School Leaders' Challenges and Responses During the COVID-19 Pandemic: Deriving

Recommendations Based on Evidence from a Systematic Review

新冠疫情形勢下香港學校教與學面臨挑戰及學校領導就此回應的政策倡議研究

Final Report

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Executive Summary

Abstract

Context

1. Teaching and learning in Hong Kong have been severely disrupted because of prolonged periods of school closure during the last five waves of COVID-19. Therefore, it is imperative to understand the challenges that schools internationally and in Hong Kong have experienced during these closures and derive lessons on how schools have responded to these challenges. This information is essential to help schools know how to respond to challenges arising from further pandemic waves or future crises.

Aim

2. Accordingly, the proposed study aims to derive policy recommendations for school leaders (principals, vice-principals, teacher leaders) and the Education Bureau to address the teaching and learning challenges school leaders face during the pandemic in Hong Kong.

Research Methodology

3. The study comprises two phases.

    a. First, the research team performed a systematic review of the international literature involving 224 studies to elucidate a comprehensive range of teaching and learning challenges confronting school leaders during the pandemic and school leaders' practices in response to these challenges. Thematic analysis was used to derive themes from the studies included in the systematic review.

b. In the second phase, the research team prepared two sets of policy recommendations for school leaders and the Education Bureau to address teaching and learning challenges.

4. The themes and recommendations were then be discussed with an advisory panel comprising an Education Bureau office, principals/vice-principals, teacher leaders/teachers, parents, and senior students to ascertain the relevance of these findings and recommendations to ensure relevance in Hong Kong.

Results

5. The teaching and learning challenges and responses to these challenges were often inextricably linked to those affecting socioemotional well-being and safety. They involved different stakeholders beyond school leaders – teachers, students, parents, and other members of the school community. They also pertained to the period of time corresponding to school closure during the pandemic and post-pandemic reopening.

6. The analysis identified four themes and 11 sub-themes on challenges schools were confronted with and five themes and nine sub-themes on school responses to address these challenges. Specifically, the themes and sub-themes on challenges were:

- Schools' need to respond to the challenging external environment
    - Unprepared to implement rapid pandemic policies
    - Intense need to engage with different stakeholders
- Implementation and consequences of home-based, online teaching and learning during the pandemic
    - Difficulty in transitioning to and implementing online teaching

- o Achievement gaps and socioemotional well-being for disadvantaged students

- o Learning loss

- Need to do more with less

  - o Resource shortage

  - o Safety and basic needs

  - o Limited scope for teacher leadership and proliferation of responsibilities

- Deteriorating socioemotional well-being of the school community during the pandemic

  - o School leaders' deteriorating socioemotional well-being

  - o Teachers' deteriorating socioemotional well-being

  - o Students' deteriorating socioemotional well-being

7. The themes and sub-themes on schools' responses to address these challenges were:

- Schools urgently responded to the challenging external environment during the pandemic

  - o Adaptive leadership

  - o Community-based leadership

- Facilitating student learning during the pandemic

  - o Digital instructional leadership

  - o Teachers' agentic leadership in classrooms

  - o Maximizing teaching and learning

- Resources and teacher capacity

  - o Providing resources

  - o Teachers' professional development

- Addressing the school community's well-being

- Recovery, innovation, future-proofing post-pandemic

Policy Implications and Recommendations

8. Results from the systematic review of 224 studies have substantive implications for policy. These implications highlight the need for the Education Bureau to strengthen the crisis management plan for schools, strengthen network of professional learning communities within and between schools, and provide resources and support for schools. These implications contribute to capacity enhancement of the education system to support schools in responding to school disruptions and ensuring the continuity of teaching and learning in future crises.

9. In addition to these implications for the education system, the systematic review also point to implications for schools. These implications are namely, for school leaders to institutionalize a crisis response framework and team comprising different members of the school community, develop a long-term schoolwide e-learning plan, and address the socioemotional well-being of the school community. These implications are related to enhancing schools' ability to individually manage the impact on students' academic learning and the socio-emotional well-being of the school community in future crises.

執行摘要

情境

1. 在過去五波 COVID-19 疫情期間，由於學校長時間關閉，香港的教學受到嚴重干擾。 因此，有必要了解國際和香港的學校在停課期間所經歷的挑戰，並吸取學校如何應對這些挑戰的經驗教訓。 這些資訊對於幫助學校了解如何應對進一步的流行病浪潮或未來危機帶來的挑戰至關重要。

目的

2. 2. 因此，擬議研究旨在為學校領導（校長、副校長、教師領導）和教育局提出政策建議，以解決香港疫情期間學校領導面臨的教學挑戰。

研究方法論

3. 研究分為兩個階段。

- 首先，研究團隊對國際文獻進行了系統性回顧，涉及 224 項研究，以闡明疫情期間學校領導者面臨的全方位教學挑戰以及學校領導者應對這些挑戰的實踐。主題分析用於從系統性回顧中包含的研究中得出主題。

- 在第二階段，研究團隊為學校領導和教育局準備了兩套政策建議，以應對教學挑戰。

4. 然後，由教育局辦公室、校長/副校長、教師領導/教師、家長和高年級學生組成的諮詢小組討論這些主題和建議，以確定這些調查結果和建議的相關性，以確保在香港的適用性孔.

結果

5. 教學挑戰以及對這些挑戰的因應措施往往與影響社會情感福祉和安全的挑戰有著千絲萬縷的關係。 他們涉及學校領導以外的不同利害關係人——教師、學生、家長和學校社區的其他成員。 它們還涉及大流行期間學校關閉和大流行後重新開放的相應時間段。

6. 分析確定了關於學校面臨的挑戰的 4 個主題和 11 個分主題，以及關於學校應對這些挑戰的 5 個主題和 9 個分主題。 具體來說，挑戰的主題和分主題是：

- 學校需要應付充滿挑戰的外在環境
    - 沒有準備好實施快速的流行病政策
    - 強烈需要與不同利害關係人互動
- 疫情期間居家線上教學的實施及其後果
    - 轉換和實施線上教學的困難
    - 弱勢學生的成績差距與社會情緒福祉
    - 學習損失
- 需要用更少的資源做更多的事情
    - 資源短缺
    - 安全和基本需求
    - 教師領導範圍有限且責任廣泛
- 疫情期間學校社區的社會情緒福祉惡化
    - 學校領導者的社會情緒福祉不斷惡化
    - 教師的社會情緒福祉不斷惡化

- 學生的社會情緒福祉不斷惡化

7. 學校應對這些挑戰的主題和分主題是：

- 學校緊急應變疫情期間充滿挑戰的外在環境
    - 適應性領導
    - 社區為本的領導力
- 促進疫情期間學生的學習
    - 數位化教學領導力
    - 教師在課堂上的代理領導
    - 最大限度地提高教學和學習
- 資源和教師能力
    - 提供資源
    - 教師專業發展
- 關注學校社區的福祉
- 疫情後的復原、創新、面向未來

政策影響及建議

8. 對 224 項研究的系統性回顧結果對政策有實質影響。 這些影響凸顯教育局有必要加強學校的危機管理計劃，加強學校內部和之間的專業學習社區網絡，並為學校提供資源和支持。 這些影響有助於提高教育系統的能力，以支持學校應對學校中斷並確保未來危機中教學的連續性。

9. 除了對教育系統的影響外，系統性回顧也指出對學校的影響。 這些影響是，學校領導者應將危機應對框架和由學校社區不同成員組成的團隊制度化，制定長期的全校電子學習計劃，並解決學校社區的社會情感福祉。 這些影響與提高學校在未來危機中單獨管理對學生學術學習和學校社區社會情感福祉的影響的能力有關。

1. Introduction

COVID-19 Pandemic in Hong Kong

1. Contextualized in the prolonged periods of school suspension due to the COVID-19 pandemic (referred to henceforth as pandemic for brevity) in Hong Kong, the overall aim of the present study is to derive policy recommendations for school leaders and the Education Bureau to address the different teaching and learning challenges faced by school leaders during the pandemic. The study is important in light of the onset of the pandemic (since late 2019) that has severely disrupted teaching and learning in many parts of the world. According to OECD (2021), pre-primary schools were closed for 55 days (or 28% of total instruction days), primary schools for 78 days, and secondary schools for 92-101 days (or up to 56% of total instruction days) on average across 30 OECD countries with comparable data from 1 January 2020 to 20 May 2021.

2. As is the case in many parts of the world, face-to-face lessons in classrooms have been supplanted by long periods of home-based online lessons during the pandemic in Hong Kong. During this challenging period of time, many schools, families, and students have struggled to cope with this new form of teaching and learning. Indeed, during the five waves of the pandemic lasting almost three years confronting Hong Kong to-date, students have been struggling with sustained disruptions to their learning due to school suspensions. In a recently concluded study that examined the experiences of approximately 6,300 students, 1,300 parents, 550 school leaders, and 790 teachers during the earlier waves of the school suspension in Hong Kong, the *eCitizen Education 360* unravels the multitude of challenges confronting schools and families (Law et al., 2021b). These challenges include students suffering from cumulative negative effects on their learning due to socio-economic and digital divides, parents from socioeconomically

disadvantaged families being compelled to rely on schools for parenting support, school principals having to support middle-level leaders to solve problems, schools struggling to be prepared for online teaching and learning, and teachers being ill-prepared in terms of professional development and collaboration for online teaching.

Teaching and Learning Challenges Confronting School Leaders

3. 'Challenges' as used in the study refers to problems that are 'built on the subjective interpretations of those who encounter them; thus, a problem emerges in the 'gap between desired and actual state', which leads to a challenging situation' (Tamadoni et al., 2021, p. 3). Most of these challenges can be solved or managed by school leaders and policymakers (Spillane & Lowenhaupt, 2019).

4. In light of the myriad challenges confronting school leaders (comprising principals, vice-principals, and teacher leaders), it is perhaps unsurprising that they have experienced tremendous stress during the pandemic (Fotheringhama et al., 2022; Hayes et al., 2022; Hulme et al., 2023; Reid, 2022). For example, Fotheringhama et al. (2022) found that primary and secondary school leaders in England were overwhelmed by the quality, quantity, and frequency of top-down communication from the Department of Education during the national lockdown and implementation of students' home-based online learning in June 2020. This high level of stress was mitigated by their horizontal communication and collaboration with other school leaders and with their school communities. Hulme et al. (2021) documented how headteachers of primary, secondary and special schools in the UK adapted their leadership strategies (bridging, brokering, and buffering) during the early stages of the pandemic-induced school closure. The school leaders reported that they 'felt more vulnerable and more alone' (p. 11) and spoke of

'clipped … wings' (p. 12) as they struggled to cope with unknown risks and continuously shifting guidance. Striepe et al.'s (2023) secondary analysis of five interpretivist studies found that school leaders had to adapt their roles and responsibilities swiftly and effectively to respond to the urgency of the pandemic. Reid's (2022) analysis of interview data from 16 public school principals in the US found that school leaders experienced elevated levels of stress and anxiety since the onset of the pandemic. The school leaders attempted to manage their stress as they addressed the challenges confronting them by presenting a brave front for students, teachers, parents, and the community and by getting support from activities and individuals outside of their schools (e.g., family members and other principals). Hayes et al.'s (2022) research collected data from 120 qualitative interviews with public school principals in 19 states and 100 districts in the US on how the school leaders struggled with the closing and reopening of schools during the pandemic. Their analysis showed that the principals attempted to help others manage their stress, despite feeling emotionally overwhelmed themselves, and they found it challenging to take a respite from their remote work from their home. Consequently, they resorted to exercising, getting support from others, and trying to unplug themselves from their work to take care of their well-being.

5. Given these challenges and the foreseeable impact on student learning, it is imperative to systematically identify the different challenges that school leaders face during the pandemic and their practices in response to these challenges. Previous studies (James et al., 2022; Martinez et al., 2021; Neelakantan et al., 2022; Thornton, 2021a) exemplify some aspects of the complex challenges confronting school leaders in different countries. For example, Thornton (2021a) reported challenges and opportunities that school principals in New Zealand were confronted with during the pandemic-induced lockdown

in March 2020. The challenges included preparing teachers and students for online teaching and learning for an indefinite period of time, promoting staff and student well-being, and maintaining clear and compassionate communication with all stakeholders. The opportunities which surfaced included enhancing online teaching and learning, distributing leadership, and revisiting school directions. Neelakantan et al. (2022) found that school leaders in India experienced challenges including transitioning online, catering to student needs, and implementing crisis and collaborative leadership during the pandemic. The study also highlighted school leaders' inadequate training in crisis management and the neglect of their mental health needs. Chatzipanagiotou and Katsarou's (2023) systematic review found evidence that school leaders were not adequately prepared for crisis management. Martinez et al.'s (2021) in-depth qualitative study of two public high school administrators in the US during the pandemic revealed that school leaders' work of opening their school was impacted by multiple issues related to technology access/instruction, informational/procedural ambiguity, resource dependency, policy adaptability, stakeholders' dispositions, and communication methods. James et al. (2022) reported on the challenges confronting Caribbean teachers leading in online teaching because of the pandemic and their preparedness to revert to face-to-face teaching. Results showed that during the online teaching, the teacher leaders experienced increased workload because they had to supervise their children's home-based online learning while they were teaching online. They also complained of insufficient direction and support from Ministries of Education and their school leaders. Lastly, some teachers found it difficult to access and communicate with students who had inadequate Internet connectivity. In terms of reverting to face-to-face teaching, the teachers were concerned about the risk of contracting the virus in their schools. Ho and Kang's (2023) review identified learning loss, limitations in online lessons, impact on psychosocial well-being,

and inequalities during the pandemic.

6. A systematic review of the literature in the present study is expected to surface a
    comprehensive range of challenges that school leaders are confronted with in different
    contexts and provide insights for understanding the myriad challenges that school leaders
    in Hong Kong have to grapple with during the pandemic.

School Leaders' Practices in Response to These Challenges

7. School leaders adopted different practices in response to the myriad challenges during the
    pandemic. For the purposes of the present study, school leaders' practices in response to
    these challenges is defined as encompassing their actions to manage contingencies that
    disrupt teaching and learning during the pandemic. Recent research (Alsaleh, 2021a;
    Beauchamp et al., 2021; Jarvis & Mishra, 2020; Longmuir, 2021; Sum, 2022) exemplify
    the diversity of school leaders' responses to different challenges during the pandemic.
    First, Jarvis and Mishra (2020) reported that their international sample of leaders of
    schools, colleges, and universities from the UK, Malaysia, India, Bahrain, Dubai,
    Singapore, and Myanmar did not demonstrate crisis leadership during the pandemic
    lockdown in 2020. Instead, they adapted their instructional leadership as necessary to
    meet unprecedented challenges. Next, Beauchamp et al. (2021) elucidated how school
    leaders in the UK coped with various predicaments and situational ambiguities in the
    early stage of the pandemic by leveraging strengths of pre-existing structures and teams;
    providing emotional and moral leadership; and developing practical, flexible, and
    reassuring approaches to communicate with parents, staff, students, and external agencies.
    In another study, Longmuir (2021) examined how Australian principals, deputy
    principals, and heads of schools provided leadership during the move to home-based

online learning during the pandemic-induced lockdown in mid-2020. Results showed that the school leaders engaged in rapid sensemaking and change implementation; performed assessment and management of risks, relationships, and resourcing; prioritized the well-being of their school communities; exercised community leadership; and engaged in timely and honest communication with various stakeholders. Fourth, Sum's (2022) study found that school leaders in Australia perceived changes to their roles and relationships and reprioritized their approaches to performing their work and achieving their well-being when the pandemic struck in early 2020. Lastly, Alsaleh's (2021a) research showed that lead teachers, together with school principals and other teachers, in Kuwait, used professional learning communities to build capacity for online teaching during the pandemic. The professional learning communities were developed via shared values and vision, collective responsibility, professional reflective inquiry, collaboration, individual and group learning, and supportive relationships. Principals and teacher leaders provided training, supervision, instructional support, and empowerment in the process. A systematic review of the literature in the present study is expected to surface a comprehensive range of school leaders' practices in response to the challenges they encounter in different contexts and provide insights on how school leaders in Hong Kong have responded to the challenges during the pandemic.

Applicability of International Literature to the Hong Kong Context

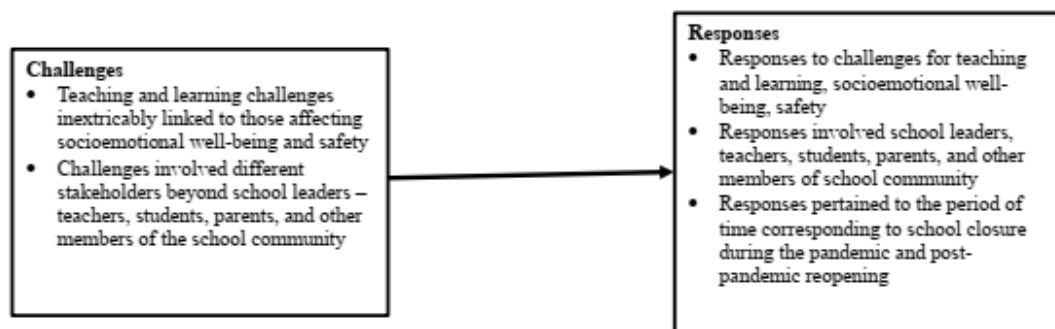8. There are similarities and differences in the educational challenges confronting Hong Kong and other countries/regions during the pandemic, so it is important to review Hong Kong and the international literature to obtain a comprehensive understanding of the educational challenges and responses during the pandemic. Common global challenges include protracted disruptions to schooling as a result of widespread COVID-19

infections, shifting of school-based face-to-face lessons to home-based online lessons, general inadequacy of technical infrastructure and pedagogical knowhow to conduct online lessons on a long-term basis, the need for curricular and assessment adaptations, social alienation of students and teachers arising from lack of physical contact, and post-pandemic issues of students' cumulative learning loss and exacerbation of digital and learning divides (Anthony Jr & Noel, 2021; OECD, 2021; Schechter et al., 2022). In particular, Hong Kong may share some similar challenges with East Asian countries/regions that are characterized by high levels of societal emphasis on academic learning, relatively teacher-centered pedagogies, and high-stakes assessment. However, Hong Kong is also confronted with unique challenges arising from having one of the longest school suspensions worldwide, many students struggling to find conducive learning space for online lessons in relatively small flats during the pandemic, and having pandemic social restrictions that outlast those in many other countries/regions. Therefore, the present study will compare the findings from studies contextualized in Hong Kong with those from East Asia and other countries/regions.

2. **Objectives of the Study**

9. The purpose of the present study is to derive policy recommendations for school leaders (principals, vice-principals, and teacher leaders) and the Education Bureau to address the additional teaching and learning challenges school leaders face during the pandemic in Hong Kong. The specific objectives of the study are to (a) employ a systematic review of the extant international literature to identify the range of teaching and learning challenges faced by school leaders during the pandemic and identify different school leaders' practices in response to these challenges; and (b) derive policy recommendations for school leaders and the Education Bureau to address these challenges in Hong Kong. After the systematic review is completed, the research team will consult an advisory panel of school leaders in Hong Kong to discuss and contextualise the findings in Hong Kong (more details discussed in research methodology section). The conceptual framework for the study is summarized in Figure 1.

Figure 1
Conceptual Framework

Challenges
- Teaching and learning challenges inextricably linked to those affecting socioemotional well-being and safety
- Challenges involved different stakeholders beyond school leaders – teachers, students, parents, and other members of the school community

Responses
- Responses to challenges for teaching and learning, socioemotional well-being, safety
- Responses involved school leaders, teachers, students, parents, and other members of school community
- Responses pertained to the period of time corresponding to school closure during the pandemic and post-pandemic reopening

3. **Research Methodology**

10. The research team performed a systematic review of the international literature to identify key teaching and learning challenges confronting school leaders during the pandemic and their practices in response to these challenges.

11. The systematic review was informed by Hallinger's (2014) review framework for school leadership research addressing five key areas:

   - Identifying central topics of interest, guiding questions, and goals;

   - Elucidating conceptual perspective informing the review's selection, evaluation, and interpretation of studies;

   - Reporting sources and data types used in the review;

   - Reporting data evaluation and analysis used in the review; and

   - Discussing major results of the review.

Identifying Topics, Guiding Questions, and Goals

12. The systematic review examined teaching and learning challenges that school leaders faced and their practices in response to these challenges during the pandemic. The specific research questions are:

   - What teaching and learning challenges did school leaders face during COVID-19?

   - What practices did they adopt in response to these challenges?

Elucidating Conceptual Perspective

13. The systematic review was informed by the contingency opportunities theory (Wasserman et al., 2010). The theory provided a balanced consideration of the environmental challenges confronting schools (constraints) and what schools can do (opportunities)

(Tan, 2018). The inclusion of constrains and opportunities corresponded to expected findings from the systematic review comprising insights on teaching and learning challenges that school leaders faced during COVID-19 and the practices that they adopted in response to these challenges respectively.

Reporting Sources and Data Types Used

Identification of Studies

14. The main search of studies examining teaching and learning challenges school leaders faced and their practices in response to these challenges during the pandemic was performed using seven key education-related databases (*Academic Search Complete*, *APA PsycArticles, Australian Education Index*, *British Education Index*, *Education Full Text*, *ERIC, Families & Society Studies Worldwide*) in addition to two broader databases (*Scopus*, *Web of Science*). The database search uses combinations of keywords (in abstracts) pertaining to the pandemic (e.g., *COVID** OR *pandemic* OR *coronavirus* OR *lockdown*) and school leadership (e.g., *school leader** OR *principal* OR *vice-principal* OR *department head* OR *teacher leader* OR *school administrator* OR *educational leader** OR *school manager* OR *headteacher* OR *school effectiveness* OR *effective school*). The database search returned a total of 7,682 studies.

15. The database search was complemented by other searches. The following sources were searched for additional relevant studies:

- key school leadership and effectiveness journals (e.g., *Educational Administration Quarterly*, *Educational Management Administration and Leadership*, *International Journal of Educational Management*, *International Journal of Leadership in Education*, *Journal of Educational Administration*, *Journal of Research on*

Educational Effectiveness, *Leadership and Policy in Schools*, *School Effectiveness and School Improvement*, *School Leadership and Management*);

- key generalist education journals (e.g., *American Educational Research Journal*, *Asia Pacific Education Review*, *British Educational Research Journal*, *Cambridge Journal of Education*, *Educational Studies*, *Journal of Educational Research*, *npj Science of Learning*, *Oxford Review of Education*, *Teachers College Record*);

- special journal issues on COVID-19-related research on teaching and learning;

- relevant studies from reference lists of review articles on COVID-19-related research (referential backtracking);

- COVID-19-related publications by key international organizations (e.g., OECD, UNESCO, UNICEF, World Bank, McKinsey&Co); and

- Google scholar (to identify relevant studies in the gray literature)

16. The complementary searches returned a total of 96 studies. Therefore, total number of studies from the database and complementary searches was 7,778 studies.

Selection of Studies

17. The research team jointly developed inclusion and exclusion criteria for deciding if studies should be included. Studies were included if they

- addressed challenges in teaching and learning confronting school leaders and/or school practices in response to these challenges during and after the pandemic;

- involved G1-12 schools;

- were empirical primary studies;

- were written in English; and

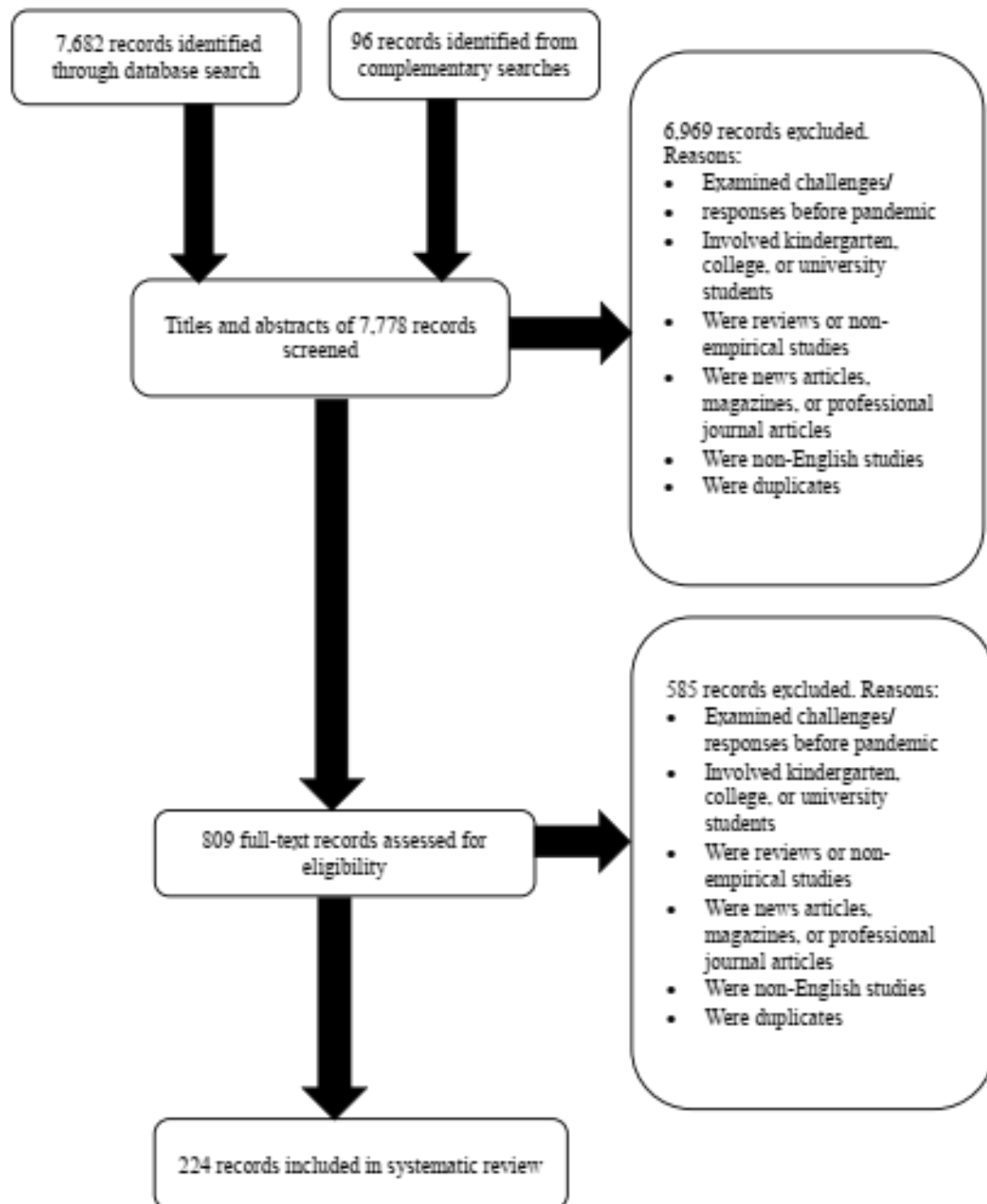- were dated 2019 (COVID-19 pandemic started in end-2019) to March 2023.

18. Studies were excluded if they

- involved challenges in teaching and learning confronting school leaders and/or school practices in response to these challenges before the pandemic

- involved kindergarten, college, or university students;

- were reviews or non-empirical studies;

- were news articles, magazines, or articles in professional (non-academic) journals;

- were non-English studies; or

- were duplicates.

19. The Principal Investigator (PI) led four other members of the research team in reading the titles and abstracts of the potential studies identified using the inclusion and exclusion criteria to decide if the studies were to be included in the systematic review. There were three rounds of training where the team members independently reviewed a total of 30 studies (10 studies in each round) and made recommendation decisions on whether the studies should be included or excluded. The PI then reviewed the results and discussed with the team on how to consistently apply the inclusion and exclusion criteria. The team provided inputs in the discussion process to achieve clarity and consistency in making inclusion/exclusion decisions. All differences were consensually resolved under the facilitation of the PI. After three rounds of training, the independent decisions made by each of the team members largely converged with those of the PI, so they were each assigned to review the titles and abstracts of a section of the studies. The review of abstracts excluded a total of 6,969 studies, leaving 809 studies for the team to further examine the full text.

20. Next, each team member independently reviewed the full text of a section of the 809 studies using the same set of inclusion and exclusion criteria to decide if the studies should be included in the systematic review. In the process, team members discussed with the PI when they were unsure as to whether to include or exclude specific studies. This review of the full text of the studies excluded a total of another 585 studies, leaving a final corpus of 224 studies for the systematic review. The identification and selection process for the studies is summarized using the PRISMA diagram (Figure 2).

