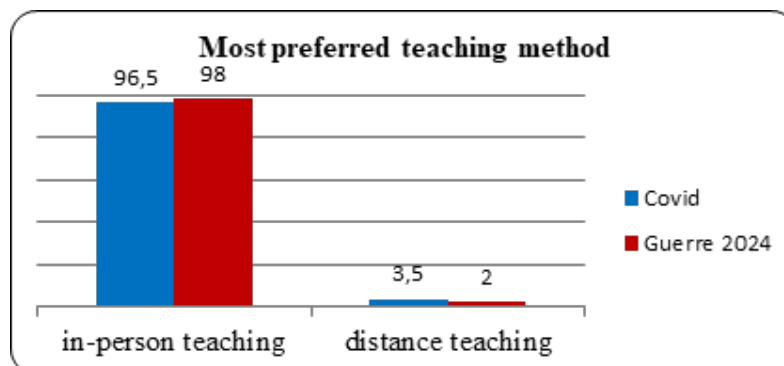
3.5. Global Analysis

3.5.1. Unwavering Attachment to In-Person Learning

The analysis of the perception of the most effective learning modality reveals a strong and widespread human constant: students' overwhelming preference for in-person teaching, regardless of any contextual or pedagogical factor.

During the COVID-19 pandemic and the September 2024 war, students expressed an almost unanimous desire to return to face-to-face classroom learning, as illustrated in Figure 14 below.

Figure 14: **Comparative graph showing the most preferred teaching method**



This choice is not a mere statistical fact; it expresses a deep human need for socialization, structure, and security that no digital tool can replace. For them, optimal learning is synonymous with physical presence.

3.5.2. The Ineffectiveness of the Pedagogical Factor

Even more strikingly, the perception of the teaching style (considered as lecture-based in in-person learning and interactive in distance learning) had no significant influence on this preference in either context.

- *Statistical Results:* Whether during COVID-19 ($p = 0.2312$) or during the war ($p = 0.5715$), the tests show that there is no link between the perception of the teaching style and the perception of the most effective teaching modality. The null hypothesis, i.e. the absence of association, is maintained in both cases.
- *Human Interpretation:* This means that even if students may acknowledge that distance learning is more interactive (involving more exchanges and digital tools), this feature is not enough to offset the fundamental value they place on the full in-

person learning experience. Their need to reconnect with peers and teachers in person transcends considerations of mere efficiency or the modernity of the teaching method.

c. Synthesis and Conclusion

By examining the impact of the perceptions of teaching style by students on their evaluation of the school year, statistical analysis reveals a notable difference between the two periods studied, reflecting a shift in the way students perceive the link between teaching style and their overall school experience. During the COVID-19 pandemic, a statistically significant association was observed between the perception by students of the teaching style - described as lecture-based in in-person settings and interactive in distance learning - and their evaluation of the school year. This result indicates that, in a context of distance learning imposed by the health crisis, students strongly linked their satisfaction and sense of achievement to how teaching was perceived and experienced. The interactive nature of distance learning, which encourages participation, autonomy, and the use of collaborative digital tools, appears to have contributed to a more dynamic and rewarding learning experience. In other words, when teaching conditions remained relatively stable and technology allowed for a form of educational continuity, a positive perception of the teaching style directly influenced students' sense of academic success. However, during the September 2024 war, this association was no longer statistically significant, indicating a profound change in the criteria by which students evaluated their school year. In a context of fear, uncertainty, and disorganization, perceptions of teaching style were no longer a determining factor in students' judgment of their school year. Their attention seems to have shifted from the pedagogical form to more existential and emotional dimensions such as security, stability, and the very possibility of continuing their studies. In other words, when external conditions seriously disrupt the educational setting, pedagogical variables such as the degree of interactivity or the teaching method become secondary to psychological and contextual concerns.

This evolution illustrates a fundamental distinction. The perception of teaching style influences perceived success in contexts where learning processes can still be organized, but it loses its explanatory value in situations of acute crisis, where environmental factors become dominant. From a pedagogical perspective, these findings call for an adaptation of priorities according to the type of crisis encountered, i.e. focusing on flexibility and interactivity during periods of social distancing or hybrid learning, while strengthening socio-emotional support, reassuring communication, and a stable learning environment in times of conflict or major instability.