Figure 2
PRISMA Diagram

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┌──────────────────────┐   ┌──────────────────────┐
│ 7,682 records        │   │ 96 records identified │
│ identified through   │   │ from complementary   │
│ database search      │   │ searches             │
└──────────┬───────────┘   └──────────┬───────────┘
           │                          │
           ▼                          ▼
        ┌─────────────────────────────┐      ┌──────────────────────────────┐
        │ Titles and abstracts of     │─────▶│ 6,969 records excluded.      │
        │ 7,778 records screened      │      │ Reasons:                     │
        └──────────────┬──────────────┘      │ • Examined challenges/       │
                       │                      │   responses before pandemic  │
                       │                      │ • Involved kindergarten,     │
                       │                      │   college, or university     │
                       │                      │   students                   │
                       │                      │ • Were reviews or non-       │
                       │                      │   empirical studies          │
                       │                      │ • Were news articles,        │
                       │                      │   magazines, or professional │
                       │                      │   journal articles           │
                       │                      │ • Were non-English studies   │
                       │                      │ • Were duplicates            │
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        ┌─────────────────────────────┐      ┌──────────────────────────────┐
        │ 809 full-text records       │─────▶│ 585 records excluded. Reasons:│
        │ assessed for eligibility    │      │ • Examined challenges/       │
        └──────────────┬──────────────┘      │   responses before pandemic  │
                       │                      │ • Involved kindergarten,     │
                       │                      │   college, or university     │
                       │                      │   students                   │
                       │                      │ • Were reviews or non-       │
                       │                      │   empirical studies          │
                       │                      │ • Were news articles,        │
                       │                      │   magazines, or professional │
                       │                      │   journal articles           │
                       │                      │ • Were non-English studies   │
                       │                      │ • Were duplicates            │
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        │ 224 records included in     │
        │ systematic review           │
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Reporting Data Evaluation and Analysis Used

21. The research team collaboratively developed the coding scheme below to summarize the

    studies included in the systematic review:

    • Study title/authors/year

- Study types (conference papers/proceedings, journal articles, policy briefs, reports, research briefs, theses, working paper)

- Research designs (qualitative, quantitative, mixed methods)

- Participants

- Countries/Continents (Hong Kong, Africa, Asia excluding Hong Kong, Australia, Europe, North America, South America, in countries/regions in more than one continent)

- Challenges for teaching and learning during pandemic

- School practices in response to these challenges during and after pandemic

22. After that, each team member coded a proportion of the studies. In the process, team members discussed with the PI when they were unsure about the coding process. After that, the PI reviewed all the studies and refined the coding where necessary.

Discussing Major Results of the Review

23. The six-phase thematic analysis (Braun & Clarke, 2020) was used to derive themes from the studies included in the systematic review. In the first phase, the studies were read and initial ideas noted. Second, studies were analyzed to generate initial codes. Third, potential themes were identified from the codes. After that, the themes were further developed and reviewed to ensure that they elucidated the different types of teaching and learning challenges confronting school leaders and/or school leaders' practices in response to these challenges during the pandemic. In the fifth phase, the themes were refined, defined, and named. Lastly, the themes were reported and discussed. This last phase in thematic analysis corresponded to the last step of discussing major results of the review in Hallinger's (2014) review framework.

24. In addition to elucidating themes on challenges and school responses to these challenges for all the studies, three sets of additional analyses were performed. The additional analyses determined whether the themes were derived from studies contextualized in Hong Kong, and compared these Hong Kong-specific themes with those from studies contextualized in Asia (excluding Hong Kong) and those from studies contextualized in other parts of the world.

25. The research team reviewed the themes derived and discussed how to improve the analysis and interpretation of the themes.

Consulting an Advisory Panel

26. After the systematic review is completed, the research team consulted an advisory panel to discuss and contextualize the findings in Hong Kong. The panel comprised one Education Bureau officer, five principals/vice-principals, five teacher leaders/teachers, five parents (including one with a primary and a secondary school child), and four secondary/high school students as follows:

- one Principal Education Officer from Education Bureau

- one principal of a government primary school

- one principal of an aided primary school

- one principal of a private primary school

- one vice-principal of a government secondary/high school

- one vice-principal of an aided secondary/high school

- one teacher leader/teacher of a government primary school

- one teacher leader of an aided primary school

- one teacher leader/teacher of a private/international primary school

- one teacher of aided secondary/high school

- one teacher of DSS secondary school

- one parent from a government primary school

- one parent from an aided primary school

- one parent from an international primary school (*)

- one parent from a government secondary/high school

- one parent from an DSS secondary school

- one parent from an international secondary/high school (same parent as *)

- one student from a government secondary/high school

- one student from aided secondary/high school

- one student from DSS secondary/high schools

- one student from an international secondary/high school

27. The research team presented the findings and recommendations from the systematic review to the advisory panel via two Zoom meetings and used follow-up emails and WhatsApp messages to elicit the panel's comments. The advisory panel was invited to comment on the relevance of the findings and recommendations in their contexts during the pandemic. It was also invited to share other observations and experiences that were not identified from the systematic review. Comments and suggestions from the advisory panel were used to derive insights on the findings.

28. The research team also prepared two sets of policy recommendations to address the different teaching and learning challenges. One set of recommendations focused on what school leaders could do to address these challenges. The other set of recommendations

focused on what policymakers from the Education Bureau could do to provide system-level support for schools to address these challenges. The research team discussed these recommendations with the advisory panel to ensure relevance in the Hong Kong context. Comments and suggestions from the advisory panel were used to inform the recommendations.

Policy Briefs

29. After that, the research team prepared two policy briefs to summarize the teaching and learning challenges confronting school leaders and the recommendations to address these challenges. The policy brief is 'a short document that uses graphics and text to summarize the key elements of one or multiple researches and provides a succinct explanation of a policy issue or problem, together with options and specific recommendations for addressing that issue or problem' (Arnautu & Dagenais, 2021, p. 2). The first policy brief was targeted at school leaders and included recommendations for them to address these challenges from the school perspective. The second policy brief was targeted at policymakers from the Education Bureau and included recommendations on how the bureau could provide system-level support for schools to address these challenges.

4. Research Results

Overview of Studies

30. The 224 studies comprised 2 conference papers/proceedings, 196 journal articles, 2 policy

briefs, 16 reports, 2 research briefs, 5 theses, and 1 working paper. These studies were

contextualized in Hong Kong (n = 5), Africa (n = 8), Asia excluding Hong Kong (n = 43),

Australia (n = 11), Europe (n = 73), North America (n = 60), South America (n = 3), and

in countries/regions in more than one continent (n = 21). The majority of the studies

employed qualitative research designs (n = 135) whereas 50 studies used quantitative

research designs and 39 used mixed-methods research designs (Table 1).

Challenges

31. The teaching and learning challenges and responses to these challenges were often

inextricably linked to those affecting socioemotional well-being and safety. They

involved different stakeholders beyond school leaders – teachers, students, parents, and

other members of the school community. They also pertained to the period of time

corresponding to school closure during the pandemic and post-pandemic reopening.

Figure 3 summarizes the different challenges and school leaders' responses to address

these challenges.

Figure 3
Summary of Findings

Challenges

- Unprepared to implement pandemic policies
- Intense need to engage stakeholders

- Difficulty transitioning to and implementing online lessons
- Achievement gaps and socioemotional wellbeing for disadvantaged students
- Learning loss

- Resource shortage
- Safety and basic needs
- Limited scope for teacher leadership and proliferation of responsibilities

- Leaders, teachers, & students' deteriorating socioemotional wellbeing

Responses

During pandemic

- Adaptive leadership
- Community-based leadership

- Digital instructional leadership
- Teachers' agentic leadership
- Maximizing teaching and learning

- Providng resources
- Teachers' professional development

- Addressing school community's wellbeing

Post-pandemic (opportunities for innovation)

- Recovery, innovation, and future-proofing

32. The final results comprised four themes and 11 sub-themes on challenges schools were confronted with and five themes and nine sub-themes on school responses to address these challenges. Specifically, the themes and sub-themes on challenges were:

- Schools' need to respond to the challenging external environment

  o Unprepared to implement rapid pandemic policies

  o Intense need to engage with different stakeholders

- Implementation and consequences of home-based, online teaching and learning during the pandemic

  o Difficulty in transitioning to and implementing online teaching

  o Achievement gaps and socioemotional well-being for disadvantaged students

  o Learning loss

- Need to do more with less

  o Resource shortage

  o Safety and basic needs

  o Limited scope for teacher leadership and proliferation of responsibilities

- Deteriorating socioemotional well-being of the school community during the pandemic
    o School leaders' deteriorating socioemotional well-being
    o Teachers' deteriorating socioemotional well-being
    o Students' deteriorating socioemotional well-being

Schools' Need to Respond to the Challenging External Environment

33. The first two challenges are related to schools' need to respond to the challenging external environment. They comprise schools not being adequately prepared to implement rapid pandemic policies and the need to intensely engage with different stakeholders.

Unprepared to Implement Rapid Pandemic Policies

34. Many schools experienced great difficulties in implementing rapid education and health policy changes in response to the pandemic (Table 2). These changes include transition to home-based, online teaching during the pandemic-induced school disruptions and return to face-to-face lessons when schools gradually reopen at the end of the pandemic. Schools experienced these difficulties for many reasons. First, the external situation was changing rapidly, so many schools had little time to prepare for implementing the associated policy directives. Second, some schools found policy guidelines unclear or inconsistent. Third, some schools did not have a crisis plan, so they did not know what to do during the emergency pandemic situation. Fourth, some school leaders lacked the experience and skills to lead during the pandemic. Lastly, some school leaders struggled between having to implement the new policies and responding to the school community's needs simultaneously. As a result of these difficulties, many school leaders felt incompetent when leading their schools during the pandemic.

Intense Need to Engage with Different Stakeholders

35. Many schools had to engage with different stakeholders during and after schooling hours during the pandemic (Table 3). These stakeholders included students, parents, and the broader school community. Schools had the responsibility for caring for the safety, learning, and socioemotional needs of stakeholders, meeting stakeholders' expectations, collaborating with stakeholders to ensure continuity of teaching and learning for students, and updating stakeholders on new education and health policies during the rapidly changing pandemic situation.

Implementation and Consequences of Home-based, Online Teaching and Learning During the Pandemic

36. The next three sets of challenges are related to implementation and consequences of home-based, online teaching and learning during the pandemic. They exemplify the difficulty in transitioning to and implementing online teaching and the consequences of these challenges, namely equity issues in terms of achievement gaps and socioemotional well-being for disadvantaged students and learning loss for all students.

Difficulty in Transitioning to and Implementing Online Teaching

37. Many schools encountered different difficulties in implementing online teaching (Table 4). First, teachers experienced difficulties in transitioning from face-to-face teaching to online teaching (Akbaba Altun & Bulut; 2021a; Bharaj & Singh, 2021; Brock et al., 2021; Forrester et al., 2021; Francois & Weiner, 2020; Gkoros & Bratitsis, 2022). For example, many teachers had little time to prepare for online teaching, including preparing online teaching materials (Bergdahl & Nouri, 2021; Burkot et al., 2021; Guiamalon et al., 2022;

Kearney et al., 2022). Some teachers found that the digital infrastructure (laptops, wifi connectivity) in their schools was inadequate for schoolwide online lessons (Adams et al., 2021; An et al., 2022; Asio & Bayucca, 2021; Burkot et al., 2021; Haidi & Hamdan, 2022; Lopez et al., 2022; Möhlen & Prummer, 2023; Price & Mansfield, 2021; Zincirli, 2021). Other teachers reported having to support their students' online teaching and learning due to the new medium of instructional delivery (Da'as et al., 2023; Walker et al. , 2020). Lastly, some teachers had difficulties ensuring student attendance and engaging students in online lessons (Akbaba Altun & Bulut, 2021a; Lee et al., 2021; Randjelovic et al., 2022; Sharp & Nelson, 2021; Willermark, 2021).

Achievement Gaps and Socioemotional Well-being for Disadvantaged Students

38. Some teachers were concerned with how some vulnerable groups of students might be disadvantaged in their academic learning (Akbaba Altun & Bulut, 2021a; de Voto et al., 2023; Namkung et al., 2022) and socioemotional well-being during the transition to home-based, online teaching (i.e., issue of equity) when compared to the learning experiences of their peers (Julius & Sims, 2020; Nelson & Sharp, 2020; O'Toole & Simovska, 2022) (Table 5).

39. These students included those from low-socioeconomic status families (Anders et al., 2022; Anderson et al., 2020; Carter et al., 2022; Diliberti et al., 2020; Giunco et al.,2020; International Literacy Centre, 2020; Khan et al., 2021; Kruczek et al., 2022; Law et al., 2020a; Letzel-Alt, Pozas et al., 2022; Mohan et al., 2021; Sari et al., 2023; Schult et al., 2022), students with special educational needs (Cao et al., 2021; Gkoros & Bratitsis, 2022; Hamilton et al., 2020; Lien et al.,2022; McDonald et al., 2023; Möhlen & Prummer, 2023; Ogawa et al., 2022; Sharp & Nelson, 2021), or low-performing students

(Mulhern & Steiner, 2022; Schult et al., 2022). Apart from individual and family backgrounds, students from schools with inadequate digital infrastructure to support online teaching were also disadvantaged in their learning and socioemotional development (Hamilton et al., 2020; Julius & Sims, 2020; Nelson & Sharp, 2020; Sharp et al., 2020).

Learning Loss

40. There were concerns that many students might experience learning loss as a result of the transition to home-based, online teaching (Alsaleh, 2021b; Cordeiro et al., 2021; Hamilton et al., 2020; Havik & Ingul, 2022; Schult et al., 2022) (Table 6). During the pandemic, many countries prioritized safety needs over student learning, so lessons were mandated to move online and curriculum coverage was limited (Hamilton et al., 2020; Mažgon et al., 2021; Namkung et al., 2022).Consequently, there were widespread concerns about the quality of teaching and learning with online lessons and the consequences for students' academic performance. In schools with online lessons, some students did not have adequate digital infrastructure to access online learning materials or they did not have prior training on how to navigate digital learning platforms (Brom et al., 2020; Chan et al., 2020; Ermenc et al., 2021; Khan et al., 2021; Lopez et al., 2022). Other students were not motivated to attend online lessons, or when they did, refused to turn on their cameras and participate in class activities (Chaaban et al., 2021; Ivaniuk & Ovcharuk, 2021; Lopez et al., 2022; Senft et al., 2022; Trinidad, 2021a; Willermark, 2021). There were also many face-to-face courses that schools had to cancel for different reasons during the pandemic, thereby curtaining the breadth of learning opportunities that students had (Anderson et al., 2020; Sharp & Nelson, 2021).

Need to Do More with Less

41. The third set of challenges pertains to the need for schools to do more with less during the pandemic. These challenges comprised resource shortage experienced by many schools and plethora of safety and other basic needs that schools struggle to meet for the school communities during the pandemic on the one hand, and limited scope for teacher leadership and proliferation of responsibilities for teachers during the pandemic on the other.

Resource Shortage

42. Many schools were confronted with diminishing school resources due to various reasons (Table 7). These reasons included declining student enrolment attendance (Achtaridou et al., 2022); staff absence, turnover, and shortage (Achtaridou et al., 2022; Berkovich, 2023; Mahmud & Castro-Kemp, 2022; Nelson & Sharp, 2020; Sharp et al., 2020; Wharton-Beck et al., 2022); insufficient government support (Arar et al., 2022; Crawford et al., 2022); and inadequate digital infrastructure (Argyropoulou et al., 2021; Hayes et al., 2021). There was also less collaboration between schools and families, so there were less home resources that could be used to support student learning (Bozkurt, 2023; Ivaniuk & Ovcharuk, 2021). At home, some parents were not equipped to support their children's home-based, online lessons (Kruczek et al., 2022; Lee et al., 2021; Lopez et al., 2022).

Safety and Basic Needs

43. During the pandemic, many school communities experienced the difficulty of meeting disadvantaged students' basic needs such as food (Table 8). These students depended on school meals but the latter were disrupted by school closures (Hayes et al., 2021; Price &

Mansfield, 2021). More generally, many schools struggled to maintain health and safety (Adams et al., 2021; de Voto et al., 2023; Giunco et al., 2020; Jackson et al., 2022; Kaul et al., 2020; Walker et al., 2020). They had to implement pandemic control measures including mask-wearing, social distancing, personal hygiene practices, and regular disinfection of premises. They also had to purchase and allocate safety equipment (Akbaba Altun & Bulut, 2021a; Banerjee-Batist et al., 2022). After the reopening of schools, many teachers were worried about being infected by the COVID-19 virus in their schools (Akbaba Altun & Bulut, 2021a; James et al., 2021; Sharp et al., 2020).

Limited Scope for Teacher Leadership and Proliferation of Responsibilities

44. During the pandemic, many teachers did not have autonomy in decision-making (Chaaban et al., 2021). This restriction meant that there was limited scope for teachers to exercise their leadership and contribute to their schools (Farhadi & Winton, 2022). Instead, the pandemic was characterized by uncertainty, so this engendered many new responsibilities that teachers needed to undertake to support their students' learning and socioemotional well-being in the difficult period of time (Ivaniuk & Ovcharuk, 2021; Mitchell, 2021) (Table 9).

Deteriorating Socioemotional Well-being of the School Community during the Pandemic

45. The last set of challenges addresses the deteriorating socioemotional well-being experienced by school leaders, teachers, and students during the pandemic.

School Leaders' Deteriorating Socioemotional Well-being

46. Many school leaders experienced deteriorating socioemotional well-being (e.g., anxiety, loneliness, burnout) during the pandemic (Briscoe & Nyereyemhuka, 2022; Halevi &

Schechter, 2023; Hayes et al., 2021; Jopling & Harness, 2022; Leksy et al., 2023;Romero et al., 2023; Tamtik & Darazsi, 2022; Watson & Singh, 2022) (Table 10). This happened because of heightened leadership responsibilities and workload needed to cope with the pandemic (Kavrayıcı & Kesim, 2021). School leaders were also pressured to make multiple decisions and respond to different demands by the school community (teachers and families), thereby eroding their personal boundaries (Briscoe & Nyereyemhuka, 2022; O'Toole & Simovska, 2022).

Teachers' Deteriorating Socioemotional Well-being

47. Just like school leaders, many teachers experienced deteriorating socioemotional wellbeing during the pandemic (Table 11). They suffered distress and burnout (Akbaba Altun & Bulut, 2021a; An et al., 2022; Arruti et al., 2022; Bharaj & Singh, 2021; Brinkmann et al., 2021; Brock et al., 2021; Burkot et al., 2021; Cohen & Willemsen, 2022; Constantia et al., 2021; Crawford et al., 2022; Da'as, Qadach, & Schechter, 2023; de Voto et al., 2023; Fikuree et al., 2021; Watson & Singh, 2022) due to increased workload and the lack of social interactions (Ferguson et al., 2021; Senft et al., 2022). Many of them were too affected by the pandemic to remain motivated to perform their duties (Aytaç, 2020). Some teachers had the additional challenge related to balancing their roles of being a teacher, who had to conduct online lessons for their students, and being a parent, who had to care for their children's safety and support their children's home online learning (James et al., 2021; Walker et al., 2020).

Students' Deteriorating Socioemotional Well-being

48. Students were not immune from the challenges brought about by the pandemic (Table 12). There were concerns for students' socioemotional well-being (Achtaridou et al.,

2022; Brinkmann et al., 2021; Brock et al., 2021; Burkot et al., 2021; Burton et al., 2021; Cameron et al., 2022; Da'as et al., 2023; Fikuree et al., 2021; Forrester et al., 2021; Fray et al., 2022; Hamilton et al., 2020; Huber & Helm, 2020; Kearney et al., 2022; Senft et al., 2022; Sharp & Nelson, 2021) due to a lack of social interactions during home-based, online lessons (Ferguson et al., 2021; Heidrich et al., 2022). There was also an issue of lower students' learning motivation (Aytaç, 2020; Kearney et al., 2022) and there was inadequate school support for students' socioemotional well-being (Crawford et al., 2022; Ferguson et al., 2021; Fikuree et al., 2021; Velasco et al., 2021).

Responses

49. The themes and sub-themes on schools' responses to address these challenges were:

- Schools urgently responded to the challenging external environment during the pandemic
    - Adaptive leadership
    - Community-based leadership
- Facilitating student learning during the pandemic
    - Digital instructional leadership
    - Teachers' agentic leadership in classrooms
    - Maximizing teaching and learning
- Resources and teacher capacity
    - Providing resources
    - Teachers' professional development
- Addressing the school community's well-being
- Recovery, innovation, future-proofing post-pandemic

Schools Urgently Responded to the Challenging External Environment During the
Pandemic

50. The first two sets of school responses to the challenges faced during the pandemic were related to adaptive and community-based school leadership. These responses addressed schools' need to urgently respond to the challenging external environment during the pandemic.

Adaptive Leadership

51. In response to the sudden need to suspend schools and shift teaching from face-to-face lessons to home-based, online learning, school leaders were compelled to adapt their leadership to cope with the immense challenges that confronted them (Table 13). They drew on both their own leadership strengths (e.g., resilience) and their school resources (e.g., building on existing school structures and routines and leadership capacity via collaborative and distributed leadership) (Beauchamp et al., 2021; Burton et al., 2021; de Voto et al., 2023; Reyes-Guerra et al., 2021; Watson & Singh, 2022). The adaptive leadership focused on crisis management (with regards to risks, relationships, and resources; Cahapay, 2022; Longmuir, 2021), sense-making (Decman et al., 2021), and leading schools to adapt to the New Normal during the pandemic. It was premised on the school vision and values and the exercise of flexibility and creativity as necessary (e.g., suspending regular academic standards and work arrangements (Cahapay, 2022; de Voto et al., 2023; Guiamalon et al., 2022; McLeod & Dulsky, 2021; Reyes-Guerra et al., 2021; Thornton, 2021b; Wharton-Beck et al., 2022), moderating expectations (Midha, 2021), providing supportive and flexible working conditions to teachers (Kearney et al., 2022; Law et al., 2021; Mitchell, 2021; Niu et al., 2022), and experimenting with new ways of working (Grooms & Childs, 2021; Huber & Helm, 2020). Schools adopted different

leadership strategies. These strategies included supporting middle leaders in problem-solving (e.g., providing technological support needed for online teaching) and recognizing teachers' efforts (Fourie & Naidoo, 2022; Law et al., 2021; Niu et al., 2022; Tabatadze & Chachkhiani, 2021; Thornton, 2021b), enabling communication and collaboration between different members of the school community (Reyes-Guerra et al., 2021; Willermark & Islind, 2023), and developing organizational capacity (e.g., empowering teachers and nurturing teacher leadership due to the lack of external support; Mažgon et al., 2021; McLeod & Dulsky, 2021).

Community-based Leadership

52. The pervasive impact of the pandemic meant that school leaders had to enact community-based leadership that engaged with different stakeholders within and beyond the school community (Table 14). The community-based leadership adopted a relational ethics of care premised on empathy, reciprocity, and community (Ferguson et al., 2021). The different stakeholders included teachers, students, parents, educators from different school districts, professionals (e.g., educational psychologists), and government departments (e.g., health and education). School leaders used different means for communicating with their stakeholders. These means included mass communication tools (e.g., social media) (Ghamrawi et al., 2023; Huber & Helm, 2020; Giunco et al., 2020), Zoom and Google Classroom (Kruczek et al., 2022), and even home visits where the situation allowed (Hayes et al., 2021). The community-based leadership achieved a few aims. First, it enabled the school to understand school and family needs, preferences, and challenges faced (Brock et al., 2021; Huber & Helm, 2020; Ivaniuk & Ovcharuk, 2021; Wilcox, 2022) and evaluate their priorities and effectiveness of their pandemic responses (Akbaba Altun & Bulut, 2021a). Second, it provided inputs for schools to formulate

emergency response plans to mitigate students' learning loss and support vulnerable students (Fikuree et al., 2021; Guiamalon et al., 2022). Third, it facilitated effective and honest communication about the pandemic situation and how schools had responded (Akbaba Altun & Bulut, 2021a; Longmuir, 2021). Fourth, it developed emotional connections with stakeholders, enabled collaboration for the provision of care for students, and enabled school to obtain resources to support online teaching (e.g., teachers benefiting from professional learning communities, students benefiting from caregivers and parents in online learning and socioemotional well-being) and address basic needs for families (e.g., schools advocating for needy families to receive food and healthcare resources from governments, needy families receiving means and funding from community partners) (Al-Fadala et al., 2021; Burkot et al., 2021; Da'as et al., 2023; de Voto et al., 2023; Decman et al., 2021; Fotheringham et al., 2022; Francois & Weiner, 2020; Gkoros & Bratitsis, 2022; Guiamalon et al.,2022; Hayes et al.,2021; Heyward & Gill, 2021; Hunter et al, 2022; McLeod & Dulsky, 2021; Mitchell, 2021; Pino-Yancovic et al., 2022; Price & Mansfield, 2021; Reyes-Guerra et al., 2021; Tan et al., 2023; Thornton, 2021b; Virella & Cobb, 2021; Watson & Singh, 2022; Wharton-Beck et al., 2022; White et al., 2022). Fifth, schools could celebrate their achievements with their stakeholders (Anderson et al., 2020). Lastly, apart from receiving support from other stakeholders, some schools shared their strategies and resources with their own members and with other schools (Pino-Yancovic et al., 2022).

Facilitating Student Learning During the Pandemic

53. The second set of responses focused on facilitating student learning during the pandemic. They comprised principals' digital instructional leadership, teachers' agentic leadership and the different processes implemented to maximize teaching and learning. These

responses addressed the challenges arising from the implementation of home-based, online teaching and learning during the pandemic.

Digital Instructional Leadership

54. To facilitate the effective implementation of online teaching and learning, many school leaders extended their instructional leadership to the digital domain (i.e., digital instructional leadership) (Table 15). Digital instructional leadership envisioned continuous teaching in the online domain during the pandemic (Berkovich, 2023; Lien et al., 2022; Midha, 2021; Pollock, 2020; Westberry et al., 2021) and bridging digital and other divides impeding student learning (Lavadenz et al., 2021). In exercising digital instructional leadership, school leaders had to assume new roles including technology specialists, providers of online support, and facilitators of professional development for their staff (Burton et al., 2021). In view of the diverse roles of digital instructional leadership, some schools assembled an e-learning team with members assigned specific roles and functions (Law et al., 2020b). There were many digital instructional leadership practices being implemented. First, school leaders cultivated a technological culture in the school community and addressed challenges associated with online teaching and learning (Mutongoza et al., 2021). Second, they provided professional learning opportunities for their staff via developing strategies to digitize teaching, training teachers, supervising lessons, and evaluating teacher performance (Indra et al., 2022; Ivaniuk & Ovcharuk, 2021; Kaminskienė et al., 2021). Third, they provided support and resources by sharing with teachers about new online teaching-and-learning technologies, improving technical support, and even developing tools to support the teaching of specific subjects (Burton et al., 2021; Ivaniuk & Ovcharuk; 2021; Mullen & Badger, 2023). Fourth, they monitored the access and quality of educational services teachers needed for online teaching

(Ivaniuk & Ovcharuk, 2021). Lastly, they used digital technology to support their managerial responsibilities in addition to the school's online teaching (Akbaba Altun & Bulut, 2021b; Shaked & Benoliel, 2022). The use of digital instructional leadership positively influenced teachers' intrinsic motivation to implement online teaching and the actual implementation of online teaching (Alajmi, 2022; Berkovich & Hassan, 2023; Hamzah et al., 2021; Indra et al., 2022).

Teachers' Agentic Leadership in Classrooms

55. During the pandemic, many schools endeavored to ensure the continuity of teaching in the face of limited resources and great uncertainties, so they provided opportunities for teachers to exercise their agentic leadership in their classrooms (Ghamrawi et al., 2023) (Table 16). For example, teachers had agency in offering choices, convenience, and personalization to meet their students' needs (Crawford et al., 2022; Kruczek et al., 2022; Niño & Perez-Diaz, 2021; Vilchez et al., 2021), including mitigating digital inequities (Kearney et al., 2022). They adopted different strategies, including modifying their schedules and expectations (Kruczek et al., 2022), designing creative lessons to engage students online (Baxter et al., 2023; Forrester et al., 2021), distributing printed resources to students without Internet access (Julius & Sims, 2020), providing timely feedback for assignments (Letzel-Alt et al., 2022), conducting remedial classes to struggling students (Letzel-Alt et al., 2022), and keeping class sizes small (Parmigiani et al.,. 2020). Additionally, teachers implemented differentiated and individualized instructional strategies for at-risk students (e.g., students with special educational needs), including invited them to campus, incorporating time during the curriculum for extra support, personalizing curriculum and learning tasks, providing formative feedback, using competency-based assessment and providing interventions, and using technological tools

to address the students' needs (Akbaba Altun & Bulut, 2021a; Cameron et al., 2022; Hayes et al., 2021; Letzel-Alt et al., 2022).

Maximizing Teaching and Learning

56. Many schools aimed to maximize teaching and learning in the midst of the uncertainties during the pandemic (Table 17). Common goals included maintaining continuity in teaching and learning (Crawford et al., 2022; Fikuree et al., 2021) and promoting equitable learning (Cahapay, 2022; Parmigiani et al., 2020). Schools used different practices to maximize teaching and learning. First, they created a learning-centered climate, set clear instructional goals, shared responsibilities among staff members, involved parents in their children's learning, cultivated an inclusive online community for teachers and students, and motivated the school community (Akbaba Altun & Bulut, 2021b; Berkovich, 2023; Bharaj & Singh, 2021; Mundy et al., 2022; Price & Mansfield, 2021). Second, they planned for and managed online instruction by revising the curriculum where necessary, providing pedagogical recommendations for teachers, uploading educational materials to online classrooms, and monitoring the teaching process (Adams et al., 2021; Akbaba Altun & Bulut, 2021b; Ermenc et al., 2021). Third, they empowered teachers in decision-making, enhanced teachers' instructional self-efficacy, and encouraged teachers to collaboratively plan, share, and reflect on their online teaching (Achtaridou et al., 2022; Al-Fadala et al., 2021; Brock et al., 2021). Fourth, they used a plethora of online platforms and tools to support online teaching, monitor students' learning progress, provide feedback to students, and communicate with parents and students (Akbaba Altun & Bulut, 2021a; Bozkurt, 2023; Brinkmann et al.,2021; Ferguson et al., 2021). Fifth, they provided training and support for teachers and students to use digital technologies for online teaching and learning (e.g., setting up social

media accounts, trouble-shooting) (Akbaba Altun & Bulut, 2021a, 2021b; Bharaj & Singh, 2021). Lastly, they celebrated successes in online teaching and learning (Brock et al., 2021).

Resources and Teacher Capacity

57. The third set of responses pertained to the provision of resources and teachers' professional development. These responses addressed the challenges pertaining to resource shortage, safety, and other basic needs that schools struggle to meet, limited scope for teacher leadership, and proliferation of responsibilities for teachers during the pandemic.

Providing Resources

58. Schools provided two main types of resources to the school community during the pandemic (Table 18). First, they facilitated technological access (e.g., distributed devices and free wifi) to teachers and students for online teaching and learning (Achtaridou et al., 2022; Anderson et al., 2020; Bozkurt, 2023; Giunco et al., 2020; Vilchez et al., 2021), provided training on how to use digital platforms (e.g., learning management systems) (Anderson et al.,2020; Vilchez et al., 2021), employed technical staff to support online teaching (Kruczek et al., 2022), and developed home learning packages for students without access to Internet (Anderson et al., 2020). Second, they provided daily resources that the school community needed, such as food, masks, and information on application for financial aid (Anderson et al., 2020; Giunco et al., 2020; Kruczek et al., 2022). Schools had to be creative in providing these resources (e.g., installing exterior Wi-Fi at schools, using Wi-Fi-equipped buses) (Banerjee-Batist et al., 2022; Price & Mansfield, 2021). Some schools also tapped on community resources where available (e.g., enabling

teachers to learn best practices from other schools and coordinating with community

partners to distribute food for needy families; Anderson et al., 2020).

Teachers' Professional Development

59. During the switch to home-based, online teaching, teachers are thrust into the position

where they had to assume many enhanced roles including curriculum and instructional

experts, mentors, change agents, and even data coaches (Ghamrawi et al., 2023).

Therefore, many teachers underwent professional development to improve their self-

efficacy, knowledge, and skills in digital literacy, online teaching and learning

(Brinkmann et al., 2021), and meeting the needs of disadvantaged students (Hamilton et

al., 2020). The professional development assumed many forms, including individual and

peer learning. For example, some teachers participated in online courses, webinars,

workshops, or professional networks (Fikuree et al., 2021; Letzel-Alt et al., 2022). Others

participated in or contributed to peer sharing of resources and experiences (Ghamrawi et

al., 2023; Letzel-Alt et al., 2022; Mažgon et al., 2021). Teachers also learned through self-

reflective practice, evaluating their own performance and eliciting others' feedback

(Ghamrawi et al., 2023). There is evidence that teachers who underwent professional

development were more efficacious and creative in their online teaching (Mažgon et al.,

2021). They also exhibited greater accountability for students' learning which contributed

to their online teaching (Tabatadze & Chachkhiani, 2021). Lastly, teachers benefited most

when the professional development addressed specific needs arising from the pandemic

(Tabatadze & Chachkhiani, 2021) (Table 19).

Addressing the School Community's Well-being

60. The fourth response addressed the challenge on deteriorating socioemotional well-being

experienced by school leaders, teachers, and students during the pandemic (Table 20).

61. Due to grave safety risks, many schools prioritize the well-being of the school community above students' academic learning during the pandemic. Well-being comprises socioemotional, safety, and equity aspects. In terms of socioemotional aspects, schools adopt different strategies to enhance individuals' socioemotional well-being. For example, school leaders practice self-help by being adaptable, emotionally sensitive, having self-control, being optimistic, exercising, and role-modeling positive attributes in their leadership (Ahtiainen et al., 2022; Arastaman & Çetinkaya, 2022; Burwell; 2021) while teachers learn to adjust to change (Ramakrishna & Singh, 2022), celebrate little successes (Ramakrishna & Singh, 2022), and cope with stress and loss (Crawford et al., 2022; Ramakrishna & Singh, 2022). Next, schools offer socioemotional support to individuals via providing information to parents (Achtaridou et al., 2022; Akbaba Altun & Bulut, 2021a), providing resources and counseling services to affected individuals (Akbaba Altun & Bulut, 2021a; Anderson et al., 2020; Brinkmann et al., 2021; Fogg, 2021; Mutongoza et al., 2021), and performing welfare checks (Forrester et al., 2021). Additionally, school leaders listened to teachers' concerns and suggestions (Mullen & Badger, 2023) while teachers used coping strategies to manage their worries and feelings (Crawford et al., 2022). Schools also checked in on students via home visits, personal phone calls, and by virtual means (Anderson et al., 2020). Third, school leaders develop a psychologically safe and trusting school climate to increase cohesion, foster communication, recognize team efforts, and provide a sense of security (Adams et al., 2021; Baroudi, 2022; Baxter et al., 2023; Brinkmann et al., 2021; Burton et al., 2021; Kafa, 2023). Lastly, schools fostered collaboration among different individuals in the school community. For example, principals connected with each other and shared good

practices (Brivio et al., 2021). Teachers connected and collaborated with each other and shared ideas (Price & Mansfield, 2021). In terms of physical aspects of well-being, schools educated their community about COVID (symptoms, prevention, treatment), monitor and report infection cases or contacts among staff and students (Akbaba Altun & Bulut, 2021a), and delivered food and other necessities to needy families (Ferguson et al., 2021; Forrester et al., 2021). Lastly, in terms of equity, school leaders and teachers confronted deficit mindsets for disadvantaged students (Virella & Cobb, 2021) and responded to these students' needs (Crean et al., 2023). They employed strategies including restorative practices, listening circles, and data analysis to promote equitable thinking and practices among teachers (Virella & Cobb, 2021).

Recovery, Innovation, Future-proofing

62. The last response was about schools' post-pandemic recovery, insights on innovation on online teaching and learning, and future-proofing the schools (Table 21). This response encapsulate opportunities for innovative teaching and learning beyond the pandemic.

63. Some schools displayed a learning orientation that encompassed the recovery process after reopening (Hamilton et al., 2020). They also reflected on their experiences during the pandemic (Bubb & Jones, 2020; de Voto et al., 2023) to gain insights for future innovative online teaching and learning to achieve effectiveness and equity (Fletcher et al., 2022; Kim et al., 2021; Stephenson et al., 2021) and to prepare for school disruptions in future (Hamilton et al., 2020). In terms of school reopening, schools prioritized addressing students' learning gaps, ensuring students' safety, connecting with families, and planning for future emergencies (Hamilton et al., 2020). School leaders used prospective sensemaking to envisage educational futures characterized by democracy,

innovation, equity, and resilience (Longmuir, 2021). These educational futures pertained to different school aspects including school leadership in online teaching and learning, inclusive access, localizing accountability and curriculum, and teacher education. First, school leaders must decide which digital technologies were most effective in catering to their students' needs (in terms of engaging students and personalizing education), pursue continuous improvements during and after implementation of the new technologies in online teaching, establish improvement processes and goals, and secure buy-in from the school community (Stephenson et al., 2021). Second, they must ensure that all students have access to online teaching and learning opportunities (Fletcher et al., 2022; Kim et al., 2021; Stephenson et al., 2021). Third, they desired greater school autonomy, including in curricular development that addressed their students' needs (Jopling & Harness, 2022). Lastly, teacher education could emphasize teacher-teacher and teacher-parent collaboration, the use of digital technologies for online teaching, and sensitivity to the needs of disadvantaged students (especially in online teaching) (Fletcher et al.,2022).

Additional analyses

Teaching and Learning Challenges in Hong Kong Studies

64. The research team also compared the teaching and learning challenges reported in studies contextualized Hong Kong (n = 5) with those reported in studies focusing on other Asian countries/regions excluding Hong Kong and other parts of the world (Table 22).

65. The teaching and learning challenges based on the Hong Kong context comprised four themes: (a) learning loss; (b) students' deteriorating socioemotional well-being; (c) achievement gaps for disadvantaged students; and (d) the intense need for schools to engage with different stakeholders.

Learning Loss

66. It was reported that parents most concerned about children's learning (Tan et al., 2023).

    Students missed learning opportunities due to limited technological access, availability of

    courses, and self-discipline. Tan et al. (2023) found that students had difficulties

    accessing distance learning materials due to inadequate technology (hardware, internet

    access, limited data plans) and the cancellation of face-to-face lessons. Additionally, there

    were no training courses offered to students to navigate digital platforms to access

    learning. During online classes, some students refused to turn on their cameras and follow

    classroom instructions.

Students' Deteriorating Socioemotional Well-being

67. Law et al.' s (2020a) study reported a lack of support for students' emotional health.

    Students' mental health suffered as evident in the lack of netiquette and students were

    distressed from the lack of social interaction. Students' cyber-wellness appeared to

    benefit from school support for students' digital access. In another study, Tan et al. (2023)

    found that many secondary school students experienced different forms of cyberbullying

    (26% being perpetrators, 34% being victims, 55% were bystanders) and concluded that

    students needed more support for their cyber-wellness.

Achievement Gaps for Disadvantaged Students

68. Teachers widely perceived widening achievement gaps among students during the

    pandemic. Specifically, they were concerned about how some vulnerable groups of

    students might be disadvantaged during the transition from school-based, face-to-face

    lessons to home-based, online teaching (Law et al., 2020a). These vulnerable students

included those from low-socioeconomic status families, students with special educational needs, or low-performing students. Law et al.'s (2020a) study showed that low-SES students were academically disadvantaged and the disadvantage increased due to school suspension.

Intense Need to Engage with Different Stakeholders

69. Teachers faced immense pressure to continuously engage with different stakeholders (including students, parents, and the broader community) during and beyond schooling hours during the pandemic (Tan et al., 2023) For example, they had to update these stakeholders based on the rapidly changing pandemic situation and associated teaching arrangements. Tan et al. (2023) highlighted the need for parents to provide digital parental support for their children's learning.

Teaching and Learning Challenges: Hong Kong versus Other Asian Studies

70. Studies conducted in other Asian regions excluding Hong Kong also reported some challenges which were similar to those found in studies based in Hong Kong. First, with regards to students' well-being, studies found that schools had to address emotional and psychological needs of students struggling with stress, anxiety, and trauma (e.g., Alsaleh, 2021b; Da'as et al., 2023). Second, studies found that the lack of face-to-face interactions and feedback between teachers and learners adversely affected students' learning quality and academic progress (Fikuree et al., 2021). Furthermore, the broader uncertainty and turmoil caused by the pandemic adversely affected instructional quality and students' learning outcomes (Berkovich, 2023). Third, studies highlighted the intense need for schools to make rapid and accurate decisions, to communicate effectively, and to collaborate with stakeholders (Da'as et al., 2023).

71. In addition to these challenges, studies also reported three other challenges confronting schools in Asia excluding Hong Kong. First, schools faced immense difficulties in transitioning to and implementing online teaching. Schools had little time to switch to online lessons and they were not ready to conduct online teaching (Asio & Bayucca, 2021; Chaaban et al., 2021; Ferris et al., 2022; Haidi & Hamdan, 2022). Furthermore, teachers had difficulties adapting a tightly prescribed curriculum for online teaching (Gul & Khilji, 2021). Understandably, the switch from face-to-face to online teaching needed new pedagogies, technologies, and support for students and families (Da'as et al., 2023; Ghamrawi et al., 2023).

72. Second, many schools were unprepared to implement rapid pandemic policies. Da'as et al.'s (2023) reported that schools were confronted with uncertainty and confusion because of unclear, inconsistent policy guidelines. Adams and colleagues' (2021) highlighted the challenge for schools to adapt to online operations and documentation.

73. Third, schools faced resources shortage. For example, some schools in Israel had a shortage of teachers who left because of stress, dissatisfaction, or other reasons in Israel (e.g., Berkovich, 2023). Other studies (e.g., Adams et al., 2021) identified schools facing health and safety concerns.

Teaching and Learning Challenges: Hong Kong Versus Other Parts of the World (ex-Asia)

74. Findings in studies conducted in other parts of the world (ex-Asia) reported more emphasis on the well-being of school leaders and concerns on the de-professionalization

of teachers and school leaders. First, apart from concerns on students' well-being reported in HK based studies (Tan et al., 2023; Law et al., 2020a), studies conducted in other parts of the world revealed that school leaders experienced deteriorating mental health (anxiety, loneliness, burnout) due to increased workload and the responsibility of having to lead their communities during periods of uncertainty (e.g., Briscoe & Nyereyemhuka, 2022; Leksy et al., 2023; Romero et al., 2023).

75. Second, teachers experienced challenges related to perceived de-professionalization. More specifically, they had limited autonomy in schoolwide decision-making and in their teaching (e.g., DilekçI, 2021), there were inadequate professional and socioemotional support from their peers (e.g., Arruti et al., 2022; Burkot et al., 2021; Trinidad, 2021a), and they were aware that some parents were quietly attending students' online lessons.

76. Third, other studies found that school leaders experienced challenges related to perceived de-professionalization. For example, swift policy measures (e.g., school closures) gave them little time to be prepared (e.g., Burton et al., 2021). School leaders' lack of experience and skills in managing the rapid changes brought about by the pandemic made them feel incompetent (e.g., Carter et al., 2022; Demeshkant et al., 2022). School leaders also felt the intense pressure to make decisions and respond to teachers' and families' demands; this pressure eroded their sense of personal boundaries (e.g., Ferguson et al., 2021).

Schools' Responses to Teaching and Learning Challenges in Hong Kong Studies

77. The research team also compared schools' responses to teaching and learning challenges reported in studies contextualized Hong Kong (n = 5) with those reported in studies

focusing on other Asian countries/regions excluding Hong Kong and other parts of the world.

78. Five strategies characterized Hong Kong schools' responses to challenges posed by the pandemic. First, school leaders adapted their leadership practices to the rapid and disruptive changes stemming from the external environment. For example, middle leaders were empowered to implement innovative solutions to the encountered problems (Law et al., 2021). Second, schools mobilized community resources in support of collaborative, student-centered online lessons (Law et al., 2021; Tan et al., 2023). Third, schools embraced digital instructional leadership to facilitate remote instruction. Many schools established an e-learning team comprising personnel with distinct roles and responsibilities (Law et al., 2020b). Fourth, schools endeavored to enhance teacher capacity by providing the faculty with professional learning opportunities (Law et al., 2020b). Fifth, schools gave a high priority to the well-being of the school *community*. Schools strived to foster trust and collaboration (Law et al, 2021) and to promote equity, with a particular focus on meeting the needs of economically disadvantaged families (Lee, 2022).

Schools' Responses to Teaching and Learning Challenges: Hong Kong Versus Other Asian Studies

79. Schools in other Asian countries/regions excluding Hong Kong employed similar responses as those adopted by Hong Kong schools. First, schools commonly exercised adaptive leadership practices. Some schools managed operations through online channels (Cahapay, 2022) while others encouraged teachers to collaborate and improve their leadership skills (Rumeli et al., 2022). Second, schools worked closely with different

stakeholders. They maintained effective communication using various online platforms and applications (Ghamrawi et al., 2023) and liaised with education authorities and families to ensure continuation of student learning (Fikuree et al., 2021). Third, principals frequently drew on digital instructional leadership to bolster technology integration in class (Alajmi, 2022) and to enhance the effectiveness of online lessons (Midha, 2021). Fourth, schools dedicated efforts to develop teachers' digital literacy by providing technological resources and online training (Berkovich, 2023; Fikuree et al., 2021). Fifth, schools prioritized the school community's well-being by fostering a climate of care and support (Cahapay, 2022).

80. In addition to these responses, schools in other Asian countries/regions excluding Hong Kong used other strategies to address the pandemic issues. First, teachers exercised agentic leadership practices in the classroom by customizing instruction according to students' needs (Ghamrawi et al., 2023). Second, schools were committed to maximize teaching and learning. To this end, some schools established clear instructional goals (Berkovich, 2023) whereas others revised school plans and curriculum as necessary (Adams et al., 2021). Lastly, schools reflected on the pandemic experiences. They perceived it as an opportunity to reshape schools towards democracy, innovation, and equity (Kim et al., 2021) and to reorganize instruction in the classroom settings (Cao et al., 2021).

Schools' Responses to Teaching and Learning Challenges: Hong Kong Versus Other Parts of the World (ex-Asia)

81. In general, schools around the world (i.e., in Hong Kong and other parts of the world) employed comparable strategies when addressing the pandemic challenges. First, school

leaders generally espoused adaptive leadership practices. Some school leaders experimented with new ways of working (Thornton, 2021b) whereas others provided teachers with supportive and flexible working conditions (Kearney et al., 2022). Additionally, others developed new organizational routines to support disadvantaged students (Grooms & Childs, 2021). Second, school leveraged partnerships with the community. Schools used various platforms to coordinate actions and communicate with stakeholders (Huber & Helm, 2020) and maintained regular communication to distribute information and collect feedback (Altun & Bulut, 2021a). Schools were not just connected with students and families (Anderson et al., 2020), other schools, and professional associations and authorities (Walker et al., 2020), but also acted as a bridge between different schools (Fotheringham et al., 2022) and across different districts (De Voto et al., 2023). Through multiple meaningful bonds, schools were able to pool resources to address urgent problems (Luik & Lepp, 2021; Pino-Yancovic et al., 2022). Third, digital instructional leadership grew increasingly prominent in schools. School leaders' digital instructional leadership practices encompassed providing technical support and training for teachers (Burton et al., 2021), identifying novel ways to support online lessons and school operations (Pollock, 2020), and monitoring and evaluating access to and quality of online instruction (Ivaniuk & Ovcharuk, 2021). Fourth, teacher professional development became a shared concern. Schools not just trained teachers on how to use technologies effectively (Akbaba et al., 2021a), but also equipped teachers with technology-related ethics (Ermenc at al., 2021). From these learning programs, teacher acquired the necessary technological skills and developed a sense of efficacy in technology use (Mažgon et al., 2021). Fifth, the well-being of the school community was a priority for schools worldwide. To ensure physical well-being, schools adhered to health guidelines and protocols to prevent spread of virus, educated school community on

symptoms, prevention, and treatment of virus, and monitored and reported cases or contacts among staff and students (Altun & Bulut, 2021a). To sustain socioemotional well-being, schools promoted positive relationships and school climate through frequent, flexible communication with the school community (Brinkmann et al., 2021) while also offering counselling services to support mental health (Anderson et al., 2020).

82. Our analysis also found that schools in other parts of the world implemented alternative approaches when compared to schools in Hong Kong. First, teacher are empowered to exercise agency in their instructional practices. Teachers enjoyed curricular and instructional autonomy to adapt their instructional practices (Giunco et al., 2020). They were encouraged to use innovative strategies to engage students and to facilitate and assess learning (Crawford et al., 2022). Second, schools seized every opportunity to maximize learning. Despite the hybrid learning models, schools sought to keep students in classrooms for as long as possible (Crawford et al., 2022). They also actively approached unengaged students and provided extra support for them (Ermenc et al., 2021). Third, schools made efforts to provide resources for students in need. Some schools collaborated with districts and community partners to deliver food and groceries for students and families (Anderson et al., 2020) whereas others distributed tablets and internet packages required for online lessons (Bozkurt, 2023). Finally, schools learned from pandemic experiences and contemplated future strategies. They reflected on different issues, including teacher professional networks, home-school collaboration (Fletcher et al., 2022), individualized learning (Bubb & Jones, 2020), integration of technology (Stephenson et al., 2021), and emergency plan (Hamilton et al., 2020), and identified areas for improvement and innovation (de Voto et al., 2023).

5. **Policy Implications and Recommendations**

83. Results from the systematic review inform policy recommendations for the Education Bureau and schools. The recommendations are based on (a) findings from the themes and sub-themes on challenges that confronted schools during the pandemic-induced school closures and school responses to address these challenges and (b) consultations with the advisory panel. They are developed with the aim of enhancing school capacity to manage the continuity of teaching and learning and address the socioemotional needs of the school community during future school closures.

84. The results have substantive implications for policy. These implications highlight the need for the Education Bureau to strengthen the crisis management plan for schools, strengthen network of professional learning communities within and between schools, and provide resources and support for schools. These implications contribute to capacity enhancement of the education system to support schools in responding to school disruptions and ensuring the continuity of teaching and learning in future crises. In addition to these implications for the education system, the systematic review also point to implications for schools. These implications are namely, for school leaders to institutionalize a crisis response framework and team comprising different members of the school community, develop a long-term schoolwide e-learning plan, and address the socioemotional well-being of the school community. These implications are related to enhancing schools' ability to individually manage the impact on students' academic learning and the socio-emotional well-being of the school community in future crises.

Recommendations for Education Bureau

85. There are three recommendations for the Education Bureau to work in concert with

schools and other community partners.

Strengthen Education Bureau's Crisis Management Plan for Schools

86. The first recommendation is to strengthen the Education Bureau's crisis management plan for schools. Before and during a crisis, the plan should provide clear, consistent, and timely policy guidance and support (e.g., in an updated crisis management protocol) for schools to manage the contingency at hand (e.g., health and safety during the pandemic), implement online lessons (e.g., curriculum and assessment adaptations), and reopen after the crisis has ended. Crucial to the crisis management plan is the establishment of clear communication channels between the Education Bureau and different levels of school leaders (principals, vice-principals, teacher leaders). During and after the crisis, the Education Bureau should gather information on school disruption experiences, monitor and evaluate how the crisis has impacted student learning, wellbeing, and equity, and support schools in implementing interventions to meet emerging needs. After the crisis has ended, the crisis management plan should be updated to be effective and relevant for future school closures.

Strengthen Network of Professional Learning Communities Within and Between Schools

87. The second recommendation is for the Education Bureau to strengthen the network of professional learning communities within and between schools. These communities should support the professional and socioemotional development of school leaders, teachers, and other members of school communities and cultivate collective resilience for future disruptions in the education system. The communities can include professional development to equip teachers with online self-efficacy, and knowledge and skills needed for conducing online lessons. They can also include mentoring (e.g., experienced teachers

sharing with new teachers) and coaching (e.g., tech-savvy teachers imparting technical knowhow to less tech-savvy teachers). The Education Bureau can also promote collaboration among schools and even other community partners (e.g., health and social services) by establishing networks and platforms for the sharing of best practices, resources, and experiences.

Provide Resources and Support for Schools

88. The last recommendation is for the Education Bureau to provide resources and support for schools. The Education Bureau can allocate adequate resources for schools to upgrade their digital infrastructure (e.g., online platforms), provide devices and Internet access for teachers and students, and address the basic needs of disadvantaged families (e.g., address need for food, safety equipment, counselling services, financial aid). It can also encourage innovation at the ground to enable schools to be more ready to address future contingencies by supporting research and development in new pedagogies and technologies for online teaching and learning. Lastly, it can play a critical role in forging long-term collaborations between schools and community groups so that the educational ecosystem can provide mutual support and resources to each other during future contingencies.

Recommendations for Schools

89. There are three recommendations for school leaders.

Institutionalize Crisis Response Framework and Team

90. The first recommendation is for school leaders to institutionalize a crisis response framework and team involving key stakeholders in the school community. The framework

can focus on capacity-building (before the onset of a crisis) including equipping school leaders with crisis management skills, developing teachers' problem-solving skills, and building flexibility in the school organization. During a crisis, school leaders can adapt their leadership according to the needs of the situation and engage the school community. This leadership is, therefore, flexible, creative, empathetic, and collaborative (involving teachers and other stakeholders in decision-making, problem-solving, and planning). It is responsive to the changing needs and expectations of the school community during the crisis. After the crisis has ended, school leaders should reflect on lessons learnt and improve their crisis management plan in preparation for future contingencies. These lessons can include innovative practices and improvements in online teaching and learning. It is also imperative for school leaders to address students' learning gaps that have emerged during the crisis, ensure students' socioemotional wellbeing, and connect with families and the wider school community. Throughout the post-crisis recovery process, schools leaders can exercise flexibility in curriculum and assessment to enable teachers and students to catch up on the learning loss.

Develop Long-term Schoolwide e-learning Plan

91. The second recommendation is for school leaders to develop a long-term schoolwide e-learning plan. School leaders need to exercise digital instructional leadership that envisions, facilitates, and monitors online teaching and learning. They also need to provide professional learning opportunities and support for teachers to improve their digital literacy, online pedagogy, and sensitivity to the needs of disadvantaged students. Within classrooms, teachers must be empowered in online teaching and learning (e.g., in making choices, personalizing instruction, and differentiating online lessons according to students' needs and preferences). Beyond classrooms, school leaders must cultivate a

technological culture and learning-centered climate in the school to maximize teaching and learning by setting clear learning goals, sharing responsibilities on teaching, involving parents in students' learning, developing an inclusive online community, and motivating the school community. They can also leverage digital technology innovatively for engaged learning by envisioning flexible combinations of face-to-face and online teaching and learning and using technology to personalize student learning. Lastly, school leaders need to provide more support for needy students (e.g., lacking laptops and wifi).

Address Socioemotional Well-being of School Community

92. The third recommendation is for school leaders to address the socioemotional wellbeing of the school community which will equip the school community to cope with future contingencies. To address socioemotional needs, school leadership needs to emphasize an ethics of care in addition to academic aims. School leaders must develop a psychologically safe and trusting school climate, foster collaboration and communication among different individuals in the school community, and counter deficit mindsets. They must establish clear communication channels and provide counselling support services for the school community. School leaders, teachers, students , and parents must be equipped with strategies for well-being (developing resilience, self-help skills, adaptability, coping skills).

6. Conclusion

93. Results from the systematic review of 224 studies reviewed show that schools were confronted with multiple challenges during the COVID-19-induced school closures from 2020 to 2022. These challenges are related to schools' need to respond to the challenging external environment, implementation and consequences of home-based, online teaching and learning during the pandemic, the need to do more with less, and the deteriorating socioemotional well-being of the school community during the pandemic.

94. At the same time, schools exhibited adaptability and creativity in their adoption of a variety of responses to address the different challenges. These responses comprise schools' urgent responses to the challenging external environment during the pandemic, facilitating student learning during the pandemic, developing and harnessing resources and teacher capacity, addressing the school community's well-being, and recovery, innovation, and future-proofing post-pandemic.

95. These results highlight the need for the Education Bureau to focus on capacity enhancement of the education system to support schools in responding to school disruptions and ensuring the continuity of teaching and learning in future crises. Recommendations include strengthening the crisis management plan for schools, strengthening the network of professional learning communities within and between schools, and providing resources and support for schools.

96. The results also have implications for schools in terms of enhancing schools' ability to individually manage the impact on students' academic learning and the socio-emotional well-being of the school community in future crises. Recommendations include school

leaders institutionalizing a crisis response framework and team comprising different

members of the school community, developing a long-term schoolwide e-learning plan,

and addressing the socioemotional well-being of the school community.