Conversely, when studying the impact of students' perception of teaching style on their perception of the most effective learning modality, statistical analysis of the two periods leads to a similar conclusion. Whether during the COVID-19 pandemic or the September 2024 war, no statistically significant association was observed between students' perceptions of teaching style, described as lecture-based in in-person instruction and interactive in distance learning, and students' preference for the teaching modality that they perceived as optimal. In other words, students' opinions regarding the degree of interactivity in teaching do not appear to influence their choice between in-person and distance learning. In both contexts, the majority of students expressed a clear preference for in-person instruction, regardless of their perception of the teaching style.

This finding suggests that, despite the perceived advantages of distance learning in

terms of interactivity or flexibility, face-to-face learning remains associated with essential dimensions of learning, such as human contact, regularity, the institutional framework and the sense of belonging to the school community. This persistent preference for in-person learning reflects the importance given by students to direct interaction with the teacher and to classroom dynamics - elements that are difficult to replicate through virtual interactions, even in advanced technological contexts.

A comparative analysis of education in global conflict zones reveals a persistent paradox: the smartphone is a vital lifeline, yet it remains a profound pedagogical constraint. In Ukraine (World Bank, 2022) and Gaza (UNICEF, 2023), as in Lebanon, a 'secondary digital divide' persists, where reliance on mobile devices often relegates students to passive observation rather than active, cognitive engagement. However, the Lebanese context is distinguished by a 'triple threat': the confluence of a pre-existing economic collapse, a fractured energy sector, and a broadband infrastructure that struggles to sustain basic video connectivity. This infrastructure trap fundamentally reconstructs the student experience, shifting the burden of access onto the individual. In this precarious environment, asynchronous learning is transformed from a flexible teaching strategy into the only remaining bridge between a student in crisis and their right to education.

General Conclusion

In conclusion, these results highlight the importance of adapting educational practices according to the type of crisis, while placing the human dimension at the heart of the teaching process. They show that the effectiveness of a pedagogical system depends not only on its technical structure, but above all on its ability to maintain connection, trust, and a sense of security among students.

During a health crisis, marked by social distancing and distance learning, it becomes essential to strengthen interaction and collaboration. Technology must be used to recreate the warm, interpersonal relationships of the classroom: facilitating communication, encouraging cooperation, and stimulating active participation. In this context, student autonomy and responsibility are key levers, but they can only be fully realized if the teacher adopts a caring, supportive, and dialogue-oriented approach.

In times of security crisis, priorities shift: it becomes about ensuring psychosocial support and emotional stability. School is no longer a place for the transmission of knowledge; it becomes a safe space, an "emotional fortress" where students can feel heard, reassured, and safe. Academic success is closely linked to psychological well-being and collective resilience. Here, educational action must be accompanied by emotional support, involving the entire educational team.

In practical terms, strengthening psychosocial support within schools during crises requires the implementation of specific strategies. These may include the creation of school-based psychological support units, the integration of trauma-informed pedagogical training for teachers, and the organization of structured discussion sessions allowing students to express their concerns in a safe environment. Collaboration between schools, families, and local communities also plays a crucial role in maintaining students' emotional stability and engagement. Such measures can help restore a sense of normality and security, which are essential conditions for learning during periods of instability.

Despite the diversity of crises, one constant emerges: students remain attached to

in-person instruction, perceived as the most effective learning method. This preference underscores that school is not only a place for acquiring knowledge, but also a space for real interactions, social belonging, and emotional structuring. The educational ideal goes beyond mere cognitive or technical efficiency: it relies primarily on presence, relationship, and the coherence of the educational framework.

These observations open the way to a broader reflection on the pedagogical bond in times of crisis. A relevant research question could be formulated as follows: to what extent can the quality of the teacher-student relationship compensate for the negative effects of a crisis on motivation and academic achievement, and what concrete forms can this relationship take depending on the type of crisis?

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