References

*Studies included in systematic review

*Achtaridou, E., Mason, E., Behailu, A., Stiell, B., Willis, B., & Coldwell M. (2022). *School recovery strategies: Year 1 findings.* Department for Education. https://assets.publishing.service.gov.uk/media/61dc278ee90e07037eb68288/School_Recovery_Strategies_year_1_findings.pdf

*Adams, D., Cheah, K. S. L., Thien, L. M., & Md Yusoff, N. N. (2021). Leading schools through the COVID-19 crisis in a South-East Asian country. *Management in Education.* https://doi.org/10.1177/08920206211037738

*Ahtiainen, R., Eisenschmidt, E., Heikonen, L., & Meristo, M. (2022). Leading schools during the COVID-19 school closures in Estonia and Finland. *European Educational Research Journal, 0*(0). https://doi.org/10.1177/14749041221138989

*Akbaba-Altun, S., & Bulut, M. (2021a). School Principals' Lessons Learned From the COVID-19 Pandemic. *Inquiry in Education 13*(2), Article 4. https://digitalcommons.nl.edu/ie/vol13/iss2/4

*Akbaba-Altun, S. & Bulut, M. (2021b). The roles and responsibilities of school administrators during the emergency remote teaching process in Covid-19 pandemic. *Research in Educational Administration & Leadership, 6*(4), 870-901. http://www.doi.org/10.30828/real/2021.4.4

*Alajmi, M. (2022). The impact of digital leadership on teachers' technology integration during the COVID-19 pandemic in Kuwait. *International Journal of Educational Research*, 112, 101928 - 101928.

*Al-Fadala, A., Amenya, D., Fitzpatrick, R., Godwin, K., Kirby, J., & Korin, A. (2021). Rwanda learning partnership: Insights on school and system leadership during

COVID-19. *Education Development Trust.*

https://files.eric.ed.gov/fulltext/ED615112.pdf

*Alsaleh, A. (2021a). Professional learning communities for educators' capacity building

during COVID-19: Kuwait educators' successes and challenges. *International Journal

of Leadership in Education.* https://doi.org/10.1080/13603124.2021.1964607

*Alsaleh, A. A. (2021b). The roles of school principals and head teachers in mitigating

potential learning loss in the online setting: calls for change. *International Journal of

Educational Management, 35*(7), 1525-1537. https://doi.org/10.1108/IJEM-03-2021-

0095

*An, H., Mongillo, G., Sung, W., & Fuentes, D. (2022). Factors affecting online learning

during the COVID-19 pandemic: The lived experiences of parents teachers, and

administrators in U.S. high-needs K-12 schools. *Journal of Online Learning

Research, 8*(2), 203-234.

*Anders, J., Macmillan, L., Sturgis, P., & Wyness, G. (2023). Inequalities in late adolescents'

educational experiences and wellbeing during the Covid-19 pandemic. *Oxford Review

of Education, 49*(5), 620-642. https://doi.org/10.1080/03054985.2022.2124964

*Anderson, E., Hayes, S. D., & Carpenter, B. (2020). *Principal as caregiver of all:

responding to needs of others and self.* CPRE Policy Briefs.

https://repository.upenn.edu/cpre_policybriefs/92?utm_source=repository.upenn.edu%

2Fcpre_policybriefs%2F92&utm_medium=PDF&utm_campaign=PDFCoverPages

*Anderson, E., & Weiner, J. (2023). Managing up, down, and outwards: principals as

boundary spanners during the COVID-19 crisis. *School Leadership & Management.*

https://www.doi.org/10.1080/13632434.2023.2171006

Anthony Jr, B., & Noel, S. (2021). Examining the adoption of emergency remote teaching

and virtual learning during and after COVID-19 pandemic. *International Journal of*

Educational Management, 35(6), 1136-1150.

*Arar, K., Sawalhi, R., Chaaban, Y., Zohri, A., & Alhouti, I. (2022). School leaders'
perspectives towards leading during crisis through an ecological lens: a comparison of
five Arab countries. *Journal of Educational Administration and History, 54*(2), 123-
142. https://doi.org/10.1080/00220620.2021.1957793

*Arastaman, G., & Çetinkaya, A. (2022). Stressors faced by principals, ways of coping with
stress and leadership experiences during the COVID -19 pandemic. *International
Journal of Educational Management, 36*(7), 1271-1283.
https://doi.org/10.1108/IJEM-09-2021-0361

*Argyropoulou, E., Syka, C.-H., & Papaioannou, M. (2021). School leadership in dire straits:
Fighting the virus or challenging the consequences? *International Studies in
Educational Administration, 49*(1), 18-27.
https://doi.org/10.1080/13632434.2022.2064626

Arnautu, D., & Dagenais, C. (2021). Use and effectiveness of policy briefs as a knowledge
transfer tool: A scoping review. *Humanities and Social Sciences Communications, 8*,
1-14.

*Arruti, A., Korres, O., & Paños-Castro, J. (2022). Psychological impact of COVID-19 on
primary education teachers in the Basque Country. *Frontiers in Education, 7*.
https://doi.org/10.3389/feduc.2022.921647

*Asio, J. M. R., & Bayucca, S. A. (2021). Spearheading education during the COVID-19 rife:
Administrators' level of digital competence and schools' readiness on distance
learning. *Journal of Pedagogical Sociology and Psychology, 3*(1), 19-26.
https://doi.org/10.33902/JPSP.2021364728

*Aytaç, T. (2020). The problems and opinions of school administrators during COVID-19 pandemic: A qualitative study from Turkey. *European Journal of Educational Sciences, 7*(04). https://doi.org/10.19044/ejes.v7no4a5

*Banerjee-Batist, R., Gajjar, K., Saxena, P., Smetana, J. B., & Muduli, A. (2022). Leadership response to COVID-19: A comparative analysis of the education sector in USA and India. *Human Resource Development International, 25*(3), 321-341. https://doi.org/10.1080/13678868.2022.2073119

*Baroudi, S. (2022). Leading in times of crisis: evidence of digital transformational leadership among Arab female educational leaders. *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2022.2108506

*Baxter, J., Floyd, A., & Jewitt, K. (2023). Pandemic, a catalyst for change: Strategic planning for digital education in English secondary schools, before during and post Covid. *British Educational Research Journal, 49*(2), 329-351. https://doi.org/10.1002/berj.3845

*Baxter, L. P., Gardner, F., & Southall, A. E. (2023). Reflecting on teaching in low SES areas during COVID-19: an Australian experience. *Cambridge Journal of Education, 53*(2), 177-193. https://doi.org/10.1080/0305764X.2022.2092071

*Beauchamp, G., Hulme, M., Clarke, L., Hamilton, L., & Harvey, J. A. (2021). 'People miss people': A study of school leadership and management in the four nations of the United Kingdom in the early stage of the COVID-19 pandemic. *Educational Management Administration and Leadership, 49*(3), 375-392. https://doi.org/10.1177/1741143220987841

*Beckmann, L., & Klein, E. D. (2022). Resilience in the context of multiple adverse circumstances? Leadership capacity and teachers' practice during COVID-19 at

schools serving disadvantaged communities. *School Leadership and Management, 43*(2), 145-166. https://doi.org/10.1080/13632434.2022.2137727

*Beckmann, L., Kötter-Mathes, L., Klein, E.D., Bremm, N., & van Ackeren, I. (2022). Schools' improvement capacity and responses to the COVID-19 pandemic: Evidence from schools serving disadvantaged communities. *Frontiers in Educcation, 7*, 1008813. https://doi.org/10.3389/feduc.2022.1008813

*Bergdahl, N., & Nouri, J. (2021). Covid-19 and crisis-prompted distance education in Sweden. *Technology, Knowledge and Learning, 26*(3), 443-459. https://doi.org/10.1007/s10758-020-09470-6

*Berkovich, I. (2023). The great resignation: Exploring the effect of regular and digital instructional leadership on teachers' intention to leave. *Management in Education 0*(1). https://doi.org/10.1177/08920206231163984

*Berkovich, I., & Hassan, T. (2022). Principals' digital instructional leadership during the pandemic: Impact on teachers' intrinsic motivation and students' learning. *Educational Management Administration & Leadership, 0*(0).https://doi.org/10.1177/17411432221113411

*Berkovich, I., & Hassan, T. (2023). Principals' digital transformational leadership, teachers' commitment, and school effectiveness. *Education Inquiry*. https://www.doi.org/10.1080/20004508.2023.2173705

*Bharaj, P. K., & Singh, A. (2021). "Fold the eggs … fold the eggs … ": Experiences of educational stakeholders During COVID-19. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.727494

*Bhopal, K., & Myers, M. (2023). The impact of COVID-19 on A Level exams in England: Students as consumers. *British Educational Research Journal, 49*(1), 142-157. https://doi.org/10.1002/berj.3834

*Bogans, A. M., Glover, M. N., & Workman, J. B. (2022). *Leadership processes during the COVID-19 pandemic: Implications for leadership preparation and training* (Publication No. 29206674) [Doctoral dissertation, The Graduate School of Augusta University]. Proquest Dissertations.

Bond, M. (2020). Schools and emergency remote education during the COVID-19 pandemic: A living rapid systematic review. *Asian Journal of Distance Education, 15*(2), 191-247.

*Bookbinder, A. K. (2022). *Teacher leadership and science instructional practice: Teaching elementary science in a time of crisis.* (Publication Number 29164443) [Doctoral dissertation Graduate School of Arts and Sciences, Columbia University]. Proquest Dissertations.

*Botbyl, D. (2022). *International school heads' experiences enacting resilient teams during COVID-19.* (Publication No. 29170291) [Doctoral dissertation, School of Education, Wilkes University]. Proquest Dissertations.

*Bozkurt, A. T. (2023). School administrators' views on problem situations and solution recommendations in distance education during Covid-19 pandemic. *E-International Journal of Educational Research, 14*(1), 154-170. https://doi.org/10.19160/e-ijer.1184349

Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology, 18,* 328-352.

*Brinkmann, J. L., Cash, C., & Price, T. (2021). Crisis leadership and coaching: A tool for building school leaders' self-efficacy through self-awareness and reflection. *International Journal of Mentoring and Coaching in Education, 10*(2), 234-246. https://doi.org/10.1108/IJMCE-01-2021-0009

*Briscoe, P., & Nyereyemhuka, N. (2022). Turning leadership upside-down and outside-In during the COVID-19 pandemic. *Canadian Journal of Educational Administration and Policy,* 200.

*Brivio, F., Fagnani, L., Pezzoli, S., Fontana, I., Biffi, L., Mazzaferro, A. D., Velasco, V., & Greco, A. (2021). School health promotion at the time of COVID-19: An exploratory investigation with school leaders and teachers. European Journal of Investigation in Health, *Psychology and Education, 11*(4), 1181-1204. https://doi.org/10.3390/ejihpe11040087

*Brock, J. D., Beach, D. M., Musselwhite, M., & Holder, I. (2021). Instructional supervision and the COVID-19 pandemic: Perspectives from principals. *Journal of Educational Research and Practice, 11*(1). https://doi.org/10.5590/jerap.2021.11.1.12

*Brom, C., Lukavský, J., Greger, D., Hannemann, T., Straková, J., & Švaříček, R. (2020). Mandatory home education during the COVID-19 Lockdown in the Czech Republic: A rapid survey of 1st-9th graders' parents. *Frontiers in Education, 5*. https://doi.org/10.3389/feduc.2020.00103

*Brown, M., O'Hara, J., McNamara, G., Skerritt, C., & Shevlin, P. (2021). Global messages from the edge of Europe the cause and effect of leadership and planning strategies during the COVID-19 pandemic. *Irish Educational Studies, 40*(2), 151-159. https://doi.org/10.1080/03323315.2021.1915837

*Bubb, S., & Jones, M. A. (2020). Learning from the COVID-19 home-schooling experience: Listening to pupils, parents/carers and teachers. *Improving Schools, 23*(3), 209-222. https://doi.org/10.1177/1365480220958797

*Burkot, P., Sepioł, A., & Demeshkant, N. (2021). Educational leadership and children's resilience: German and Polish schools during COVID-19. In Rodrigo, M. M. T. et al. (Eds.) (2021). *Proceedings of the 29th International Conference on Computers in*

Education. Asia-Pacific Society for Computers in Education.

https://icce2021.apsce.net/wp-content/uploads/2021/12/ICCE2021-Vol.I-PP.-620-625.pdf

*Burton, B., Rigaud, V., & Googins, J. (2021). Lessons learned: The stories of three school leaders. *Leadership and Research in Education, 6*(1), 10-48.

*Burwell, T. W. (2021). The impact of COVID-19 on school leadership, e-learning, and student achievement in the United Arab Emirates. *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management (CCEAM)), 49*(1), 94-100.

*Cahapay, M. B. (2022). The phenomenon of leading without guidebook: Educational leadership practices of Philippine school principals in virulent COVID-19 times. *International Journal of Educational Leadership and Management, 10*(1), 2-24. http://dx.doi.org/10.17583/ijelm.2022.7666

*Cameron, D. L., Matre, M. E., & Canrinus, E. T. (2022). Accommodating students with Special educational needs during school closures due to the COVID-19 pandemic in Norway: Perceptions of teachers and students. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.856789

*Cao, Y., Zhang, S., Chan, M. C. E., & Kang, Y. (2021). Post-pandemic reflections: lessons from Chinese mathematics teachers about online mathematics instruction. *Asia Pacific Education Review, 22*(2), 157-168. https://doi.org/10.1007/s12564-021-09694-w

*Carter, E., Cortez Ochoa, A. A., Leonard, P., Nzaramba, S., & Rose, P. (2022). School leaders' and teachers' preparedness to support education in Rwanda during the COVID-19 emergency. *Journal on Education in Emergencies 8*(3), 164-201.

*Chaaban, Y., Sawalhi, R., & Du, X. (2021). Exploring teacher leadership for professional learning in response to educational disruption in Qatar. *Professional Development in Education, 48*(3), 426-443. https://doi.org/10.1080/19415257.2021.1973070

*Chaaban, Y., Sawalhi, R., & Lundberg, A. (2023). Middle leaders' sensemaking of their leadership practices in response to educational disruption: A Q-methodology study. Educational *Management Administration and Leadership 0*(0). https://doi.org/10.1177/17411432231152357

*Chan, J. C. A., Espejel López, M. V., Pinto Loria, M. L., & Briceño, E. D. (2020). The hard teacher's leadership coping to the COVID-19 pandemic. *World Journal of Education, 10*(6), 55-55. https://doi.org/10.5430/wje.v10n6p55

*Charernnit, K., Mathur, A., Kankaew, K., Alanya-Beltran, J., Singh, S., Sudhakar, P. J., Magulod, G. C., Gómez, J. J. S., & Singh, N. D. (2021). Interplay of shared leadership practices of principals, teachers' soft skills and learners' competitiveness in covid 19 era: Implications to economics of educational leadership. *Estudios de Economia Aplicada, 39*(12). https://doi.org/10.25115/eea.v39i12.6463

Chatzipanagiotou, P., & Katsarou, E. (2023). Crisis management, school leadership in disruptive times and the recovery of schools in the post COVID-19 era: A systematic literature review. *Education Sciences, 13*(118), 1-29. doi:10.3390/educsci13020118

*Cohen, E., & Willemsen, L. W. (2022). The benefits and burdens of care: A gendered analysis of American elementary school teachers navigating uncertainty at the onset of the COVID-19 pandemic. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.953259

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, XX*(1), 37–46.

Coker, D. (2020). The canary in the mine: Remote learning in the time of COVID-19.

Journal of Curriculum and Teaching, 9(3), 76-87.

*Constantia, C., Christos, P., Glykeria, R., Anastasia, A. R., & Aikaterini, V. (2023). The

impact of COVID-19 on the educational process: The role of the school principal.

Journal of Education, 203(3), 566-573. https://doi.org/10.1177/00220574211032588

*Cordeiro, P. A., Gluckman, M., & Johnson, A. (2021). Responses to COVID-19 from non-

state school leaders in Latin America, Sub-Saharan Africa, and India: A call for

educational equity. *Frontiers in Education, 6.*

https://doi.org/10.3389/feduc.2021.618323

*Crawford, K. M., Wells, P., McBrayer, J. S., Dickens, K. N., & Fallon, K. (2022). School

leadership support: Understanding the experiences of elementary-level teachers

during a global health pandemic. *School Leadership Review, 16*(2), Article 3.

*Crean, M., Devine, D., Moore, B., Martínez Sainz, G., Symonds, J., Sloan, S., & Farrell, E.

(2023). Social class, COVID-19 and care: Schools on the front line in Ireland during

the COVID-19 pandemic. *British Journal of Sociology of Education, 44*(3), 452-466.

https://doi.org/10.1080/01425692.2023.2174077

*Da'as, R. a., Qadach, M., & Schechter, C. (2023). Crisis leadership: Principals' metaphors

during COVID-19. *Educational Management Administration and Leadership.*

https://doi.org/10.1177/17411432231170580

Daniels, E., Hondeghem, A., & Heystek, J. (2020). School leaders' and teachers' leadership

perceptions: Differences and similarities. *Journal of Educational Administration,
58*(6), 645-660.

*de Coninck, D., Matthijs, K., & Van Lancker, W. (2022). Distance learning and school-

related stress among Belgian adolescents during the COVID-19 pandemic. *Frontiers

in Education, 7*. https://doi.org/10.3389/feduc.2022.836123

*de Klerk, E. D., & Palmer, J. M. (2021). Resetting education priorities during COVID-19: Towards equitable learning opportunities through inclusion and equity. *Perspectives in Education, 39*(1), 12-28. https://doi.org/10.18820/2519593X/pie.v39.i1.2

*de Voto, C. & Superfine B. M. (2023). The crisis you can't plan for: K-12 leader responses and organisational preparedness during COVID-19. *School Leadership & Management.* https://doi.org/10.1080/13632434.2023.2171003

*de Voto, C., Superfine, B. M., & DeWit, M. (2023). Navigating policy and local context in times of crisis: District and school leader responses to the COVID-19 pandemic. *Educational Administration Quarterly, 59*(2), 339-383. https://doi.org/10.1177/0013161X231163870

*Decman, J., Badgett, K., & Simieou, F. III. (2021). Leadership through chaos and the demand for resiliency. *School Leadership Review, 16*(1), Article 8. https://scholarworks.sfasu.edu/slr/vol16/iss1/8

*Demeshkant, N., Schultheis, K., & Hiebl, P. (2022). School sustainability and school leadership during crisis remote education: Polish and German experience. *Computers in the Schools, 39*(2), 120-136. https://doi.org/10.1080/07380569.2022.2071221

*Demirbilek, N. (2022). Teachers' and school administrators' perceptions of emergency distance education. *Education and Information Technologies, 28*(7), 8335-8355. https://doi.org/10.1007/s10639-022-11528-0

*Dilekçi, Ümit. (2021). School administration during the Covid-19 pandemic: Challenges to Turkish school administrators. *i-Manager's Journal on Educational Psychology, 15*(1), 25-42. https://doi.org/10.26634/jpsy.15.1.17920

*Diliberti, M. K., Schwartz, H. L., Hamilton, L. S., & Kaufman, J. H. (2020). *Prepared for a Pandemic? How schools' preparedness related to their remote instruction during*

COVID-19. RAND Corporation.

https://www.rand.org/pubs/research_reports/RRA168-3.html

*Doll, K., Ragan, M., Calnin, G., Mason, S., & House, K. (2021). Adapting and enduring:

Lessons learned from international school educators during COVID-19. *Journal of*

Research in International Education, 20(2), 114-133.

https://doi.org/10.1177/14752409211034399

*Domhnaill, C. M., Mohan, G., & McCoy, S. (2021). Home broadband and student

engagement during COVID-19 emergency remote teaching. *Distance Education,*

42(4), 465-493. https://doi.org/10.1080/01587919.2021.1986372

Drane, C. F., Vernon, L., & O'Shea, S. (2021). Vulnerable learners in the age of COVID-19:

A scoping review. *The Australian Educational Researcher, 48*, 585–604.

*Dykstra-Lathrop, D. K. (2022). *School leadership through the COVID-19 pandemic: A*

phenomenological study. (Publication no. 29166534) [Doctoral Dissertation, College

of Education & Behavioural Sciences, Univeristy of Northern Colorado]. Proquest

Dissertations.

Erarslan, A. (2021). English language teaching and learning during Covid-19: A global

perspective on the first year. *Journal of Educational Technology & Online Learning,*

4(2), 349-367.

*Ermenc, K. S., Kalin, J., & Mažgon, J. (2021). How to run an empty school: The experience

of Slovenian school heads during the COVID-19 pandemic. *SAGE Open, 11*(3).

https://doi.org/10.1177/21582440211032154

*Erol, E., & Altunay, E. (2022). School principals' opinions on the schooling in Turkey

during the COVID-19 pandemic. *Research in Educational Administration and*

Leadership, 7(2), 395-433. https://doi.org/10.30828/real.1070087

*Farhadi, B., & Winton, S. (2022). Ontario teachers' policy leadership during the COVID-19

pandemic. *Canadian Journal of Educational Administration and Policy,* (200), 49-62.

https://doi.org/10.7202/1092707ar

*Ferguson, P., McKenzie, M., Mercieca, D., Mercieca, D. P., & Sutherland, L. (2021).

Primary head teachers' construction and re-negotiation of care in COVID-19

lockdown in Scotland. *Frontiers in Education, 6.*

https://doi.org/10.3389/feduc.2021.617869

*Fernandes, V., Wong, W., & Noonan, M. (2023). Developing adaptability and agility in

leadership amidst the COVID-19 crisis: Experiences of early-career school principals.

International Journal of Educational Management, 37(2), 483-506.

https://doi.org/10.1108/IJEM-02-2022-0076

*Ferris, R., Clarke, M., Raftery, D., Liddy, M., & Sloan, S. (2022). Digital poverty in a

country that is digitally powerful: Some insights into leadership of girls' schooling in

India under Covid-19 restrictions. *Asia Pacific Journal of Education, 42*(sup1), 34-51.

https://doi.org/10.1080/02188791.2022.2031871

*Fikuree, W., Shiyama, A., Muna, A., Nasser, B., & Mohamed, Z. (2021). Challenges to

education during the COVID-19 pandemic: A SIDS perspective with special reference

to the situation in the Maldives. *International Education Journal, 20*(2), 5-22.

*Finch, H., Hernández Finch, M. E., & Avery, B. (2023). Differential impact of COVID-19

school closures on immigrant students: A transnational comparison. *Frontiers in

Education, 7.* https://doi.org/10.3389/feduc.2022.1045313

*Fletcher, J., Klopsch, B., Everatt, J., & Sliwka, A. (2022). Preparing student teachers post-

pandemic: Lessons learnt from principals and teachers in New Zealand and Germany.

Educational Review, 74(3), 609-629. https://doi.org/10.1080/00131911.2021.2007053

*Fogg, P. (2021). Learning lessons: School communities as points of connection in a 'whole of society' pandemic response. *Pastoral Care in Education, 41*(2), 128-153. https://doi.org/10.1080/02643944.2021.1999310

*Forrester, G., Basford, J., Hudson, R., & Pugh, J. (2021). Living and learning through lockdown: A fictionalisation of the challenges and opportunities of homeschooling during a global pandemic. *Education 3-13, 51*(4), 557-570. https://doi.org/10.1080/03004279.2021.1988674

*Fotheringham, P., Harriott, T., Healy, G., Arenge, G., & Wilson, E. (2022). Pressures and influences on school leaders navigating policy development during the COVID-19 pandemic. *British Educational Research Journal, 48*(2), 201-227. https://doi.org/10.1002/berj.3760

*Fourie, L., & Naidoo, P. (2022). Middle leaders and managers perspectives of distributive leadership during COVID-19. *Perspectives in Education, 40*(4), 276-295. https://doi.org/10.38140/pie.v40i4.6583

*Francois, C., & Weiner, J. (2020). *Accountability during school closures: Moving from external to internal.* CPRE Policy Briefs. https://repository.upenn.edu/cpre_policybriefs/91?utm_source=repository.upenn.edu%2Fcpre_policybriefs%2F91&utm_medium=PDF&utm_campaign=PDFCoverPages

*Fray, L., Jaremus, F., Gore, J., & Harris, J. (2022). Schooling upheaval during COVID-19: Troubling consequences for students' return to school. *Australian Educational Researcher, 50*, 1533-1550. https://doi.org/10.1007/s13384-022-00572-x

Furlong, L., Serry, T.,Bridgman, K., & Erickson, S. (2021). An evidence-based synthesis of instructional reading and spelling procedures using telepractice: A rapid review in the context of COVID-19. *International Journal of Language and Communication Disorders, 56*(3), 456-472.

*Ghamrawi, N., Shal, T., & Ghamrawi, N. A. R. (2023). The rise and fall of teacher

    leadership: A post-pandemic phenomenological study. *Leadership and Policy in*

    Schools. https://doi.org/10.1080/15700763.2023.2197045

*Giunco, K. M., Rosen-Reynoso, M., Friedman, A. A., Hunter, C. J., & Cownie, C. T. (2020).

    Lessons from the field: Catholic school educators and COVID-19. *Journal of Catholic*

    Education, 23(1), 243-267. https://doi.org/10.15365/joce.2301172020

*Gkoros, D., & Bratitsis, T. (2022). E-leadership and distance education in Greece during

    Covid-19 pandemic. *Management in Education*.

    https://doi.org/10.1177/08920206221081611

*Grooms, A. A., & Childs, J. (2021). "We need to do better by kids": Changing routines in

    U.S. schools in response to COVID-19 school closures. *Journal of Education for*

    Students Placed at Risk, 26(2), 135-156.

    https://doi.org/10.1080/10824669.2021.1906251

*Guiamalon, T. S., Lumapenet, H. T., Katog, M. S., Kalipa, C. L., & Dilna, S. G. (2022).

    Coping with COVID-19: How public secondary school principals adapt to the New

    Normal? *International Journal of Early Childhood Special Education 14*(1), 2363-

    2367. https://www.doi.org/10.9756/INT-JECSE/V14I1.277

*Gul, R., & Khilji, G. (2021). Exploring the need for a responsive school curriculum to cope

    with the Covid-19 pandemic in Pakistan. *Prospects, 51*(1-3), 503-522.

    https://doi.org/10.1007/s11125-020-09540-8

Gumus, S., Arar, K., & Oplatka, I. (2021). Review of international research on school

    leadership for social justice, equity, and diversity. *Journal of Educational*

    Administration and History, 53(1), 81-99.

*Hadriana, Mahdum, Isjoni, Futra, D., & Primahardani, I. (2021). Online learning

    management in the era of COVID-19 pandemic at junior high schools in Indonesia.

Journal of Information Technology Education: Research, 20, 351-383.

https://doi.org/10.28945/4819

*Haidi, H., & Hamdan, M. (2022). Analysis of the home-based online teaching and learning policy during the COVID-19 second wave in Brunei: a joint parent/teacher perception. *Asia Pacific Education Review, 24*(3), 487-502. https://doi.org/10.1007/s12564-022-09798-x

*Halevi, L., & Schechter, C. (2023). Resilient leaders: resilient determinants when entering principalship. *NASSP Bulletin, 107*(1), 60-86. https://doi.org/10.1177/01926365231159070

Hallinger, P. (2014). Reviewing reviews of research in educational leadership: An empirical assessment. *Educational Administration Quarterly, 50*(4), 539–576.

Hallinger, P. (2018). Bringing context out of the shadows of leadership. *Educational Management Administration & Leadership, 46*, 5-24.

*Hamilton, L. S., Kaufman, J. H., & Diliberti, M. K. (2020). *Teaching and leading through a pandemic: Key findings from the American Educator Panels Spring 2020 COVID-19 Surveys.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA168-2.html.

*Hamzah, N. H., Nasir, M. K. M., & Wahab, J. A. (2021). The effects of principals' digital leadership on teachers' digital teaching during the Covid-19 pandemic in Malaysia. *Journal of Education and E-Learning Research, 8*(2), 216–221. https://doi.org/10.20448/journal.509.2021.82.216.221

*Hanafi, Y., Taufiq, A., Saefi, M., Ikhsan, M. A., Diyana, T. N., Thoriquttyas, T., & Anam, F. K. (2021). The new identity of Indonesian Islamic boarding schools in the "new normal": The education leadership response to COVID-19. *Heliyon, 7*(3). https://doi.org/10.1016/j.heliyon.2021.e06549

*Handford, V., Yahia, L., Kettaneh, H., Finley, C., Schmidt, J., Rinshed, T., Abdeddaim, R., & Faisthuber, M. (2022). Schooling during COVID-19: Restoring human-centredness amidst uncertainty. *Teachers and Teaching: Theory and Practice.* https://doi.org/10.1080/13540602.2022.2062730

*Hatcher III, J. W., & Crum, T. (2021). Creating a marketplace of ideas: Equity in education and technology during COVID-19. In D. G. Sampson, D. Ifenthaler & P. Isaías (Eds.), *18th International Conference on Cognition and Exploratory Learning in Digital Age CELDA 2021.* (pp. 360-364). IADIS Press.

*Havik, T., & Ingul, J. M. (2022). Remote education/homeschooling during the COVID-19 pandemic, school attendance problems, and school return–teachers' experiences and reflections. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.895983

Hayes, S. D., Anderson, E., & Carpenter, B. W. (2022). Responsibility, stress and the well-being of school principals: How principals engaged in self-care during the COVID-19 crisis. *Journal of Educational Administration. Online First.*

*Hayes, S. D., Flowers, J., & Williams, S. M. (2021). "Constant communication": Rural principals' leadership practices during a global pandemic. *Frontiers in Education, 5.* https://doi.org/10.3389/feduc.2020.618067

*Heidrich, F., Pozas, M., Letzel, V., Lindner, K. T., Schneider, C., & Schwab, S. (2022). Austrian students' perceptions of social distancing and their emotional experiences during distance learning due to the COVID-19 pandemic. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.862306

*Herrmann, L., Nielsen, B. L., & Aguilar-Raab, C. (2021). The impact of COVID-19 on interpersonal aspects in elementary school. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.635180

*Heyward, G., & Gill, S. (2021). *Promising practices drive progress: Closing learning gaps for students with disabilities.* Center on Reinventing Public Education. https://files.eric.ed.gov/fulltext/ED613558.pdf

Ho, K., & Tang, D. (2023). Impacts of COVID-19 on primary, secondary and tertiary education: A comprehensive review and recommendations for educational practices. *Educational Research for Policy and Practice, 22*,23–61. doi:10.1007/s10671-022-09319-y

*Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability, 32*(2), 237-270. https://doi.org/10.1007/s11092-020-09322-y

*Hulme, M., Beauchamp, G., Clarke, L., & Hamilton, L. (2023). Collaboration in times of crisis: Leading UK schools in the early stages of a pandemic. *Leadership and Policy in Schools, 22*(1), 161-180. https://doi.org/10.1080/15700763.2021.1917623

*Hunter, J., Hunter, R., Tupouniua, J., & Leach, G. (2022). Bringing the home into school: Learning and connecting through mathematics education during the time of a pandemic. *Educational Studies in Mathematics, 111*(2), 207-224. https://doi.org/10.1007/s10649-022-10157-1

*Іванюк, І. В., & Овчарук, О. В. (2020). The response of Ukrainian teachers to COVID-19: Challenges and needs in the use of digital tools for distance learning. *Information Technologies and Learning Tools, 77*(3), 282-291. https://doi.org/10.33407/itlt.v77i3.3952

*Indra, R., Ritonga, M., & Kustati, M. (2022). E-leadership of the school principals in implementing online learning during COVID-19 pandemic at public senior high schools. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.973274

*International Literacy Centre. (2020). *Resetting educational priorities in challenging times.* https://www.ucl.ac.uk/ioe/research-projects/2023/may/resetting-educational-priorities-challenging-times

*Ivaniuk, I. V., & Ovcharuk, O. V. (2021). Problems and needs of teachers in the organization of distance learning in Ukraine during quarantine caused by COVID-19 pandemic: 2021 research results. *Information Technologies and Learning Tools, 85*(5). https://doi.org/10.33407/itlt.v85i5.4669

*Jackson, M., Bass, L., Jackman-Ryan, S., Hoeflaken, K., & Picart, J. A. (2022). Locating equity in principals' pandemic decision-making practices. *Peabody Journal of Education, 97*(3), 274-290. https://doi.org/10.1080/0161956X.2022.2079883

*James, F., Massiah, A., Pierre, L. a., Richardson, C., & Williams, J. (2022). Leading classroom instruction during the COVID-19 pandemic and preparation for face-to-face reopening: Caribbean teachers' experiences. *School Leadership and Management, 42*(2), 208-229. https://doi.org/10.1080/13632434.2022.2047638

Jarvis, A., & Mishra, P. K. (2020). Leadership for learning: Lessons from the great lockdown. *International Journal of Leadership in Education. Online First.*

*Jopling, M., & Harness, O. (2022). Does COVID-19 offer English school leaders the opportunity to rethink schools? *Management in Education, 36*(4), 174-177. https://doi.org/10.1177/0892020621994307

*Julius, J., & Sims, D. (2020). *Support for vulnerable pupils and the children of keyworkers.* National Foundation for Educational Research. https://files.eric.ed.gov/fulltext/ED608651.pdf

*Kafa, A. (2023). Teachers' perceptions of school principals' role in tackling the pandemic crisis. *International Journal of Educational Management, 37*(2), 350-360. https://doi.org/10.1108/IJEM-02-2022-0056

*Kaminskiene, L., & Chu, L. (2021). Challenges of distance education during the school lockdown: The Lithuanian school leaders' perspective. *Proceedings of the International Scientific Conference*, 5, 127-134. https://doi.org/10.17770/sie2021vol5.6390

*Kaminskienė, L., Tūtlys, V., Gedvilienė, G., & Chu, L. Y. (2021). Coping with the pandemic and the school lockdowns: The perspectives of Lithuanian school principals. *Sodobna pedagogika (Journal of Contemporary Educational Studies), 72*(138), 270-285.

*Kaul, M., Comstock, M., & Simon, N. S. (2022). Leading From the Middle: How principals rely on district guidance and organizational conditions in times of crisis. *AERA Open, 8.* https://doi.org/10.1177/23328584221077303

*Kaul, M., VanGronigen, B. A., & Simon, N. S. (2020). *Calm during crisis: School principal approaches to crisis management during the COVID-19 pandemic.* CPRE Policy Briefs. https://repository.upenn.edu/cpre_policybriefs/89

*Kavrayıcı, C., & Kesim, E. (2021). School management during the covid-19 pandemic: A qualitative study. *Educational Administration: Theory and Practice, 27*(1), 1005-1060. https://doi.org/10.14527/kuey.2021.004

*Kearney, M., Schuck, S., Fergusson, J., & Perry, R. (2022). Effective practices during emergency school lockdowns: shared experiences of four Australian schools. *Australian Educational Researcher.* https://doi.org/10.1007/s13384-022-00588-3

*Khan, M. A., Kamal, T., Illiyan, A., & Asif, M. (2021). School students' perception and challenges towards online classes during covid-19 pandemic in India: An econometric analysis. *Sustainability (Switzerland), 13*(9). https://doi.org/10.3390/su13094786

*Kim, T., Lim, S., Yang, M., & Park, S. J. (2021). Making sense of schooling during COVID-19: Crisis as opportunity in Korean schools. *Comparative Education Review, 65*(4), 617-639. https://doi.org/10.1086/716183

*Krishnan, S. (2023). Factors influencing educational equity in online instruction for students during Covid-19. *Remedial and Special Education 44*(6), 469-479. https://doi.org/10.1177/07419325231161322

*Kruczek, T., Geesa, R. L., Mayes, R. D., & Odell, K. M. (2022). School counselor and administrator perceptions of response to the COVID-19 pandemic. *Professional School Counseling, 26*(1c). https://doi.org/10.1177/2156759X221134661

Kwatubana, S., & Molaodi, V. (2021). Leadership styles that would enable school leaders to support the wellbeing of teachers during COVID-19. *BCES Conference Books, 19*, 106-112.

Lakomski, G., & Evers, C. W. (2022). The importance of context for leadership in education. *Educational Management Administration & Leadership, 50*(2), 269–284.

Lambert, M., & Sassone, J. (2020). Accelerate, don't remediate: An instructional framework for meeting the needs of the most vulnerable students after COVID school closures. *Journal for Leadership and Instruction, Fall*, 8-13.

*Lavadenz, M., Kaminski, L. R. G., Armas, E. G., & López, G. V. (2021). Equity leadership for English learners during COVID-19: Early lessons. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.636281

Lavis, J. N. (2009). How can we support the use of systematic reviews in policymaking? *PLOS Medicine, 6(*11), e1000141.

*Law, N., Tan, C. Y., Lan, M., & Pan, Q. (2020a). *eCitizen Education 360 Project - Bulletin 1: From outcomes and challenges of online learning to enhanced digital preparedness for the NEW NORMAL.* The University of Hong Kong.

*Law, N., Tan, C. Y., Lan, M., & Pan, Q. (2020b). *eCitizen Education 360 Project - Bulletin 2: Online learning preparedness for schools.* The University of Hong Kong.

*Law, N., Tan, C. Y., Lan, M., & Pan, Q. (2021a). *eCitizen Education 360 Project - Bulletin 4: Multi-level school leadership for online learning preparedness.* The University of Hong Kong.

Law, N., Tan, C. Y., Lan, M., & Pan, Q. (2021b). *eCitizen Education 360 Project - Bulletin 6: From evidence-based community-wide collaborative action by timely comprehensive research to recommendations for a better New Normal.* The University of Hong Kong. Retrieved from https://360-cms.ecitizen.hk/uploads/bulletin06_en_e329864845.pdf

Lee, M., Kim, J. W., Mo, Y., & Walker, A. D. (2022). A review of professional learning community (PLC) instruments. *Journal of Educational Administration, 60*(3), 262-287.

Lee, M., Ryoo, J. H., & Walker, A. D. (2021). School principals' time use for interaction with individual students: Macro contexts, organizational conditions, and student outcomes. *American Journal of Education*, *127*(2), 303-344.

*Lee, T. T. l. (2022). Leadership for inclusive online learning in public primary schools during COVID-19: A multiple case study in Hong Kong. *Educational Management Administration & Leadership 0*(0). https://doi.org/10.1177/17411432221135310

*Lee, Y., K., Mohd Zaid, N., Abd. Wahid, N. H., Mohamad Ashari, Z., Suhairom, N., & Mohamad Said, M. N. H. (2021). Challenges in emergency remote teaching among Malaysian public elementary school teachers. *International Journal of Emerging Technologies in Learning (iJET), 16*(24), pp. 74–90. https://doi.org/10.3991/ijet.v16i24.27453

*Leksy, K., Wójciak, M., Gawron, G., Muster, R., Dadaczynski, K., & Okan, O. (2023). Work-related stress of Polish school principals during the COVID-19 pandemic as a

risk factor for burnout. *International Journal of Environmental Research and Public Health, 20*(1). https://doi.org/10.3390/ijerph20010805

*Letzel-Alt, V., Pozas, M., Schwab, S., Schneider, C., Lindner, K. T., Dias, P., & Cadime, I. (2022). Exploring inclusive education in times of COVID-19: An international comparison of German, Austrian and Portuguese teachers. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.969737

*Lien, C. M., Khan, S., & Eid, J. (2023). School principals' experiences and learning from the Covid-19 pandemic in Norway. *Scandinavian Journal of Educational Research, 67*(5), 775-790. https://doi.org/10.1080/00313831.2022.2043430

*Loloçi, R., & Halilaj, A. (2022). School governance during the pandemic period: A case of Albania. *Journal of Governance and Regulation, 11*(3), 95-102. https://doi.org/10.22495/jgrv11i3art9

Longmuir, F. (2021). Leading in lockdown: Community, communication and compassion in response to the COVID-19 crisis. *Educational Management Administration & Leadership. Online First.*

*Longmuir, F. (2023). Leading in lockdown: Community, communication and compassion in response to the COVID-19 crisis. *Educational Management Administration & Leadership, 51*(5), 1014-1030. https://doi.org/10.1177/17411432211027634

*Lopez, J., Salim, S. S., Zaremohzzabieh, Z., & Ahrari, S. (2022). The role, experience, and challenges to headmasters of indigenous primary schools amid Covid-19 in Malaysia. *Asian Journal of University Education, 18*(1), 231-243. https://doi.org/10.24191/ajue.v18i1.17191

*Luik, P., & Lepp, M. (2021). Local and external stakeholders affecting educational change during the coronavirus pandemic: A study of Facebook messages in Estonia. *Education Sciences, 11*(3). https://doi.org/10.3390/educsci11030113

*Lynch, T. (2022). Leading school recovery from the impact of Covid-19: Two birds, one stone. *International Journal of Primary, Elementary and Early Years Education, 51*(8), 1293-1310. https://doi.org/10.1080/03004279.2022.2068638

*Mahmud, A., & Castro-Kemp, S. (2022). "Lost all hope in government": Learned helplessness of professionals working in specialised education settings in England during COVID-19. *Frontiers in Education, 7*, 803044. https://doi.org/10.3389/feduc.2022.803044

*Martinez J. A., Amick, L. R., & McAbee, S. (2021). The reopening of a school during the COVID-19 pandemic: An administrative lens. *Research in Educational Administration & Leadership 6*(2), https://www.doi.org/10.30828/real/2021.2.5

*Masry-Herzalah, A., & Dor-Haim, P. (2022). Teachers' technological competence and success in online teaching during the COVID-19 crisis: The moderating role of resistance to change. *International Journal of Educational Management, 36*(1), 1-13. https://doi.org/10.1108/IJEM-03-2021-0086

*Masry-Herzallah, A., & Stavissky, Y. (2021). Investigation of the relationship between transformational leadership style and teachers' successful online teaching during Covid-19. *International Journal of Instruction, 14*(4), 891-912. https://doi.org/10.29333/iji.2021.14451a

*Mažgon, J., Kalin, J., Kaminskienė, L., Gedvilienė, G., Tūtlys, V., & Ermenc, K. S. (2021). Coping with challenges of the COVID-19 lockdown in public education of Lithuania and Slovenia: Views of school heads. *Pedagogika, 143*(3), 5-22. https://doi.org/10.15823/p.2021.143.1

*McDonald, B., Lester, K. J., & Michelson, D. (2023). 'She didn't know how to go back': School attendance problems in the context of the COVID-19 pandemic—A multiple

stakeholder qualitative study with parents and professionals. *British Journal of Educational Psychology, 93*(1), 386-401. https://doi.org/10.1111/bjep.12562

McHugh, M. L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica, 22*(3), 276–282.

*McLeod, S., & Dulsky, S. (2021). Resilience, reorientation, and reinvention: School leadership during the early months of the COVID-19 pandemic. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.637075

*Menon, M. E. (2023). Transformational school leadership and the COVID-19 pandemic: Perceptions of teachers in Cyprus. *Educational Management Administration and Leadership.* https://doi.org/10.1177/17411432231166515

*Midha, G. (2021). Inhibited Improvisation: School leadership during the COVID-19 crisis. *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management)(CCEAM), 49*(3), 27-60.

*Mitchell, T. L. (2021). *Developing teacher leadership during unprecedented times of change.* (Publication no. 28770923) [Doctoral Dissertation, Department of Educational Leadership, College of Education, Kansas State University] Proquest Dissertations.

*Mohan, G., Carroll, E., McCoy, S., Mac Domhnaill, C., & Mihut, G. (2021). Magnifying inequality? Home learning environments and social reproduction during school closures in Ireland. *Irish Educational Studies, 40*(2), 265-274. https://doi.org/10.1080/03323315.2021.1915841

*Möhlen, L. K., & Prummer, S. (2023). Vulnerable students, inclusion, and digital education in the Covid-19 pandemic: A qualitative case study from Austria. *Social Inclusion, 11*(1), 102-112. https://doi.org/10.17645/si.v11i1.5850

Morando-Rhim, L., & Ekin, S. (2021). *How has the pandemic affected students with*

disabilities? A review of the evidence to date. Center for Reinventing Public

Education. Retrieved from https://crpe.org/how-has-the-pandemic-affected-students-

with-disabilities-a-review-of-the-evidence-to-date/

*Mulhern, C., & Steiner, E. (2022). *Changes in college and career readiness supports during

the first year of the COVID-19 pandemic.* RAND Corporation.

https://www.rand.org/pubs/research_reports/RRA827-5.html

*Mullen, C. A., & Badger, S. C. (2023). Leadership support in a pandemic: Middle school

teacher perceptions of emergency remote teaching. *RMLE Online, 46*(4), 1-15.

https://doi.org/10.1080/19404476.2023.2184628

*Munastiwi, E., Murfi, A., Sumarni, S., Purnama, S., Naimah, N., Istiningsih, I., & Arini, A.

D. (2023). Coping with the impact of Covid-19 pandemic on primary education:

Teachers' struggle (case study in the Province of Yogyakarta, Indonesia). *International

Journal of Educational Management, 37*(1), 22-36. https://doi.org/10.1108/IJEM-04-

2021-0114

*Mundy, K., Manion, C., Proulx, K., & de Britto, T. F. (2022). Teacher leadership during

COVID-19 in Africa and Latin America: An exploratory qualitative study in six

countries. *International Journal of Leadership in Education.*

https://doi.org/10.1080/13603124.2022.2118374

*Murphy, G., & Devine, D. (2023). Sensemaking in and for times of crisis and change: Irish

primary school principals and the Covid-19 pandemic. *School Leadership and

Management, 43*(2), 125-144. https://doi.org/10.1080/13632434.2022.2164267

*Mutongoza, B. H., Olawale, B. E., & Mzilikazi, B. (2021). Chronicling school principals'

experiences on school management in the context of COVID-19 stringency. *Research

in Social Sciences and Technology, 6*(3), 146-162.

https://doi.org/10.46303/ressat.2021.35

*Namkung, J. M., Goodrich, J. M., Hebert, M., & Koziol, N. (2022). Impacts of the COVID-19 pandemic on student learning and opportunity gaps across the 2020–2021 school year: A national survey of teachers. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.921497

Neelakantan, M., Kumar, A., Alex, S. M., & Sadana, A. (2022). Steering through the pandemic: Narrative analysis of school leader experiences in India. *International Journal of Leadership in Education. Online First.*

*Nelson, J., & Sharp, C. (2020). *Key findings from the Wave 1 survey.* NFER. https://files.eric.ed.gov/fulltext/ED608586.pdf

*Newberry, M., & Hinchcliff, E. (2023). Changed for the better: Positive teacher experiences with COVID-19 driven changes. *Teachers and Teaching: Theory and Practice, 29*(3), 329-343. https://doi.org/10.1080/13540602.2023.2191183

*Niño, J. M., & Perez-Diaz, M. B. (2021). Social justice leaders serving students of color in Southwest Texas rural schools. *Journal of Research in Rural Education, 37*(7), 80–93. https://doi.org/10.26209/jrre3707-09

*Niu, Y., Lee, Y. J., Hughes, C., Xu, X., & Zhu, Y. (2022). Educational leadership support for work transitions during COVID-19: Perceptions of K-12 teachers in United States and China. *Human Resource Development International, 25*(3), 360-380. https://doi.org/10.1080/13678868.2022.2072700

OECD. (2021). *The state of global education: 18 months into the pandemic*. OECD. Retrieved from https://www.oecd-ilibrary.org/education/the-state-of-global-education_1a23bb23-

*Ogawa, S., Kawamura, R., & Kojima, M. (2022). Stress and resilience of Japanese teachers in special needs schools for students with intellectual disabilities during the COVID-19 pandemic. *Frontiers in Education, 7.* https://doi.org/10.3389/feduc.2022.869876

*Okilwa, N. S. A., & Barnett, Bruce G. (2021). Strategies and practices of leading schools during the current COVID-19 crisis. *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management (CCEAM)) 49*(3), 61-81.

*Orbach, L., Fritz, A., Haase, V. G., Dowker, A., & Räsänen, P. (2023). Conditions of distance learning and teaching and their relation to elementary school children's basic number skills after the suspension of face-to-face teaching during the COVID-19 pandemic. *Frontiers in Education, 8.* https://doi.org/10.3389/feduc.2023.1083074

*O'Toole, C. and Simovska, V. (2022). Same storm, different boats! The impact of COVID-19 on the wellbeing of school communities. *Health Education, 122*(1), 47-61. https://doi.org/10.1108/HE-02-2021-0027

*Oyinloye, O. M. (2020). Possible impact of COVID-19 on senior secondary school students performance in science education in Nigeria. *Journal of Pedagogical Sociology and Psychology, 2*(2), 80-85. https://doi.org/10.33902/jpsp.2020263901

*Palau, R., Fuentes, M., Mogas, J., & Cebrián, G. (2021). Analysis of the implementation of teaching and learning processes at Catalan schools during the Covid-19 lockdown. *Technology, Pedagogy and Education, 30*(1), 183-199. https://doi.org/10.1080/1475939X.2020.1863855

*Parmigiani, D., Benigno, V., Giusto, M., Silvaggio, C., & Sperandio, S. (2021). E-inclusion:Oonline special education in Italy during the Covid-19 pandemic. *Technology, Pedagogy and Education, 30*(1), 111-124. https://doi.org/10.1080/1475939X.2020.1856714

*Pattnaik, J., Nath, N., & Nath, S. (2023). Indian primary grade teachers' perceptions about internal and external barriers to remote instruction: A phenomenological inquiry.

Journal of Research in Childhood Education, 37(4), 598-618.

https://doi.org/10.1080/02568543.2023.2168802

Petkovic, J., Welch, V., & Tugwell, P. (2015). Do evidence summaries increase policymakers' use of evidence from systematic reviews: A systematic review protocol. *Systematic Reviews, 4*(122), 1-6.

*Pino-Yancovic, M., Ahumada, L., DeFerrari, J., Correa, F., & Valenzuela, J. P. (2022). Collaborating inside and outside the school: Together overcoming COVID-19 challenges in Chile. *Journal of Professional Capital and Community, 7*(4), 390-405. https://doi.org/10.1108/JPCC-04-2022-0025

*Pollock, K. (2020). School leaders' work during the COVID-19 pandemic: A two-pronged approach. *International Studies in Education, 48*(3), 38-44.

*Price, D. C., & Mansfield, K. C. (2021). Leadership in the Time of COVID: Connecting community resources to meet the needs of North Carolina students. *Frontiers in Education, 5*. https://doi.org/10.3389/feduc.2020.615101

*Ramakrishna, M., & Singh, P. (2022). The way we teach now: Exploring resilience and teacher identity in school teachers during COVID-19. *Frontiers in Education, 7*. https://doi.org/10.3389/feduc.2022.882983

*Randjelovic, B., Karalic, E., Djukic, D., & Aleksic, K. (2022). Distance learning in Serbia – The experience in primary education during the COVID-19 crisis. *Teme, 45*(2), 377-397. https://doi.org/10.22190/TEME210609024R

Reid, D. B. (2022). Suppressing and sharing: How school principals manage stress and anxiety during COVID-19. *School Leadership & Management, 42*(1), 62-78.

*Reyes-Guerra, D., Maslin-Ostrowski, P., Barakat, M. Y., & Stefanovic, M. A. (2021). Confronting a compound crisis: The school principal's role during initial phase of the

COVID-19 pandemic. *Frontiers in Education, 6.*

https://doi.org/10.3389/feduc.2021.617875

*Roffi, A., Ranieri, M., & Bruni, I. (2020). Exploring school levels of digital readiness in

pandemic time. *Research on Education and Media, 12*(2), 9-18.

https://doi.org/10.2478/rem-2020-0014

*Romero, C., Zullo, F., & Covos, M. (2023). School leadership in Argentina during the

COVID-19 pandemic: Emotions, tensions and policy challenges for the future.

Leadership and Policy in Schools.

https://www.doi.org/10.1080/15700763.2023.2192779

*Rumeli, M. S., Rami, A. A. M., Wahat, N. W. A., & Samsudin, S. (2022). Distributive

leadership roles for primary school teachers' efficiency in New Norm: Focus group

analysis. *Asian Journal of University Education, 18*(1), 217-230.

https://doi.org/10.24191/ajue.v18i1.17190

*Sari, E., Bittmann, F., & Homuth, C. (2023). Explaining inequalities of homeschooling in

Germany during the first COVID-19 lockdown. *Frontiers in Education, 8.*

https://doi.org/10.3389/feduc.2023.1154389

Schechter, C., Da'as, R., & Qadach, M. (2022). Leading schools in a global pandemic.

Management in Education. Online First.

*Schult, J., Mahler, N., Fauth, B., & Lindner, M. A. (2022). Long-term consequences of

repeated school closures During the COVID-19 Pandemic for reading and

mathematics competencies. *Frontiers in Education, 13*.

https://doi.org/10.3389/feduc.2022.867316

*Senft, B., Liebhauser, A., Tremschnig, I., Ferijanz, E., & Wladika, W. (2022). Effects of the

COVID-19 pandemic on children and adolescents from the perspective of teachers.

Frontiers in Education, 7. https://doi.org/10.3389/feduc.2022.808015

*Shaked, H. (2022). Instructional leadership during the COVID-19 pandemic: The case of

    Israel. *Educational Management Administration and Leadership.*

    https://doi.org/10.1177/17411432221102521

*Shaked, H., & Benoliel, P. S. (2022). Instructional boundary management during COVID-

    19. *Educational Management Administration and Leadership.*

    https://doi.org/10.1177/17411432221103678

*Shamburg, C., Amerman, T., Zieger, L., & Bahna, S. (2022). When school bells last rung:

    New Jersey schools and the reaction to COVID-19. *Education and Information*

    Technologies, 27(1), 23-44. https://doi.org/10.1007/s10639-021-10598-w

*Sharp, C., & Nelson, J. (2021). Recovering from Covid-19: What pupils and schools need

    now. NFER. https://files.eric.ed.gov/fulltext/ED615298.pdf

*Sharp, C., Sims, D., & Rutt, S. (2020). Schools' responses to COVID-19: Returning pupils

    to school. National Foundation for Educational Research.

    https://files.eric.ed.gov/fulltext/ED608591.pdf

*Smith, N., & de Klerk, E. D. (2022). Teachers' perceptions and policy directives for

    transformative teacher leadership initiatives during and beyond covid-19. *School*

    Leadership and Management, 42(3), 275-292.

    https://doi.org/10.1080/13632434.2022.2088490

*Smith, J., Nadeau, M. F., Archambault, I., Guimond, F. A., St-Amand, J., Fitzpatrick, C., &

    Gagnon, M. (2022). Linking high school students' achievement goal orientations with

    their competence beliefs and their perception of teachers' emotional support during

    the COVID-19 pandemic. *Frontiers in Education, 7.*

    https://doi.org/10.3389/feduc.2022.762766

Spillane, J. P., & Lowenhaupt, R. (2019). *Navigating the principalship: Key insights for new*

    and aspiring school leaders. ASCD.

*Stephenson, S. P., Hardy, A., Seylar, J., Wayman, J., Peters, V., Bellin, M., & Roschelle, J. (2021). *Principal leadership in a virtual environment.* Wallace Foundation. https://www.wallacefoundation.org/knowledge-center/Documents/Principal-Leadership-in-a-Virtual-Environment.pdf

Striepe, M., & Cunningham, C. (2022). Understanding educational leadership during times of crises: A scoping review. *Journal of Educational Administration, 60*(2), 133-147.

Striepe, M., Thompson, P., Robertson, S., Devid, M., Gurr, D., Longmuir, F., Taylor, A., & Cunningham, C. (2023). Responsive, adaptive, and future-centred leadership in response to crisis: Findings from Australia, Fiji, and New Zealand. *School Leadership & Management, 43*(2), 104-124. doi:10.1080/13632434.2023.2171005

*Sum, N. (2022). School leaders' perceptions of their roles during the pandemic: An Australian case study exploring volatility, uncertainty, complexity and ambiguity (VUCA leadership). *School Leadership and Management, 42*(2), 188-207. https://doi.org/10.1080/13632434.2022.2045268

*Szempruch, J., Potyrała, K., Smyła, J., & Tomczyk, Ł. (2023). Leadership styles of heads of school and teachers' creative behavior in a time of social change. *Leadership and Policy in Schools.* https://www.doi.org/10.1080/15700763.2023.2172433

*Tabatadze, S., & Chachkhiani, K. (2021). COVID-19 and emergency remote teaching in the country of Georgia: Catalyst for educational change and reforms in Georgia? *Educational Studies - AESA, 57*(1), 78-95. https://doi.org/10.1080/00131946.2020.1863806

Tamadoni, A., Hosseingholizadeh, R., & M. S. Bellibaş. (2021). A systematic review of key contextual challenges facing school principals: Research-informed coping solutions. *Educational Management Administration & Leadership. Online First.*

*Tamar, C. L., Yaffa, B., Lea, S., Haia, A., & Nitzan, E. (2023). Digital leadership: Managing schools' virtual spaces in times of crisis. *International Journal of Educational Reform, 32*(2), 127-147. https://doi.org/10.1177/10567879221142551

*Tamtik, M., & Darazsi, S. (2022). Navigating turbulent waters: Leading one Manitoba school in a time of crisis. *Canadian Journal of Educational Administration and Policy,* 200, 22-36.

Tan, C. Y. (2018). Examining school leadership effects on student achievement: The role of contextual challenges and constraints. *Cambridge Journal of Education, 48*(1), 21-45.

*Tan, C. Y., Liang, Q., Pan, Q., Law, N., Lan, M., Tao, S., Chan, K.K. Catherine., Li, W., & Li, Y. (2023). *eCitizen Education 360 (2022) Project - Bulletin 1: Cumulative Impact Under New Normal Insights for Positive Actions.* The University of Hong Kong.

Tan, C. Y., Pan, Q., Zhang, Y., Lan, M., & Law, N. (2022). Parental home monitoring and support and students' online learning and socioemotional well-being during COVID-19 school suspension in Hong Kong. *Frontiers in Psychology.*

Tang, K. H. D. (2023). Impacts of COVID-19 on primary, secondary and tertiary education: A comprehensive review and recommendations for educational practices. *Educational Research for Policy and Practice, 22*, 23-61.

*Thornton, K. (2021a). Leading through COVID-19: New Zealand secondary principals describe their reality. *Educational Management Administration and Leadership, 49*(3), 393-409. https://doi.org/10.1177/1741143220985110

*Thornton, K. (2021b). Principal leadership practices during the COVID-19 lockdown. *Journal of Educational Leadership, Policy and Practice, 36*(1), 22-39. https://doi.org/10.21307/jelpp-2021-002

Tintore, M., Cunha, R. S., Cabral, I., & Alves, J. J. M. (2020). A scoping review of problems

and challenges faced by school leaders (2003–2019). *Educational Management Administration & Leadership. Online First.*

*Tomasik, M. J., Helbling, L. A., & Moser, U. (2021). Educational gains of in-person vs distance learning in primary and secondary schools: A natural experiment during the COVID-19 pandemic school closures in Switzerland. *International Journal of Psychology, 56*(4), 566-576. https://doi.org/10.1002/ijop.12728

*Trinidad, J. E. (2021a). Equity, engagement, and health: school organisational issues and priorities during COVID-19. *Journal of Educational Administration and History, 53*(1), 67-80. https://doi.org/10.1080/00220620.2020.1858764

*Trinidad, J. E. (2021b). Teacher satisfaction and burnout during COVID-19: What organizational factors help? *International Journal of Leadership in Education.* https://doi.org/10.1080/13603124.2021.2006795

*van Cappelle, F., Chopra, V., Ackers, J., & Gochyyev, P. (2021). An analysis of the reach and effectiveness of distance learning in India during school closures due to COVID-19. *International Journal of Educational Development, 85.* https://doi.org/10.1016/j.ijedudev.2021.102439

*Velasco, V., Cominelli, S., Scattola, P., & Celata, C. (2021). Life skill education at the time of COVID-19: Perceptions and strategies of Italian expert school educators. *Health Education Research, 36*(6), 615-633. https://doi.org/10.1093/her/cyab037

*Vilchez, J. A., Kruse, J., Puffer, M., & Dudovitz, R. N. (2021). Teachers and school health leaders' perspectives on distance learning physical education during the COVID-19 pandemic. *Journal of School Health, 91*(7), 541-549. https://doi.org/10.1111/josh.13030

*Virella, P. (2023). New principals in the COVID corridor: An exploratory case study. *Journal of Educational Administration, 61*(1), 1-15. https://doi.org/10.1108/JEA-01-2022-0012

*Virella, P. M., & Cobb, C. (2021). Leveraging the crisis for equity and access in the long term: A brief research report. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.618051

Walker, A., & Hallinger, P. (2015). A synthesis of reviews of research on principal leadership in East Asia. *Journal of Educational Administration, 53*(4), 554-570.

Walker, A., Hu, R., & Qian, H. (2012). Principal leadership in China: An initial review. *School Effectiveness and School Improvement*, *23*(4), 369-399.

*Walker, M., Sharp, C., & Sims, D. (2020). *Job satisfaction and workload of teachers and senior leaders.* NFER. https://files.eric.ed.gov/fulltext/ED608586.pdf

*Wang, J., Yang, Y., Li, H., & van Aalst, J. (2021). Continuing to teach in a time of crisis: The Chinese rural educational system's response and student satisfaction and social and cognitive presence. *British Journal of Educational Technology, 52*(4), 1494-1512. https://doi.org/10.1111/bjet.13129

Wasserman, N., Nohria, N., & Anand, B. (2010). When does leadership matter? A contingent opportunities view of CEO leadership. In N. Nohria & R. Khurana (Eds.), *Handbook of leadership theory and practice: An HBS centennial colloquiumon advancing leadership* (pp. 27-63). Boston, MA: Harvard Business Press.

*Watson, R., & Singh, U. G. (2022). Support mechanisms utilised by educational leaders during COVID-19: Experiences from the Western Australian public education school sector. *School Leadership and Management, 42*(5), 457-477. https://doi.org/10.1080/13632434.2022.2116568

*Weiner, J., Francois, C., Stone-Johnson, C., & Childs, J. (2021). Keep safe, keep learning:

> Principals' role in creating psychological safety and organizational learning during the

> COVID-19 pandemic. *Frontiers in Education, 5.*

> https://doi.org/10.3389/feduc.2020.618483

Wen, Y., Gwendoline, C. L. Q., & Lau, S. Y. (2021). ICT-supported home-based learning in

> K-12: A systematic review of research and implementation. *TechTrends, 65*, 371–378.

*Westberry, L., Hornor, T., & Murray, K. (2021). The need of the virtual principal amid the

> pandemic. *International Journal of Education Policy and Leadership, 17*(10).

> https://doi.org/10.22230/ijepl.2021v17n10a1139

*Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A. (2022). K-12

> school leadership perspectives from the COVID-19 pandemic. *Policy Futures in

> Education,* 14782103221135620. https://doi.org/10.1177/14782103221135620

*White, S., Harmon, H., Johnson, J., & O'Neill, B. (2022). In-the-moment experiences of

> rural school principals in the COVID-19 pandemic. *The Rural Educator, 43*(2), 47-59.

> https://doi.org/10.55533/2643-9662.1322

*Wilcox, K. C. (2022). A rural school's adaptations, improvements, and innovations during

> the COVID-19 pandemic. *Journal of Cases in Educational Leadership, 25(*2), 111-

> 123. https://doi.org/10.1177/15554589211058103

*Willermark, S. (2021). Who's there? Characterizing interaction in virtual classrooms.

> *Journal of Educational Computing Research, 59*(6), 1036-1055.

> https://doi.org/10.1177/0735633120988530

*Willermark, S., & Islind, A. S. (2023). Adopting to the virtual workplace: Identifying

> leadership affordances in virtual schools. *Journal of Workplace Learning, 35*(9), 22-

> 37. https://doi.org/10.1108/JWL-05-2022-0052

*Wortham, D. G., & Grimm, L. F. (2022). School interrupted: Recovering learning losses

    related to COVID-19. *Journal of Cases in Educational Leadership, 25*(2), 124-135.

    https://doi.org/10.1177/15554589221078273

*Yang, C., Manchanda, S., & Greenstein, J. (2021). Educators' online teaching self-efficacy

    and compassion fatigue during the COVID-19 pandemic: The dual roles of

    "Connect". *School Psychology, 36*(6), 504-515. https://doi.org/10.1037/spq0000475

*Yates, A., Starkey, L., Egerton, B., & Flueggen, F. (2021). High school students' experience

    of online learning during Covid-19: The influence of technology and pedagogy.

    Technology, Pedagogy and Education, 30(1), 59-73.

    https://doi.org/10.1080/1475939X.2020.1854337

*Yıldız Şal, S., & Göçen, A. (2022). Teachers' views on leadership in the New Normal. *Asian*

    Journal of Distance Education, 17(1).

    https://www.asianjde.com/ojs/index.php/AsianJDE/article/view/600

*Zincirli, M. (2021). School administrators' views on distance education during the Covid-19

    pandemic process. *Malaysian Online Journal of Educational Technology, 9*(2), 52-66.

    https://doi.org/10.52380/mojet.2021.9.2.217

Table 1
Study Characteristics

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	report	qualitative	n=49 G1-G12 school leaders		Europe
Adams, Cheah, Thien, & Md Yusoff (2021)	journal article	qualitative	n=32 school principals, from government-funded secondary schools	Asia-others	
Ahtiainen, Eisen Schmidt, Heikonen, & Meristo (2022)	journal article	qualitative	n=219 Estonian school leaders, n=775 Finnish school leaders		Europe
Akbaba Altun & Bulut (2021a)	journal article	qualitative	n=105 school principals working in primary, secondary, and high schools in different provinces		Multiple
Akbaba Altun & Bulut (2021b)	journal article	qualitative	n=105 school administrators		Multiple
Alajmi (2022)	journal article	quantitative	n=113 public elementary school principals, n=404 public elementary school teachers	Asia-others	
Al-Fadala, Amenya, Fitzpatrick, Godwin, Kirby, & Korin (2021)	report	mixed methods	n=100 school leaders, n=21 district and senior education officers; n=1 Rwanda Education Board, n=1 Ministry of Education; n=13 school leaders, teachers, students and caregivers.		Africa
Alsaleh (2021a)	journal article	qualitative	39 teachers (eight males, 31 females), 13 headteachers (3 males, 10 females), and 7 school leaders (four principals, three assistant principals; two males, five females	Asia-others	
Alsaleh (2021b)	journal article	qualitative	Structured interviews were conducted with 25 head teachers and 6 school principals, while open-ended questionnaires were gathered from 10 head teachers.	Asia-others	

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
An, Mongillo, Sung, & Fuentes (2022)	journal article	qualitative	n=8 parents, n=12 G4-12 teachers from high needs schools, n=8 school leaders		North America
Anders, Macmillan, Sturgis, & Wyness (2022)	journal article	quantitative	n=4,000 young people in England		Europe
Anderson & Weiner (2023)	journal article	qualitative	n=36 G1-G12 principals		North America
Anderson, Hayes, & Carpenter (2020)	policy brief	qualitative	n=120 principals in 19 states		North America
Arar, Sawalhi, Chaaban, Zohri, & Alhouti (2022)	journal article	qualitative	n=27 public and private primary school leaders		Multiple
Arastaman & Çetinkaya (2022)	journal article	qualitative	n=12 K-G12 school principals		Multiple
Argyropoulou, Syka, & Papaioannou (2021)	journal article	qualitative	n=38 (20 men and 18 women school leaders from 16 primary and 22 secondary schools. Participants were aged between 52 and 65 years)		Europe
Arruti, Korres, & Paños-Castro (2022)	journal article	quantitative	n=849 school teachers		Europe
Asio & Bayucca (2021)	journal article	quantitative	n=39 respondents (comprised 9 Education Program Supervisors and 30 School Heads in a Schools Division in Central Luzon, Philippines.)	Asia-others	
Aytaç (2020)	journal article	qualitative	n=32 school administrators, (20 males, 12 females; 19 public, 13 private schools)		Multiple
Bailey & Gibson (2023)	journal article	qualitative	n=3 assessment school leaders		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	journal article	qualitative	n=5 school leaders from K-12 schools		Multiple
Baroudi (2022)	journal article	qualitative	n=8 female school leaders		Multiple
Baxter, Floyd, & Jewitt (2023)	journal article	qualitative	n=50 school leaders		Europe
Baxter, Gardner, & Southall (2023)	journal article	qualitative	n=11 teachers		Australia
Beauchamp, Hulme, Clarke, Hamilton, & Harvey (2021)	journal article	qualitative	n=12 Headteachers (4 males, 8 females)		Europe
Beckmann & Klein (2022)	journal article	quantitative	n=912 teachers in initial survey; n= 455 teachers in follow up survey		Europe
Beckmann, Kötter-Mathes, Klein, Bremm, & van Ackeren (2022)	journal article	mixed methods	n=13 school leaders for qualitative data source; n=385 teachers for quantitative data		Europe
Bergdahl & Nouri (2020)	journal article	mixed methods	n=153 school teachers, in 14 cities across Sweden		Europe
Berkovich & Hassan (2022)	journal article	quantitative	n=380 G1-G12 teachers	Asia-others	
Berkovich & Hassan (2023)	journal article	quantitative	n=380 primary and secondary school teachers	Asia-others	
Berkovich (2023)	journal article	quantitative	n=267 teachers	Asia-others	

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Bharaj & Singh (2021)	journal article	qualitative	n=3 participants (one administrator, one a public-school elementary teacher, one parent of two school-aged children)		North America
Bhopal & Myers (2023)	journal article	qualitative	53 students who had their A Level exams cancelled (30 female and 23 male; 15 identified as White British, 9 as British Indian, 6 as British Pakistani/Bangladeshi, 10 as Black British, 4 as Black African, 3 as mixed heritage (Black/White), 2 as mixed heritage (Asian/White) and 4 as Gypsy, Roma and Traveller)		Europe
Bogans, Glover, & Workman (2022)	thesis	qualitative	Qualitative: n=15 principals; quantitative: n=10 principals		North America
Bookbinder (2022)	thesis	qualitative	n=4 elementary science teachers, n=4 district-level elementary science educators		North America
Botbyl (2022)	thesis	qualitative	n=11 international heads		Multiple
Bozkurt (2023)	journal article	qualitative	n=15 K-12 school administrators		Multiple
Brinkmann, Cash, & Price (2021)	journal article	qualitative	survey: n=200 responses from nine states. Focus group interview: 13 participants.		North America
Briscoe & Nyereyemhuka (2022)	journal article	qualitative	Case study, female elementary school principal		North America
Brivio, Fagnani, Pezzoli, Fontana, Biffi, Mazzaferro, Velasco, & Greco (2021)	journal article	mixed methods	Interview: n=19 primary and secondary school principals (11 females, 8 males); Survey: n=66 teacher respondents (18 from elementary school, 25 from first degree secondary school, 23 from second degree secondary school)		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Brock, Beach, Musselwhite, & Holder (2021)	journal article	qualitative	n= 2 scholar–practitioner principals		North America
Brom, Lukavský, Greger, Hannemann, Straková & Švaříček (2020)	journal article	mixed methods	N = 9,810, Czech parents of children in Grades 1–9 (Age 6–15)		Europe
Brown, O'Hara, McNamara, Skerritt, & Shevlin (2021)	journal article	qualitative	n= 53 primary and postprimary schools from all school types that exist in Northern Ireland		Europe
Bubb & Jones (2020)	journal article	mixed methods	n=2010 (151 teachers, 779, with 1,048 pupils parents, 320 pupils 6-9 years, 745 pupils 10-16 years, 15 school leaders		Europe
Burkot, Sepioł, & Demeshkant (2021)	conference paper	qualitative	n=26 respondents (German =13, Polish =13), were principals and managers of primary and secondary schools in Poland and Germany		Europe
Burton, Rigaud, & Googins (2021)	journal article	qualitative	n= 3 male administrators, in their mid-30s who served in the public sector with a student population of more than 50% non-white.		North America
Burwell (2021)	journal article	qualitative	n= 3 school principals	Asia-others	
Cahapay (2022)	journal article	qualitative	n=6 K-G12 school principals	Asia-others	
Cameron, Matre, & Canrinus (2022)	journal article	mixed methods	study 1: (n = 14) and students performing at or above grade-level (n = 66) completed a survey. Study 2: 10 schools (n = 128)		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Cao, Zhang, Chan, & Kang (2021)	journal article	mixed methods	n=152 mathematics teachers from 20 cities (27.6% with 1-10yr experiences, 46% with 11-20yr experiences, 21.7% with 21-30yr expereinces, 4.6% with more than 30yr experiences)	Asia-others	
Carter, Cortez Ochoa, Leonard, Nzaramba, & Rose (2022)	journal article	qualitative	298 school leaders; 297 teachers from the same schools (49% with 0-8 year experiences; 40% 9-15 year experiences; 11% with more than 15 year experiences)		Africa
Chaaban, Sawalhi, & Du (2021)	journal article	qualitative	12 primary teachers and 6 school principals	Asia-others	
Chaaban, Sawalhi, & Lundberg (2023)	journal article	mixed methods	n=27 Government school leaders	Asia-others	
Chan, Espejel López, Pinto Loria, & Briceño (2020)	journal article	quantitative	n= 329 teachers, from urban and rural zones, 71.1% female and 28.9% male, with a mean age of 38.8 years, working in public (71.7%) and private (28.3%) schools		South America
Cohen & Willemsen (2022)	journal article	mixed methods	n=12 teachers spread across the district's two elementary schools.		North America
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	journal article	qualitative	88 teachers and 5 principals from Cyprus (88 teachers, 42 primary school teachers, 46 secondary school teachers, and the 5 principals of the 5 schools)		Europe
Cordeiro, Gluckman, & Johnson (2021)	journal article	mixed methods	n= 388 school leaders across 11 nations in Africa, Latin America, and India		Africa
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	journal article	qualitative	n=15 elementary school teachers		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Crean, Devine, Moore, Martínez Sainz, Symonds, Sloan, & Farrell (2023)	journal article	qualitative	n=12 primary schools case study		Europe
Da'as, Qadach, & Schechter (2023)	journal article	qualitative	n=42 middle school principals	Asia-others	
De Coninck, Matthijs, & Van Lancker (2022)	journal article	quantitative	16,093 adolescents, aged 12 to 18, who were enrolled in secondary education in Flanders, Belgium		Europe
de Klerk & Palmer (2021)	journal article	qualitative	n=5 principals from rural schools in two education district.		Africa
De Voto & Superfine (2023)	journal article	mixed methods	Qualitative: n=41 K-12 school leaders, n=18 K-12 teachers		North America
De Voto, Superfine, & DeWit (2023)	journal article	qualitative	n=41 interviews with K-12 school leaders and n=18 with teachers, n=111 surveys to school staff, n= 64 policy documents		North America
Decman, Badgett, & Simieou (2021)	journal article	qualitative	17 campus administrators, 17 teachers, 17 parents, and 17 staff		North America
Demeshkant, Schultheis, & Hiebl (2022)	journal article	qualitative	n=13 principals from Germany, n=13 principals from Poland		Europe
Demirbilek (2022)	journal article	quantitative	n=31 school leaders, 156 teachers		Multiple
Dilekçi (2021)	journal article	qualitative	n=32 school administrators from seven cities of Turkey		Multiple
Diliberti, Schwartz, Hamilton, & Kaufman (2020)	report	quantitative	n=957 public school principals		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Doll, Ragan, Calnin, Mason, & House (2021)	journal article	qualitative	n= 61 K-12 international educators from eight schools across the four countries, representing all the colleges (early years, junior, middle and senior), education technology leads (ed tech) and high schools	Asia-others	
Domhnaill, Mohan, & McCoy (2021)	journal article	quantitative	n=206 secondary school leaders		Europe
Dykstra-Lathrop (2022)	thesis	qualitative	n=9 high school principals		North America
Ermenc, Kalin, & Mažgon (2021)	journal article	quantitative	n=144 respondents: 94 female school heads (65.7%) and 49 male school heads (34.3%)		Europe
Erol & Altunay (2022)	journal article	qualitative	n=63 G1-G12 principals		Multiple
Farhadi & Winton (2022)	journal article	qualitative	n=31 secondary school teachers		North America
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	journal article	qualitative	n>60 primary school teachers and Head Teachers		Europe
Fernandes, Wong, & Noonan (2023)	journal article	qualitative	n=22 early carreer principals from Independent schools		Australia
Ferris, Clarke, Raftery, Liddy, & Sloan (2022)	journal article	qualitative	n=41 female Pakistani school leaders, n=34 female Indian school leaders	Asia-others	
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	journal article	mixed methods	702 teachers, 7,568 students, and 2,905 parents	Asia-others	
Finch, Hernández Finch, & Avery (2022)	journal article	quantitative	The number of schools/students from each nation were as follows: Denmark (75/1,431), Slovenia (136/2,552), and Russia (192/3,516).		Multiple

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Fletcher, Klopsch, Everatt, & Sliwka (2022)	journal article	qualitative	n=14 primary school teachers, n=12 primary school principals, n=11 secondary school teachers, n=11 secondary school principals		Multiple
Fogg (2021)	journal article	qualitative	n=6 headteachers from a 'cluster' (group) of nine primary schools		Europe
Forrester, Basford, Hudson, & Pugh (2021)	journal article	qualitative	3 head-teachers, 3 primary teachers and 4 parents of primary school children		Europe
Fotheringham, Harriott, Healy, Arenge, & Wilson (2022)	journal article	mixed methods	surveyed 4,951 (5% of all schools in England); interviewed (n = 298)		Europe
Fourie & Naidoo (2022)	journal article	qualitative	3 departmental heads and 7 grade heads		Africa
Francois & Weiner (2020)	report	qualitative	n=120 principals, in 19 states, including elementary, middle and high school leaders from urban, suburban, and rural areas across the U.S		North America
Fray, Jaremus, Gore, & Harris (2022)	journal article	qualitative	n=12 primary school teachers; n=6 primary school leaders		Australia
Ghamrawi, Shal, & Ghamrawi (2023)	journal article	qualitative	n=18; 12 primary school teachers, 3 vice principals, 3 school principals	Asia-others	
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	journal article	qualitative	n= 32 urban Catholic school teachers		North America
Gkoros & Bratitsis (2022)	journal article	quantitative	n=104 primary school teachers.		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Grooms & Childs (2021)	journal article	qualitative	n=33 principals		North America
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	journal article	qualitative	n=8 public secondary school principals	Asia-others	
Gul & Khilji (2021)	journal article	qualitative	n=10 curriculum experts, n=20 principals, n=35 teachers	Asia-others	
Hadriana, Mahdum, Isjoni, Futra, & Primahardani (2021)	journal article	quantitative	n=309 principals of junior high school from twelve districts in Indonesia	Asia-others	
Haidi & Hamdan (2022)	journal article	mixed methods	n=18 parents and teachers	Asia-others	
Halevi & Schechter (2023)	journal article	qualitative	n=21 G1-G12 new school principals	Asia-others	
Hamilton, Kaufman, & Diliberti (2020)	report	quantitative	n>25,000 teachers, n>8,000 principals, n>1,000 districts		North America
Hamzah, Nasir, & Wahab (2021)	journal article	quantitative	n=402 teachers	Asia-others	
Hanafi, Taufiq, Saefi, Ikhsan, Diyana, Thoriquttyas, & Anam (2021)	journal article	qualitative	n=6 school principals, n=9 teachers	Asia-others	
Handford, Yahia, Kettaneh, Finley, Schmidt, Rinshed, Abdeddaim, & Faisthuber (2022)	journal article	qualitative	n=6 teachers		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Hatcher III & Crum (2021)	conference proceedings	qualitative	n> 40 educators		North America
Havik & Ingul (2022)	journal article	qualitative	n=248 teachers from all municipalities in Norway; 75% of the sample were female teachers, reflecting gender in primary and lower secondary schools in Norway		Europe
Hayes, Flowers & Williams (2021)	journal article	qualitative	n=10 rural principals		North America
Heidrich, Pozas, Letzel, Lindner, Schneider, & Schwab (2022)	journal article	mixed methods	online survey (n = 263 students) and from qualitative interviews (n = 56 students) were analyzed.		Europe
Herrmann, Nielsen, & Aguilar-Raab (2021)	journal article	mixed methods	qualitative interviews with leaders and teachers (N=10), self-report survey (N=80)		Europe
Heyward & Gill (2021)	Research brief	qualitative	n= 20 parents, principals, directors of special education, special education teachers, and general education teachers across the three schools.		North America
Huber & Helm (2020)	journal article	mixed methods	2222 parents, 2152 students, 1949 school staff, 655 school leaders, 58 school authority and 80 members of the school support system.		Europe
Hulme, Beauchamp, Clarke, & Hamilton (2021)	journal article	qualitative	n=12 headteachers from primary, secondary and special schools		Europe
Hunter, Hunter, Tupouniua, & Leach (2022)	journal article	qualitative	n=20 primary school teachers		Australia
Іванюк & Овчарук (2020)	journal article	mixed methods	n=607 educators from all-over Ukraine (mainly school teachers (73%), school principals, as well as		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
			methodologists and teachers of postgraduate pedagogical universities, practising psychologists, social workers, club leaders, teacher assistants and school librarians institutions and pedagogical		
Indra, Ritonga, & Kustati (2022)	journal article	quantitative	n=8 school principals, n=32 deputy principals, n=110 teachers	Asia-others	
International Literacy Centre (2020)	research brief	mixed methods	n=1,653 primary school teachers in England		Europe
Ivaniuk & Ovcharuk (2021)	journal article	quantitative	n=1463 respondents (1298 women and 149 men) – teachers, school administrators, methodologists, social pedagogues from all regions of Ukraine		Europe
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	journal article	qualitative	Quantitative: n=173 K-12 principals; Qualitative: n=49 K-12 principals		North America
James, Massiah, Pierre, Richardson, & Williams (2021)	journal article	mixed methods	n= 22 school teachers, in primary and secondary schools		North America
Jopling & Harness (2022)	journal article	others	n= 45 primary school leaders in the West Midlands, n=124 G1-G12 and special school leaders in North East of England		Europe
Julius & Sims (2020)	report	mixed methods	1233 senior leaders and 1821 teachers in 1462 primary schools (including middle deemed primary) and 691 secondary schools (including middle deemed secondary and all-through schools)		Europe
Kafa (2023)	journal article	qualitative	n=34 primary and secondary school teachers,		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Kaminskiene & Chu (2021)	journal article	quantitative	n=406 sampled school leaders of public education institutions in Lithuania (Average work experience was 30.8 years ranging from 3 to 47 years, and work experience as a school director was 14.9 years on average, from 0 to 38 years.		Europe
Kaminskienė, Tūtlys, Gedvilienė, & Chu (2021)	journal article	quantitative	n= 406 school principals: 295 (73.8%) women, 105 (26.3%) men, and 6 respondents who did not indicate gender		Europe
Kaul, Comstock, & Simon (2022)	journal article	qualitative	n=20 school principals from urban districts serving low-income communities		North America
Kaul, VanGronigen, & Simon (2020)	report	qualitative	n=120 principals, in 19 states, including elementary, middle and high school leaders from urban, suburban, and rural areas across the U.S		North America
Kavrayıcı & Kesim (2021)	journal article	qualitative	n=15 school principals with various years of experience, serving at various school levels		Multiple
Kearney, Schuck, Fergusson, & Perry (2022)	journal article	qualitative	n=8 school leaders, n=22 G1-G12 teachers, n=57 students		Australia
Khan, Kamal, Illiyan, & Asif (2021)	journal article	quantitative	n= 385 secondary school students from grades 8 to 12	Asia-others	
Kim, Lim, Yang, & Park (2021)	Working paper	qualitative	n=22 participants, including teachers (11), principals (5), district leaders (2), a teacher association representative, and parents (3) engaged in K–12 public school systems in Korea	Asia-others	
Krishnan (2023)	journal article	qualitative	n=16 G1-G12 teachers		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Kruczek, Geesa, Mayes, & Odell (2022)	journal article	mixed methods	n=153 school leaders, n=288 school counselors		North America
Lavadenz, Kaminski, Armas, & López (2021)	journal article	qualitative	5 California school districts and 25 district and school leaders with large numbers and/or larger percentages of current or former English Learners		North America
Law, Tan, Lan, & Pan (2020a)	report	quantitative	n≈550 school leaders, n≈790 teachers, 1300≈parents, and 6300≈ G1-12 and special school students	HK	
Law, Tan, Lan, & Pan (2020b)	report	quantitative	n=271 school leaders, n=49 e-learning coordinators, n=886 teachers, n=3,218 parents, n=8,028 G1-12 students	HK	
Law, Tan, Lan, & Pan (2021)	report	quantitative	271 school leaders, 49 e-learning coordinators, 886 teachers, 3,218 parents, and 8,028 students from 20 Primary schools and 31 Secondary schools	HK	
Lee (2022)	journal article	mixed methods	Quantitative: n=8 principals, n=150 teachers, n=775 parents, 1625 primary school students; qualitative = n = 8 principals, 37 teachers, 32 parents, 62 students	HK	
Lee, Mohd Zaid, Abd. Wahid, Mohamad Ashari, Suhairom, & Mohamad (2021)	journal article	qualitative	n=10 public elementary school teachers in Johor, with at least 5 years of teaching experience inn public elementary schools	Asia-others	
Leksy, Wójciak, Gawron, Muster, Dadaczynski, & Okan (2023)	journal article	quantitative	n=832 Polish school principals		Europe
Letzel-Alt, Pozas, Schwab, Schneider,	journal article	quantitative	520 primary and secondary school teachers (46% from inclusive classrooms) from Germany, Austria and Portugal		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Lindner, Dias, & Cadime (2022)					
Lien, Khan, & Eid (2022)	journal article	qualitative	n=15 primary school principals		Europe
Loloçi & Halilaj (2022)	journal article	quantitative	n=272 K-G12 teachers		Europe
Longmuir (2021)	journal article	qualitative	8 school leaders (4 in primary schools, 2 in secondary schools, and 2 in very large, multi-campus, high-fee-paying, private independent schools with both primary and secondary students. Four participants identified as female and four as male and all had a minimum of five years of experience in school leadership roles.		Australia
Lopez, Salim, Zaremohzzabieh, & Ahrari (2022)	journal article	qualitative	n=6 primary school principals	Asia-others	
Luik & Lepp (2021)	journal article	mixed methods	348 posters: 67 were (19.3%) male and 276 (79.3%) female		Europe
Lynch (2022)	journal article	qualitative	n=16 primary school teachers, n=4 primary school students		Europe
Mahmud & Castro-Kemp (2022)	journal article	mixed methods	93 educators (teachers: n = 45, 48.4%); Teaching Assistants/Learning Support Assistants: n = 23, 24.7%; Headteachers or Deputy Headteachers: n = 10, 10.8%; Special Educational Needs Coordinators (SENCOs): n = 6, 6.5%; Managers: n = 4, 4.3%; other roles: n = 3, 3.2%)		Europe
Martinez, Amick, & McAbee (2021)	journal article	mixed methods	n=2 public high school administrators from the same high school in a Southeastern U.S. state		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Masry-Herzalah & Dor-Haim (2022)	journal article	quantitative	n=383 teachers (25.7% men), of whom 58.9% taught in the Arab sector and 41.1% in the Jewish sector	Asia-others	
Masry-Herzallah & Stavissky (2021)	journal article	quantitative	n=331 Jewish and Arab teachers (74.3% women), of whom 58.9% taught in the Arab sector and the remainder (41.1%) taught in the Jewish sector	Asia-others	
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	journal article	quantitative	n= 408 school heads, of which 17 were vocational school and 388 general education school heads of primary, progimnazija, gimnazija, and other schools		Europe
McDonald, Lester, & Michelson (2023)	journal article	qualitative	Phase 1 n=29 parents of primary-school children, n=19 professionals; Phase 2 n=10 parents and 12 professionals		Europe
McLeod & Dulsky (2021)	journal article	qualitative	n=43 school organizations		Multiple
Menon (2023)	journal article	qualitative	n=30 primary school teachers		Europe
Midha (2021)	journal article	qualitative	n=six principals, in three public (two government-run, one government-aided) and three private schools (one budget and two high fee)"	Asia-others	
Mitchell (2021)	thesis	qualitative	n=16 K-G6 teachers, n=14 G6-G12 teachers		North America
Mohan, Carroll, McCoy, Mac Domhnaill, & Mihut (2021)	journal article	mixed methods	Quantitative data: n=?; Qualitative data: n=10 school leaders		Europe
Möhlen & Prummer (2023)	journal article	qualitative	11 teachers and special educators (quotes marked with T1–11) represent the in-service level and the work with students. 1 school psychologist, 2 school principals, 2 policymakers from the school board.		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Mulhern & Steiner (2022)	report	qualitative	2020 LTS: n=2279 G9-12 teachers, n=640 high school principals; 2021 LTS: n=2126 G9-12 teachers, n=702 high school principals		North America
Mullen & Badger (2023)	journal article	qualitative	n=14 middle school teachers		North America
Munastiwi, Murfi, Sumarni, Purnama, Naimah, Istiningsih, & Arini (2021)	journal article	qualitative	n=29 teachers in eight schools (four national schools and four Islamic schools)	Asia-others	
Mundy, Manion, Proulx & de Britto (2022)	journal article	qualitative	n=31 K-G12 school administrators, n=156 K-G12 teachers		Multiple
Murphy & Devine (2023)	journal article	qualitative	n=11 primary school principals		Europe
Mutongoza, Olawale, & Mzilikazi (2021)	journal article	qualitative	n=4 rural school principals (working experience ranged from 9-13 years)		Africa
Namkung, Goodrich, Hebert, & Koziol (2022)	journal article	quantitative	n=582 elementary school teachers		North America
Nelson & Sharp (2020)	report	quantitative	1233 senior leaders and 1821 teachers in 1462 primary schools (including middle deemed primary) and 691 secondary schools (including middle deemed secondary and all-through schools),		Europe
Newberry & Hinchcliff (2023)	journal article	qualitative	n=2 teachers		North America
Niño & Perez-Diaz (2021)	journal article	qualitative	n= 25 educators (10 males, 15 females)		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Niu, Lee, Hughes, Xu, & Zhu (2022)	journal article	qualitative	n=16 (2 males and 14 females) K-12 teachers from China and the U.S. (The age of participants ranged from 24–52.)		Multiple
O'Toole & Simovska (2022)	journal article	qualitative	n=15 G1-G12 school teachers and leaders		Europe
Ogawa, Kawamura, & Kojima (2022)	journal article	quantitative	n=227 special needs teachers	Asia-others	
Okilwa & Barnett (2021)	journal article	qualitative	n= 74 campus administrators, (10 males, and 35 females), consisting principals and assistant/vice principals from five school districts within the county		North America
Orbach, Fritz, Haase, Dowker, & Räsänen (2023)	journal article	quantitative	n=484 G3-G4 students		Europe
Oyinloye (2020)	Journal article	qualitative	n=3 secondary teachers (one biology, the other two are from the physics and chemistry.		Africa
Palau, Fuentes, Mogas, & Cebrián (2021)	Journal article	qualitative	n=48 school principals from different types of schools, located in urban and rural environments, and from diverse socioeconomic statuses.		Europe
Parmigiani, Benigno, Giusto, Silvaggio, & Sperandio (2020)	Journal article	qualitative	n=785 teachers from schools located in the Genoa region of northern Italy.		Europe
Pattnaik, Nath, & Nath (2023)	Journal article	qualitative	n=18 female lower primary grade teachers	Asia-others	
Pino-Yancovic, Ahumada, DeFerrari, Correa, & Valenzuela (2022)	journal article	mixed methods	n= 54 headteachers		South America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Pollock (2020)	journal article	qualitative	n= 17 Ontario principals		North America
Price & Mansfield (2021)	journal article	qualitative	"former district superintendent" and "personal and professional connections"		North America
Ramakrishna & Singh (2022)	journal article	qualitative	n=20 school teachers in the Delhi National Capital Region	Asia-others	
Randjelovic, Karalic, Djukic, & Aleksic (2022)	journal article	quantitative	n=28,186 persons from primary schools in Belgrade: school principals (113), school teachers (2,550), students (10,484) and their parents/legal guardians (15,039). 64.6% Of the total number of surveyed school principals, 64.6% were female and 35.4% male.		Europe
Reyes-Guerra, Maslin-Ostrowski, Barakat, & Stefanovic (2021)	journal article	qualitative	n=9 principals in Florida		North America
Roffi, Ranieri, & Bruni (2020)	journal article	mixed methods	Quantitative: n=3 members of school leaders' team, n=34 teachers, n=163 students; Interview: n=1 headmaster; Focus group n=17 teachers.		Europe
Romero, Zullo, & Covos (2023)	journal article	qualitative	252 K-12 school principals		South America
Rumeli, Rami, Wahat, & Samsudin (2022)	journal article	qualitative	n=five informants (their ages ranged from 48 to 50 years old, and two of them had a master's degree while the balance had a bachelor's degree. They are made up of three females, and the rest are male. They also have 19 to 24 years of working experience in the education sector	Asia-others	
Sari, Bittmann, & Homuth (2023)	journal article	quantitative	n=3,714		Europe

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Schult, Mahler, Fauthm, & Lindner (2022)	journal article	quantitative	n > 80,000 incoming fifth-graders in public schools		Europe
Senft, Liebhauser, Tremschnig, Ferijanz, & Wladika, (2022)	journal article	mixed methods	n=1,281 G5-13 teachers		Europe
Shaked (2022)	journal article	qualitative	n=36 elementary school principals	Asia-others	
Shaked & Benoliel (2022)	journal article	qualitative	n=33 elementary school principals	Asia-others	
Shamburg, Amerman, Zieger, & Bahna (2022)	journal article	mixed methods	n=708 public school teachers		North America
Sharp & Nelson (2021)	policy brief	qualitative	n= 50 senior leaders in mainstream primary and secondary schools		North America
Sharp, Sims, & Rutt (2020)	report	mixed methods	n=1,233 senior leaders in publicly-funded, mainstream primary and secondary schools in England		Europe
Smith & de Klerk (2022)	journal article	qualitative	n=3 school leaders, n=2 school teachers		Africa
Smith, Nadeau, Archambault, Guimond, St-Amand, Fitzpatrick, & Gagnon (2022)	journal article	quantitative	n=90 Canadian high school adolescents in grades 9 and 10		North America
Stephenson, Hardy, Seylar, Wayman,	report	qualitative	3 district leaders, 8 principals.		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Peters, Bellin, & Roschelle (2021)					
Sum (2022)	journal article	qualitative	n=4 school leaders		Australia
Szempruch, Potyrała, Smyła, & Tomczyk (2023)	journal article	quantitative	n=43 heads of school and 484 teachers from primary schools		Europe
Tabatadze & Chachkhiani (2021)	journal article	qualitative	29 school administrators, 29 teachers, and 12 parents.		Europe
Tamar, Yaffa, Lea, Haia, & Nitzan (2023)	journal article	qualitative	n=16 female Israeli Jewish elementary school teachers	Asia-others	
Tamtik & Darazsi (2022)	journal article	qualitative	autoethnographic study with use of documents pertaining government communication		North America
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	report	quantitative	n=271 school leaders, n=49 e-learning coordinators, n=886 teachers, n=3218 parents, n=8028 primary and secondary school students	HK	
Thornton (2021a)	journal article	qualitative	n=18 school principals, from a range of secondary schools		Australia
Thornton (2021b)	journal article	qualitative	n=18 school principals from a range of secondary schools		Australia
Tomasik, Helbling, & Moser (2020)	journal article	quantitative	n=28,685 pupils (n=13,134 in primary school and n =15,551 in secondary school)		Europe
Trinidad (2021a)	journal article	quantitative	n=1,000 teachers, n=957 school leaders		North America
Trinidad (2021b)	journal article	quantitative	n = 1,061 teachers instructing youths aged 5 to 18		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
van Cappelle, Chopra, Ackers, & Gochyyev (2021)	journal article	quantitative	parents of children aged 5–18 years (51 % fathers, 40 % mothers, and 9 % guardians), government schoolteachers and adolescents between 14–18 years old, respectively	Asia-others	
Velasco, Cominelli, Scattola, & Celata (2021)	journal article	qualitative	n=63 middle school expert teachers, principals or coordinators in life skill education		Europe
Vilchez, Kruse, Puffer, & Dudovitz (2021)	journal article	qualitative	n= 19 physical education; teachers and school health experts across 21 California school districts		North America
Virella & Cobb (2021)	journal article	qualitative	n=9 principals, located in seven schools in California, Connecticut, and New York, with five principals serving elementary schools, two serving middle schools, and two leading high schools.		North America
Virella (2023)	journal article	qualitative	n=6 G1-G8 novice principals		North America
Walker, Sharp, & Sims (2020)	report	quantitative	1233 senior leaders and 1821 teachers in 1462 primary schools (including middle deemed primary) and 691 secondary schools (including middle deemed secondary and all-through schools)		Europe
Wang, Yang, & van Aalst (2021)	journal article	qualitative	3 curriculum officers, 7 principals, and 30 course teachers; 1409 students from three rural primary schools.	Asia-others	
Watson & Singh (2022)	journal article	mixed methods	Primary and secondary school leaders		Australia
Weiner, Francois, Stone-Johnson, & Childs (2021)	journal article	qualitative	n=54 participants, (urban n = 37 and suburban settings, n = 17)		North America

Authors (Year)	Study types	Research designs	Participants	HK or Asia (other than HK)	Other parts of the world/ International studies
Westberry, Hornor, & Murray (2021)	journal article	mixed methods	n=270 principals and district officials in South Carolina		North America
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	journal article	mixed methods	Quantitative: n=95 school leader participants; Qualitative: n=9 school leaders		North America
White, Harmon, Johnson, & O'Neill (2022)	journal article	qualitative	n=11 school leaders		Multiple
Wilcox (2022)	journal article	qualitative	Case study, G1-12 rural school		North America
Willermark (2021)	journal article	mixed methods	n=286 school teachers		Europe
Willermark & Islind (2023)	journal article	mixed methods	n=105 school leaders		Europe
Wortham & Grimm (2022)	journal article	qualitative	Case study, male high school principal		North America
Yang, Manchanda, & Greenstein (2021)	journal article	quantitative	n= 321 educators, in a large, urban school district in northern California.		North America
Yates, Starkey, Egerton, & Flueggen (2021)	journal article	mixed methods	n = 1975 high school students, in their final two years of schooling, Years 12 and 13		Australia
Yıldız Şal & Göçen (2022)	journal article	qualitative	n=20 public school teachers		Multiple
Zincirli (2021)	journal article	qualitative	n=46 school administrators (Principal or Deputy Principal) working in Elazığ province.		Multiple

Table 2

Unprepared to implement rapid pandemic policies

Authors (Year)	Findings
Adams, Cheah, Thien, & Md Yusoff (2021)	Adapting to online operations and documentation
Anderson, Hayes, & Carpenter (2020)	Uncertainty and stress in preparation for school reopening and adjusting to new teaching modes and safety protocols
Aytaç (2020)	Half of school administrators lacked emergency action plan, so they followed ministry's instructions. School administrators highlighted importance of technology leadership and crisis management during pandemic.
Baxter, Floyd, & Jewitt (2023)	Long-term obstacles to digital integration and planning for some schools
Bharaj & Singh (2021)	Unclear, inconsistent policy guidelines, diverse community and family situations
Bozkurt (2023)	Need for flexible planning because of fluidity in pandemic
Burton, Rigaud, & Googins (2021)	School leaders confused about transition to online teaching and had to adapt leadership (supervision, organizational management, communication) accordingly. No guidance and support from central or district office. Inequity in technology access and online training among schools.
Carter, Cortez Ochoa, Leonard, Nzaramba, & Rose (2022)	Lack of preparation for emergencies
Chaaban, Sawalhi, & Du (2021)	Inconsistent, ambiguous government regulations and guidelines
Da'as, Qadach, & Schechter (2023)	Uncertainty and confusion because of unclear, inconsistent policy guidelines
De Voto, Superfine, & DeWit (2023)	Sense-making needed to implement loose, untimely, insufficient federal, state, local authority guidelines
Demeshkant, Schultheis, & Hiebl (2022)	Despite lack of institutional support, Polish and German school principals argued that their teaching staff adapted quickly to impact of pandemic on education.
Dilekçi (2021)	Decision-making under uncertainty, planning had to address excessive changes
Ermenc, Kalin, & Mažgon (2021)	Legal and formal matters for employees' status, contractual relations, etc.
Erol & Altunay (2022)	Difficulty in strategic leadership for principals during pandemic

Authors (Year)	Findings
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Need for balance between strategic leadership and caring for individuals
Fotheringham, Harriott, Healy, Arenge, & Wilson (2022)	School leaders stressed from quality, quantity, and frequency of top-down communication.
Grooms & Childs (2021)	Principals needed sensemaking to implement policy guidelines and engaged with teachers.
Hatcher III & Crum (2021)	Difficulties implementing instructional leadership during pandemic
Havik & Ingul (2022)	Lacked national guidelines for providing online teaching
Hulme, Beauchamp, Clarke, & Hamilton (2021)	Headteachers felt vulnerable and alone in addressing unknown risks and changing guidelines.
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	Principals made critical decisions to enforce state and district mandates .
James, Massiah, Pierre, Richardson, & Williams (2021)	Teachers had little direction and support from education ministries and their school leadership.
Kaul, Comstock, & Simon (2022)	Principals used pre-existing school structures and relied on both district guidance and conditions in their leadership through the pandemic. They were not satisfied with the district guidance and abided, challenged, or subverted the guidance.
Lien, Khan, & Eid (2022)	Schools had to adapt continuously due to unpredictable situation.
Mahmud & Castro-Kemp (2022)	Lack of guidance from government
Martinez, Amick, & McAbee (2021)	Informational/procedural ambiguity, ever-changing policies
Niu, Lee, Hughes, Xu, & Zhu (2022)	Lack of authorization from higher-level administration
Palau, Fuentes, Mogas, & Cebrián (2021)	Schools varied in their response strategy because there was no emergency planning.
Price & Mansfield (2021)	State leaders failed to provide guidance and support to schools during crisis.
Romero, Zullo, & Covos (2023)	Principals had difficulty with regulations and working conditions.

Authors (Year)	Findings
Sharp & Nelson (2021)	Government's approach to learning recovery perceived as misconceived and inadequate. Schools wanted to focus on emotional recovery instead of academic 'catch up'. They also wanted adequate government funding for schools to use to meet their own needs for school recovery over a period of years.
Sharp, Sims, & Rutt (2020)	Senior leaders wanted clear, detailed, and realistic government guidance for school opening.
Tamtik & Darazsi (2022)	Principals' coercive pressures related to creativity and inventive leadership practices. Their mimetic pressures could eventuate in copying. Their normative pressures related to enhanced foundational knowledge.
Virella (2023)	Novice principals did not benefit from limited district leadership guidance, so they were restricted in their response to pandemic.
Walker, Sharp, & Sims (2020)	School leaders were concerned with government directives and future school opening.

Table 3

Intense Need to Engage with Different Stakeholders

Authors (Year)	Findings
An, Mongillo, Sung, & Fuentes (2022)	Providing support for home and at school
Argyropoulou, Syka, & Papaioannou (2021)	Need for daily communication with school community (teachers, students, parents) for provision of guidance and psychological support
Baxter, Gardner, & Southall (2023)	Educators challenged in having to rapidly respond to school communities' needs and manage their own emotional reactions.
Bharaj & Singh (2021)	Schools adopted flexible, collaborative approach for mutual support of members of their communities, sharing of resources, and addressing needs and preferences of different stakeholders.
Brinkmann, Cash, & Price (2021)	Communicating and collaborating with different stakeholders and partners to address families' basic needs and expectations
Brock, Beach, Musselwhite, & Holder (2021)	Schools maintained virtual communication, contact, and relationships with teachers and students.
Burkot, Sepioł, & Demeshkant (2021)	Meeting needs for face-to-face relationships due to absence of peer meetings and direct contacts
Cohen & Willemsen (2022)	Teachers exercised different types of care for students and their families, colleagues, school community, own families, and themselves.
Da'as, Qadach, & Schechter (2023)	Making rapid, accurate decisions, effective communication, and collaboration with stakeholders
Decman, Badgett, & Simieou (2021)	Importance of schools maintaining relationships among teachers, students, parents, and community in virtual or hybrid environment. Importance for timely, clear, and effective communication and information flow.
Dilekçi (2021)	Shortage of technological infrastructure and materials impeding communication; less online participation
Ermenc, Kalin, & Mažgon (2021)	Communication with Education Ministry and other responsible services, parents and students.
Erol & Altunay (2022)	Principals faced difficulties in exercising social leadership during pandemic.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Schools managing different needs of students and families (technology access, food, health, and safety)

Authors (Year)	Findings
Forrester, Basford, Hudson, & Pugh (2021)	Difficult to maintain communication, engagement and motivation with pupils and parents
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Balancing academic, social, emotional, and spiritual needs of students and families,
Hayes, Flowers & Williams (2021)	Rural school leaders balancing local and district needs with community values in decision-making
International Literacy Centre (2020)	Resilient education system required collaboration and reflective dialogue amongst individuals.
Kruczek, Geesa, Mayes, & Odell (2022)	Difficulties in communicating (e.g., reaching out, providing feedback, collaborating) with students, families, staff, and administrators; need to access students and families (for tracking students' class attendance, engaging students, addressing students' basic needs)
Martinez, Amick, & McAbee (2021)	Different methods of communication
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	Difficulties in setting up regular, effective communication with parents, students, and authorities
Murphy & Devine (2023)	Important to maintain relationships and communication between school principals, teachers, and wider school community; value of collaborative practices within school and between school and system (e.g., school self-evaluation efforts to determine leadership impact, which then informed school leadership's sensemaking and adaptive leadership)
Okilwa & Barnett (2021)	Challenges in technology-driven communication and engagement with students, parents, and community
Palau, Fuentes, Mogas, & Cebrián (2021)	Essential communication with families
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	Required digital parenting support
Thornton (2021a)	Clear, compassionate communication with all stakeholder groups
Westberry, Hornor, & Murray (2021)	Principals' need for increased presence and communication, demonstrating calm during uncertainty, and showing flexibility, empathy, and patience

Authors (Year)	Findings
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Communication with families
Yang, Manchanda, & Greenstein (2021)	Educators experienced compassion fatigue in connecting with students.

Table 4
Difficulty in Transitioning to and Implementing Online Teaching

Authors (Year)	Findings
Adams, Cheah, Thien, & Md Yusoff (2021)	Lacked technological tools and Internet access
Akbaba Altun & Bulut (2021a)	Sudden transition from face-to-face to online lessons requiring technological tools, Internet, and teachers and students' digital competence. Difficulties monitoring students' learning progress, engagement, and well-being online.
An, Mongillo, Sung, & Fuentes (2022)	Lacked access to technological tools and Internet; difficulties in using instructional technology
Asio & Bayucca (2021)	Schools not ready to conduct online teaching. Challenges included Internet connection, preparation, competencies, funding, and online learning devices.
Aytaç (2020)	Lacked access to live television/education broadcasts
Bergdahl & Nouri (2020)	Schools not ready to conduct online teaching because of lack of access to technological tools and Internet and because teachers lacked pedagogical strategies for online teaching.
Berkovich (2023)	Principals and teachers needed new skills and resources for online teaching.
Bharaj & Singh (2021)	Sudden transition from face-to-face to online lessons disrupted routines, expectations, and quality of education.
Bozkurt (2023)	Schools had to adapt to online teaching requiring different pedagogical and administrative skills and strategies.
Brinkmann, Cash, & Price (2021)	Designing and implementing teaching and curriculum for virtual, hybrid or modified in-person learning
Brock, Beach, Musselwhite, & Holder (2021)	Sudden transition from face-to-face to online lessons with limited resources.
Burkot, Sepioł, & Demeshkant (2021)	Needed computer equipment and network connection for online teaching
Cao, Zhang, Chan, & Kang (2021)	Teachers emphasized importance of student self-discipline for online lessons and need to expand technology use and engage students during online teaching.
Chaaban, Sawalhi, & Du (2021)	Primary school teachers not prepared for online teaching
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	Issues with technical equipment and online learning programs

Authors (Year)	Findings
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Teachers' difficulties in relating curriculum to practical applications and adapting instruction for online teaching
Da'as, Qadach, & Schechter (2023)	Switch from face-to-face to online teaching needed new pedagogies, technologies, and support for students and families
De Voto, Superfine, & DeWit (2023)	Sudden transition from face-to-face to online lessons
Demeshkant, Schultheis, & Hiebl (2022)	Challenges with organization and maintenance of sustainable online learning and technological integration and support
Demirbilek (2022)	10.2% of school leaders and teachers perceived that students could benefit from online lessons; 49.7% perceived that the benefit was partial and 40.1% perceived it inappropriate to do online lessons.
Doll, Ragan, Calnin, Mason, & House (2021)	Technological challenges and need to adapt pedagogy for online teaching
Ermenc, Kalin, & Mažgon (2021)	Inadequate preparation, infrastructure, support and guidance for online teaching; need to support teachers to use online tools and implement online teaching
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Schools lacked guidance and infrastructure for online lessons.
Ferris, Clarke, Raftery, Liddy, & Sloan (2022)	Little time for adaptation from switch to online lessons
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Challenges with adequacy and effectiveness of technology-based teacher education and support for online lessons
Forrester, Basford, Hudson, & Pugh (2021)	Lacked time and resources to prepare for sudden transition to online lessons
Francois & Weiner (2020)	Educators and families experienced confusion, concern, and frustration because of sudden transition to online lessons
Ghamrawi, Shal, & Ghamrawi (2023)	Unprecedented impact on curriculum delivery, assessment, communication, and professional development from transition to online lessons
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Challenges in (a) selecting and implementing effective online learning platforms, resources, and assessments; and (b) training teachers, students, and parents on using these platforms and resources
Gkoros & Bratitsis (2022)	Teachers and students lacked adequate preparation or training for sudden transition to online lessons

Authors (Year)	Findings
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	School leaders and teachers experienced challenges in managing online lessons and preparing instructional materials.
Gul & Khilji (2021)	Teachers had difficulties adapting tightly prescribed curriculum for online teaching.
Haidi & Hamdan (2022)	Challenges with poor technology and Internet infrastructure
Hamilton, Kaufman, & Diliberti (2020)	Financial, technological, and policy-related challenges for implementing online lessons
Havik & Ingul (2022)	Challenges of different levels of digital skills and tools among teachers and students and for students returning to school after long school closure.
Huber & Helm (2020)	Challenges of conducting online lessons requiring technical equipment, parental support, teacher collaboration and professional development, and instructional quality
Ivaniuk & Ovcharuk (2021)	Challenges from inadequate material and technological support for students and schools, lack of quality Internet connection, and poor teachers' digital competence
James, Massiah, Pierre, Richardson, & Williams (2021)	Teachers needed access to free resources and tools and professional learning to conduct online teaching.
Kaminskiene & Chu (2021)	Schools focused on staff training and preparing staff for online teaching during first two weeks of school closure.
Kavrayıcı & Kesim (2021)	Principals faced challenges in decision-making on educational and instructional processes.
Kearney, Schuck, Fergusson, & Perry (2022)	Teachers and students experienced challenges due to limited access to technology access (devices, internet, or digital tools) and under-preparation for online lesson.
Kim, Lim, Yang, & Park (2021)	Participants originally perceived the pandemic as temporary but later experienced "fear" and "chaos" when they had to implement online and hybrid lessons.
Kruczek, Geesa, Mayes, & Odell (2022)	Challenges pertained to (a) lack of devices, poor Internet connectivity, and technical glitches; and (b) shifting to online lessons and developing district plans (adapting curriculum, providing training, accountability)
Lee, Mohd Zaid, Abd. Wahid, Mohamad Ashari, Suhairom, & Mohamad (2021)	Challenges pertained to teachers (a) lacking knowledge and skills; (b) lacking guidelines; (c) having difficulty in engaging students; and (d) having technical difficulties in facilitating students and parents' access to online learning platform
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Sudden transition to online teaching without sufficient preparation, resources, or training

Authors (Year)	Findings
Lopez, Salim, Zaremohzzabieh, & Ahrari (2022)	Lacked equipment and infrastructure (Internet connection, devices, data) to support online lessons
Martinez, Amick, & McAbee (2021)	Lacked technology access and instruction
Masry-Herzalah & Dor-Haim (2022)	Technologically competent teachers were more successful in online teaching.
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	Lacked technological skills, reliable hardware, and strong Internet connections
Möhlen & Prummer (2023)	Lacked digital infrastructure
Mullen & Badger (2023)	Desirable for teachers to have more professional development for online teaching
Munastiwi, Murfi, Sumarni, Purnama, Naimah, Istiningsih, & Arini (2021)	Challenges of teachers' online teaching and digital competencies (in encouraging students' learning success and developing students' readiness and competencies to learn online)
Murphy & Devine (2023)	Systemic and school-related challenges for pedagogical and curriculum leadership
Namkung, Goodrich, Hebert, & Koziol (2022)	Most teachers employed alternative forms of instruction (e.g., online teaching) during school closure but were not instructionally effective.
Pattnaik, Nath, & Nath (2023)	Internal challenge included teachers lacking positive beliefs about online teaching; external challenges included lack of devices and Internet data, professional development and teachers' efforts, time needed to prepare materials, and classroom management
Price & Mansfield (2021)	Lacked devices and reliable broadband connection
Randjelovic, Karalic, Djukic, & Aleksic (2022)	Challenges included low levels of teachers and students' digital competencies, limited access to digital devices and Internet, and difficulties in engaging students
Roffi, Ranieri, & Bruni (2020)	Need for competency development for teachers and students to enhance teaching effectiveness and include interdisciplinary learning activities for students
Shamburg, Amerman, Zieger, & Bahna (2022)	Challenges from teachers not meeting students face-to-face.
Sharp & Nelson (2021)	Challenges from social distancing: teachers unable to circulate to give students feedback on work, and students had little peer interactions
Szempruch, Potyrała, Smyła, & Tomczyk (2023)	Challenges from teachers not being creative or adaptable when switching to online teaching
Tabatadze & Chachkhiani (2021)	Teachers not ready for online teaching

Authors (Year)	Findings
Thornton (2021a)	Challenge of preparing teachers and students for online lessons for unknown period of time
Walker, Sharp, & Sims (2020)	Challenge of teachers supporting students' online learning
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Challenges related to teachers' professional development and online instructional practices
Willermark (2021)	Challenges with less teacher-student interactions and control over students and their activities
Zincirli (2021)	Lacked computers/tablets, Internet access, and technical infrastructure

Table 5

Achievement Gaps and Socioemotional Well-being for Disadvantaged Students

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Students from disadvantaged backgrounds who missed school or who were not engaged during online lessons were most affected by pandemic.
Akbaba Altun & Bulut (2021a)	Schools had to support students who faced obstacles (lack of devices, Internet access, parental guidance) to online learning.
Anders, Macmillan, Sturgis, & Wyness (2022)	Students from low-socioeconomic status families were more affected by home-based online learning, school reopening, and examination cancellations when compared to high-SES peers.
Anderson, Hayes, & Carpenter (2020)	Low-income, rural, and marginalized students lacked resources and access to technology and Internet for online learning.
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	Digital divide between rural and urban areas
Bhopal & Myers (2023)	Black and ethnic minority students were less satisfied with measures to assess their grades when compared to White students and students from independent fee-paying schools.
Bozkurt (2023)	Difficulties for schools to provide online lessons for students and teachers from rural or low-income areas
Brinkmann, Cash, & Price (2021)	Challenges in providing equitable access to technology and Internet for students and teachers with different needs and from different locations
Brock, Beach, Musselwhite, & Holder (2021)	Access and equity gaps from online learning
Cao, Zhang, Chan, & Kang (2021)	Students with special educational needs were more affected than typically functioning peers.
Carter, Cortez Ochoa, Leonard, Nzaramba, & Rose (2022)	Students from low-income families and rural areas benefitted least from online learning.
Chaaban, Sawalhi, & Du (2021)	Differences in availability and quality of technological and financial resources among schools and households affected student learning.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Students from diverse and disadvantaged backgrounds lacked physical learning opportunities, social and emotional support, and meal assistance because they could not attend school.

Authors (Year)	Findings
de Klerk & Palmer (2021)	Some schools could not provide online lessons or support, so some teachers and students experienced discrimination-related stress.
De Voto, Superfine, & DeWit (2023)	Students who were 'traditionally underserved' were adversely affected in their learning by the pandemic.
Diliberti, Schwartz, Hamilton, & Kaufman (2020)	Schools were concerned about not providing equitable learning to all students, lower achievement for students from low-income families and homeless students.
Doll, Ragan, Calnin, Mason, & House (2021)	Challenges of complex, inconsistent student and parent experiences
Domhnaill, Mohan, & McCoy (2021)	Student engagement in online lessons was more negatively affected in schools with lower coverage of high-speed broadband.
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Digital divide in availability and accessibility of devices and internet for online lessons
Forrester, Basford, Hudson, & Pugh (2021)	Challenges of digital divide, differences in skills and technology access among teachers and families
Francois & Weiner (2020)	Equity concerns included lack of technology and Internet access, learning materials, and other services for students and families
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Digital divide and homework gap for students from low-income or rural households because schools could not provide devices and Internet access
Gkoros & Bratitsis (2022)	Difficulties for schools to provide access, support, and feedback to students with disabilities or special needs
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	Gaps and inequities related to students' access to learning materials, devices, and Internet connection
Hamilton, Kaufman, & Diliberti (2020)	Students with disabilities, English language learners, homeless students, and students in high-poverty schools faced inequities in accessing high-quality educational supports. Schools had difficulties engaging students from secondary schools, high-poverty schools, and schools with more than 50 % ethnic minority students.
International Literacy Centre (2020)	Poverty imposed challenges for disadvantaged communities and schools that worked with them.
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	Principals made decisions on addressing equity gaps for students.

Authors (Year)	Findings
Julius & Sims (2020)	Concerns about welfare of vulnerable students in most deprived schools; challenges included these students not being engaged in online lessons, not being accessible, and not having parental support
Khan, Kamal, Illiyan, & Asif (2021)	Implementation of online lessons depended on Internet quality, prior technology knowledge, family income, maternal education, and number of rooms for students.
Krishnan (2023)	Equity gaps for students with special educational needs due to teachers' deficit thinking, lack of planned support for parents and students, and homogenous teaching practices
Kruczek, Geesa, Mayes, & Odell (2022)	Vulnerable students (special educational needs, low-income families, rural communities, marginalized groups) lacked resources and support.
Law, Tan, Lan, & Pan (2020a)	Cumulative adverse effects on disadvantaged students from socioeconomic and digital divides
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Increased inequality for students from low socioeconomic families or students with special educational needs
Lien, Khan, & Eid (2022)	Schools were worried about students with special educational needs.
McDonald, Lester, & Michelson (2023)	Students with special educational needs or pre-existing anxiety problems had difficulty in attending lessons.
Mohan, Carroll, McCoy, Mac Domhnaill, & Mihut (2021)	Students whose parents were better educated had higher levels of attendance and engagement in online lessons.
Möhlen & Prummer (2023)	Guidelines and policies for students with special educational needs were absent or discriminatory.
Mulhern & Steiner (2022)	Access to supports for postsecondary transitions were least available to underachieving students and those who did not ask for these supports when compared to high-achieving students.
Namkung, Goodrich, Hebert, & Koziol (2022)	Students from disadvantaged backgrounds were perceived by teachers to be more adversely affected in their learning.
Nelson & Sharp (2020)	Students in most deprived schools were absent from schools more often than peers in other schools; their parents withdrew them from schools before schools closed and were less likely to send them back to schools after schools reopened. Teachers were concerned about these students being less likely to complete their homework or contact their teachers. These students learned less curricular contents and had less parental support and technology access.
O'Toole & Simovska (2022)	Concerns for vulnerable or marginalised students who needed schools to provide safety and security but that were now closed during pandemic

Authors (Year)	Findings
Ogawa, Kawamura, & Kojima (2022)	Special education teachers faced challenges pertaining to managing guardians, chasm between schools and policies (national, local), peer relationship issues, heavy workload, lack of specialization, and problems in managing COVID-19.
Orbach, Fritz, Haase, Dowker, & Räsänen (2023)	Risk factors for students' online learning included (a) lack of a tablet/laptop and Internet and (b) having to learn with siblings and without an adult family member present at home.
Palau, Fuentes, Mogas, & Cebrián (2021)	Digital divide for teachers and students
Price & Mansfield (2021)	Students lacked technology devices and broadband access
Reyes-Guerra, Maslin-Ostrowski, Barakat, & Stefanovic (2021)	Participants promoted call to action for equity.
Sari, Bittmann, & Homuth (2023)	Students received less parental support for their learning if their parents were less educated, there were fewer family resources, and there were less technical equipment at home.
Schult, Mahler, Fauthm, & Lindner (2022)	Low-achieving students and students from schools with less sociocultural capital had larger learning losses.
Sharp & Nelson (2021)	Students with challenging home circumstances and special educational needs and disabilities were most affected by pandemic.
Sharp, Sims, & Rutt (2020)	Schools with more students on free school meals experienced a larger decrease in student attendance.
Tabatadze & Chachkhiani (2021)	Transition to online lessons worsened inequities in educational access.
Trinidad (2021a)	Equity issues for students who had multiple disadvantages
Wang, Yang, & van Aalst (2021)	Efforts to achieve digital equity and education for all students included providing resources and support to teachers and students, ensuring effective teachers' online course design and organization, and teacher-student communication.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Challenge of digital divide
Wortham & Grimm (2022)	School administrators were confronted with issues of inequities when they implemented online learning plans.

Table 6

Learning Loss

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Large differences in academic progress among students in autumn 2020
Adams, Cheah, Thien, & Md Yusoff (2021)	Schools monitoring students' learning progress
Alsaleh (2021b)	Challenge of students' learning loss
Anderson, Hayes, & Carpenter (2020)	Sports and end-of-year activities were cancelled in view of school closure.
Aytaç (2020)	Some parents unable to create home learning environment
Berkovich (2023)	Uncertainty and turmoil caused by the pandemic adversely affected instructional quality and students' learning outcomes.
Brock, Beach, Musselwhite, & Holder (2021)	Schools adapted online instruction according to state and local authorities' changing guidelines and expectations and assessed quality and effectiveness of online instruction.
Brom, Lukavský, Greger, Hannemann, Straková & Švaříček (2020)	Challenges included parents' lack of time, technology issues, and inadequate content knowledge and teaching skills.
Chaaban, Sawalhi, & Du (2021)	Difficulties in keeping students engaged and participative and ensuring their well-being in online and blended learning.
Chan, Espejel López, Pinto Loria, & Briceño (2020)	78.4% of teachers perceived that most of their students had 'not very good' to 'very bad' Internet access. Few teachers did instructional planning for effectiveness.
Cordeiro, Gluckman, & Johnson (2021)	Lack of preparedness for drastic switch to online lessons led to students' learning loss.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Unsatisfactory quality of in-person, hybrid, and online lessons
Decman, Badgett, & Simieou (2021)	Balancing quality of and equity in learning with transition to online learning
Ermenc, Kalin, & Mažgon (2021)	Challenges in (a) assisting students without technology access or who were disengaged in online lessons and (b) planning and implementing formative and summative assessment

Authors (Year)	Findings
Forrester, Basford, Hudson, & Pugh (2021)	Pressures of completing curriculum, assessing learning, and providing feedback
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	Lack of face-to-face interactions and feedback between teachers and learners adversely affected students' learning quality and academic progress.
Hamilton, Kaufman, & Diliberti (2020)	Challenges included incomplete curriculum coverage and ineffective online teaching, so teachers had to close gaps in students' knowledge and skills and learning loss.
Havik & Ingul (2022)	Schools had to (a) cater to teachers and students with different digital skills and tools in online lessons and (b) support students who did not attend online lessons for different reasons and hence suffered from academic and social learning losses.
International Literacy Centre (2020)	Questioned assumptions underlying current assessment and accountability systems with online lessons
Ivaniuk & Ovcharuk (2021)	Challenges of primary school students' low levels of self-organization and motivation in online lessons
James, Massiah, Pierre, Richardson, & Williams (2021)	Teachers' difficulty in accessing and communicating with students experiencing Internet connectivity issues
Kaminskiene & Chu (2021)	Challenges on lack of students' responsiveness and assessment of student achievements during online lessons
Khan, Kamal, Illiyan, & Asif (2021)	Students experienced different challenges in online lessons.
Law, Tan, Lan, & Pan (2020a)	Schools and parents' efforts to sustain learning during school closure paid off.
Lopez, Salim, Zaremohzzabieh, & Ahrari (2022)	Challenges included students not being motivated to participate in online lessons and not attending online lessons
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	Challenge in Lithuania was in ensuring instructional and assessment quality in online lessons as school heads focused on live instruction; challenge in Slovenia was in providing equal learning conditions to all students as school heads depended on students' self-regulation and parental support
Mulhern & Steiner (2022)	High school teachers provided less college and career readiness support .
Mullen & Badger (2023)	Challenge was in poor attendance in online lessons, so absent students could not learn.
Namkung, Goodrich, Hebert, & Koziol (2022)	Challenges were (a) less curriculum coverage; (b) more students needing interventions; and (c) fewer students who were ready to progress to next grade level

Authors (Year)	Findings
Orbach, Fritz, Haase, Dowker, & Räsänen (2023)	Students from homes with multiple risk factors had lower basic number skills.
Oyinloye (2020)	Spectre of further decrease in senior secondary students' pass rate if pandemic continued.
Schult, Mahler, Fauthm, & Lindner (2022)	Challenge of larger students' learning losses with longer periods of school closures. However, decrease in students' reading competence due to pandemic stopped in 2021; decrease in their mathematics competence slowed in 2021.
Senft, Liebhauser, Tremschnig, Ferijanz, & Wladika, (2022)	Teachers perceived that > 50% of students suffered from decrease in performance, concentration, and learning motivation.
Sharp & Nelson (2021)	Some secondary pupils had restricted access to practical activities or specialist areas (e.g., science labs); less non-academic enrichment (e.g., creative arts, sports, visitors, trips) because of infection control and/or priority on academic work.
Sharp, Sims, & Rutt (2020)	61 % of school leaders has significant decrease in student attendance in March 2020.
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	Parents most concerned about children's learning.
Tomasik, Helbling, & Moser (2020)	Primary school students learned less and learning gaps between students increased.
Trinidad (2021a)	Challenge in less student engagement because of more pressing issues during pandemic
van Cappelle, Chopra, Ackers, & Gochyyev (2021)	Adolescents' online learning depended on technology access rates in homes and how they used technology in learning. Their learning perceptions were related to types of online learning modality, their gender and location, and school types.
Walker, Sharp, & Sims (2020)	Teachers felt pressure of 'being responsible for estimating pupils' examination grades' .
Watson & Singh (2022)	Principals and teacher leaders' chief concern was related to online lessons.
Willermark (2021)	Challenge was that some students adapted well to online lessons but others 'disappear behind the screen'.

Table 7

Resource Shortage

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Challenges from COVID-19 restrictions and staff and student absences
Anderson, Hayes, & Carpenter (2020)	Challenge of providing food, socioemotional support, and mental health services for students and families
Arar, Sawalhi, Chaaban, Zohri, & Alhouti (2022)	Lack of involvement and support from ministries of education and other stakeholders
Argyropoulou, Syka, & Papaioannou (2021)	Increased workload because of inadequate infrastructure
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	Challenge of resource identification and distribution
Berkovich (2023)	Shortages of teachers who left because of stress, dissatisfaction, or other reasons
Bozkurt (2023)	Challenge of maintaining school-family cooperation and support which was compromised by social distancing measures and stakeholders' psychological state
Carter, Cortez Ochoa, Leonard, Nzaramba, & Rose (2022)	Gaps in school leaders and teachers' technology and training access
Cordeiro, Gluckman, & Johnson (2021)	Challenge of maintaining financial sustainability
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Federal funding froze, so schools could not provide resources and support for students, especially vulnerable or disadvantaged students.
Da'as, Qadach, & Schechter (2023)	Challenge for schools to balance preserving existing capabilities and innovation needed to address pandemic-related issues
De Voto, Superfine, & DeWit (2023)	Schools lacked planning and resources to respond to pandemic
Dilekçi (2021)	Schools received less cash donations.
Hayes, Flowers & Williams (2021)	Rural schools lacked technology and Internet access.
Ivaniuk & Ovcharuk (2021)	Lacked parental support; lower quality of educational services
Kavrayıcı & Kesim (2021)	Challenge of inadequate resources for school and students
Kruczek, Geesa, Mayes, & Odell (2022)	Less parental involvement and help-seeking behaviors
Lee, Mohd Zaid, Abd. Wahid, Mohamad Ashari, Suhairom, & Mohamad (2021)	Lack of parental support in online lessons

Authors (Year)	Findings
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Challenges for teachers included adapting to online lessons, supporting students' learning and well-being, and inadequate support and communication from authorities, schools, and parents
Lopez, Salim, Zaremohzzabieh, & Ahrari (2022)	Some parents did not value education and did not encourage their children to attend school or complete homework
Mahmud & Castro-Kemp (2022)	Challenges of staff shortages and work overload
Martinez, Amick, & McAbee (2021)	Challenges related to resource dependency
Midha (2021)	Key teaching-learning challenges in March-August 2020 pertained to ability, access, and anxiety
Möhlen & Prummer (2023)	Inclusive education during online lessons not adequately supported professionally and pedagogically.
Nelson & Sharp (2020)	Schools operated with 75% of teaching capacity when schools reopened. 26% of school leaders reported inadequate support from other agencies to address shortages.
Niu, Lee, Hughes, Xu, & Zhu (2022)	Challenges of limited resources
Sharp & Nelson (2021)	Inadequate support from specialist service (e.g., Children and Adolescent Mental Health Services, speech and language and social services)
Sharp, Sims, & Rutt (2020)	Schools needed financial help to maintain good hygiene. Schools had fewer teaching staff when they actually needed more.
Westberry, Hornor, & Murray (2021)	Principals needed knowledge of technological capabilities.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Problem of staffing shortages

Table 8

Safety and Basic Needs

Authors (Year)	Findings
Adams, Cheah, Thien, & Md Yusoff (2021)	Health and safety concerns
Akbaba Altun & Bulut (2021a)	Resource, logistics, and compliance challenges for schools to meet health and safety protocols (social distancing, mask wearing, hygiene, disinfection) if they were to remain open or to reopen.
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	Schools had to acquire and allocae safety equipment.
Brivio, Fagnani, Pezzoli, Fontana, Biffi, Mazzaferro, Velasco, & Greco (2021)	Teachers had low-to-medium self-efficacy for adopting health and safety strategies.
Cordeiro, Gluckman, & Johnson (2021)	Schools had to ensure health and safety of students and adults.
De Voto, Superfine, & DeWit (2023)	Schools had to ensure safety and well-being of students and staff.
Decman, Badgett, & Simieou (2021)	Schools were concerned with vulnerable students and staff facing health, social, or economic risks.
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Schools had to manage health and safety concerns, economic hardship, and social isolation.
Hayes, Flowers & Williams (2021)	Schools were concerned with food insecurity, poverty, and isolation for students, families, and teachers.
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	Schools made decisions based on safety concerns.
James, Massiah, Pierre, Richardson, & Williams (2021)	Teachers were worried about being infected with the COVID-19 virus after their schools had reopened.
Kaul, VanGronigen, & Simon (2020)	Principals knew that their students and staff had to feel physically and psychologically safe before they could focus on teaching and learning.
Price & Mansfield (2021)	Challenge for many students whose school meals (their source of nutrition) were disrupted during school closure.
Sharp, Sims, & Rutt (2020)	96% and 94% of senior leaders perceived frequent cleaning and regular handwashing/sanitising respectively as being very necessary/essential for safety when schools were reopened.
Walker, Sharp, & Sims (2020)	School leaders were concerned about staff health.

Table 9

Limited Scope for Teacher Leadership and Proliferation of Responsibilities

Authors (Year)	Findings
Chaaban, Sawalhi, & Du (2021)	Teachers excluded from decision-making and policy-making at systems level
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	Time management and bureaucracy needed to be improved.
Decman, Badgett, & Simieou (2021)	Schools had to upkeep teacher identify and cope with uncertainty, disruption, and change in routines, structures, and practices.
Farhadi & Winton (2022)	Administrative support and shifting contexts (external, situated, spatial) influenced teachers' policy leadership.
Ivaniuk & Ovcharuk (2021)	Teachers faced increased workload and lack of time.
Kearney, Schuck, Fergusson, & Perry (2022)	Teachers needed to adapt to new technologies and pedagogies, and manage increased communication and student monitoring.
Mitchell (2021)	Teachers assumed more unexpected roles and responsibilities and this increased workload affected their professional relationships with students, families, colleagues, and community.
O'Toole & Simovska (2022)	Teachers navigated new identities and professional boundaries when they had to support, care for and connect with students and families.

Table 10
School Leaders' Deteriorating Socioemotional Well-being

Authors (Year)	Findings
Briscoe & Nyereyemhuka (2022)	The principal forgot about her own needs in adapting to meet her school community's needs.
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	School leaders experienced alienation, marginalization, time management need, and need to improve bureaucracy
Halevi & Schechter (2023)	Principals' resilience was tested when they were coping with pandemic
Hayes, Flowers & Williams (2021)	Rural school leaders experienced uncertainty, fear, and stress from pandemic and school closure.
Jopling & Harness (2022)	Principals had low levels of job satisfaction and career choice and called for more support to help people to cope with stress and workload.
Kavrayıcı & Kesim (2021)	Principals tried their best to discharge leadership duties and responsibilities in and out of school.
Leksy, Wójciak, Gawron, Muster, Dadaczynski, & Okan (2023)	Almost 50% of principals felt angry and stressed because they felt loss of control. 30% of principals often or always felt mental and physical exhaustion during pandemic. Nearly 50% of Polish principals experienced psychosomatic complaints (muscle pain, headaches). Principals' perceived helplessness related to mental and physical exhaustion and psychosomatic complaints.
Murphy & Devine (2023)	School leaders felt emotional intensity from caring for school community's well-being.
O'Toole & Simovska (2022)	School leaders struggled with new identities and professional boundaries when supporting, caring for, and connecting with students and families.
Romero, Zullo, & Covos (2023)	Principals suffered from emotional exhaustion.
Tamtik & Darazsi (2022)	Principals suffered from emotional and physical toll.
Walker, Sharp, & Sims (2020)	More senior leaders than teachers were dissatisfied.
Watson & Singh (2022)	Principals and teacher leaders identified health and well-being as top concerns.

Table11
Teachers' Deteriorating Socioemotional Well-being

Authors (Year)	Findings
Akbaba Altun & Bulut (2021a)	School community's mental and emotional health was affected as schools (a) coped with disruption, stress, and trauma from pandemic; and (b) managed ambiguity and unpredictability of pandemic.
An, Mongillo, Sung, & Fuentes (2022)	Teachers' physical, mental, social, and emotional wellness was affected.
Arruti, Korres, & Paños-Castro (2022)	Teachers were nervous and tense. They were shocked by long periods of lockdown and restrictions in sports and leisure activities.
Aytaç (2020)	Teachers reluctant to teach in live online lectures or other programs and their motivation weakened over time.
Bharaj & Singh (2021)	Schools had to manage emotional and mental stress from pandemic and socio-political conflicts surrounding COVID-19.
Brinkmann, Cash, & Price (2021)	Schools had to support socio-emotional wellness of teachers who experienced stress, anxiety, and uncertainty.
Briscoe & Nyereyemhuka (2022)	COVID-related events upended teachers' leadership and required them to adapt to meet school community's needs.
Brock, Beach, Musselwhite, & Holder (2021)	Schools had to address teachers' socio-emotional needs.
Burkot, Sepioł, & Demeshkant (2021)	Teachers suffered from mental problems (depression, anxiety, stress).
Cohen & Willemsen (2022)	Teachers suffered from stress, anxiety, and workload, so they were unable to care for themselves.
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	Teachers experienced alienation and marginalization.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Teachers suffered from higher levels of stress, anxiety, burn-out, and isolation during pandemic. They found it difficult to maintain work-home distinction. Some teachers considered leaving the profession.
Da'as, Qadach, & Schechter (2023)	Schools had to manage emotional and psychological needs of staff suffering from stress, anxiety, and trauma.

Authors (Year)	Findings
De Voto, Superfine, & DeWit (2023)	Teachers suffered from increased turnover and burnout.
Dilekçi (2021)	Teachers suffered from lack of social interactions.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Teachers' well-being suffered from lack of physical presence and capacity to care for each other.
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Schools could not adequately address mental well-being of teachers overwhelmed by changes and uncertainties.
Hayes, Flowers & Williams (2021)	Rural school leaders had to manage uncertainty, fear, and stress experienced by school community because of pandemic and school closure.
Huber & Helm (2020)	Schools had to address effects of pandemic and school closure on health and well-being of school community.
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	School decisions often made in best interests of teachers' well-being.
James, Massiah, Pierre, Richardson, & Williams (2021)	Some teachers had to balance between supervising their children's online learning and their own online teaching.
Menon (2023)	Teachers perceived their principals to fall short in individualised consideration.
Palau, Fuentes, Mogas, & Cebrián (2021)	Teachers had difficulties self-regulating their work.
Senft, Liebhauser, Tremschnig, Ferijanz, & Wladika, (2022)	Teachers experienced challenges from increased workload, blurring of work and free time, and increased physical and mental demands. They exhibited symptoms of social withdrawal, anxiety, depression, or physical ailments.
Tamar, Yaffa, Lea, Haia, & Nitzan (2023)	Teacher found it difficult to maintain boundaries between private and working time.
Thornton (2021a)	Schools overwhelmed with supporting student and staff wellbeing.
Trinidad (2021a)	Teachers' mental and physical well-being suffered.
Walker, Sharp, & Sims (2020)	School leaders concerned about teachers' wellbeing. Some teachers pressurized because they needed to look after their children as they were working.
Watson & Singh (2022)	Teacher leaders perceived health and well-being as top concerns.

Table 12
Students' Deteriorating Socioemotional Well-being

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Secondary schools were concerned with students' emotional and mental health.
Anders, Macmillan, Sturgis, & Wyness (2022)	Female students had lower levels of wellbeing than males.
Aytaç (2020)	Students had low levels of learning motivation.
Brinkmann, Cash, & Price (2021)	Schools had to support socio-emotional wellness of students who experienced stress, anxiety, and uncertainty.
Briscoe & Nyereyemhuka (2022)	School leaders had to adapt to meet the school community's needs.
Brock, Beach, Musselwhite, & Holder (2021)	Schools had to meet students' socio-emotional needs.
Burkot, Sepioł, & Demeshkant (2021)	Students experienced mental problems (depression, anxiety, stress) caused by transition to online lessons.
Burton, Rigaud, & Googins (2021)	School leaders had to meet academic and socio-emotional needs of students who were confronted with isolation, anxiety, and safety concerns.
Cameron, Matre, & Canrinus (2022)	Students were most worried about socio-emotional consequences of pandemic.
Cao, Zhang, Chan, & Kang (2021)	Students with special educational needs suffered from poor socio-emotional well-being.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Teachers had difficulties providing guidance and support to students.
Da'as, Qadach, & Schechter (2023)	Schools had to address emotional and psychological needs of students struggling with stress, anxiety, and trauma.
De Coninck, Matthijs, & Van Lancker (2022)	Adolescents experienced increased stress due to overcrowding, financial difficulties, and domestic violence. They benefited from social support and material availability.
Dilekçi (2021)	Students' socio-emotional well-being suffered due to social isolation.
Erol & Altunay (2022)	Educators prioritized student well-being when schooling shifted from more flexible online lessons to less flexible 'business as usual' approach.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Students' well-being suffered due to social isolation and lack of opportunities to show care to each other. Schools had to cope with lack of guidance and infrastructure to address school community's well-being needs.

Authors (Year)	Findings
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Schools did not emphasize mental well-being of students who were stressed by changes and uncertainties during pandemic.
Forrester, Basford, Hudson, & Pugh (2021)	Schools were concerned about welfare, well-being, and safety of students and families, particularly the vulnerable and disadvantaged.
Fray, Jaremus, Gore, & Harris (2022)	Even short period of school closure led to significant deterioration in students' well-being and behaviour evident when they returned to school.
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Schools had to address academic, socio-emotional, and spiritual needs of students and families and manage health and safety concerns, economic hardship, and social isolation simultaneously.
Hamilton, Kaufman, & Diliberti (2020)	Schools concerned with students' socio-emotional well-being and mental health and how to engage students on COVID-19.
Hayes, Flowers & Williams (2021)	Rural school leaders had to manage uncertainty, fear, and stress during pandemic and school closure.
Heidrich, Pozas, Letzel, Lindner, Schneider, & Schwab (2022)	Online learning greatly reduced student-student and teacher-student interactions. Students experienced negative emotions because of less social contact, greater learning pressures, and less structure in learning.
Huber & Helm (2020)	Schools had to address effects of pandemic on health and well-being of school community who experienced stress and anxiety because of pandemic and school closure.
Ivaniuk & Ovcharuk (2021)	Students experienced psychological difficulties during online learning.
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	School made decisions often based on students' best interests.
Kearney, Schuck, Fergusson, & Perry (2022)	Students were less connected with teachers and peers and they experienced social isolation and mental health problems.
Palau, Fuentes, Mogas, & Cebrián (2021)	Students needed emotional accompaniment during online lessons.
Senft, Liebhauser, Tremschnig, Ferijanz, & Wladika, (2022)	Students experienced social withdrawal, anxiety, depression, or physical ailments.
Sharp & Nelson (2021)	Most senior leaders reported that some students struggled with Covid-related anxiety and that there were students engaged in self-harm.
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	Students needed more support for cyber-wellness.

Authors (Year)	Findings
Thornton (2021a)	Schools needed to support student and staff wellbeing.
Trinidad (2021a)	Students' physical and mental health suffered.
Velasco, Cominelli, Scattola, & Celata (2021)	Schools perceived usefulness of life skills education but had difficulties implementing it because of reasons related to personnel, student involvement, methods, organization and planning.
Watson & Singh (2022)	Principals and teacher leaders perceived health and well-being as top concerns.

Table 13

Adaptive Leadership

Authors (Year)	Findings
Beauchamp, Hulme, Clarke, Hamilton, & Harvey (2021)	Headteachers used their resilience premised on strengths of pre-existing structures and teams in managing predicaments and situational ambiguities of pandemic.
Burton, Rigaud, & Googins (2021)	School leaders kept to routines (e.g., morning announcements, bell schedules, teacher evaluations) even in online lessons.
Cahapay (2022)	School leaders used adaptive leadership, developed leadership practices in crisis management, managed via online means, and froze standards and patterns.
Chaaban, Sawalhi, & Lundberg (2023)	School leaders used sensemaking as relational and agentic endeavor.
De Voto, Superfine, & DeWit (2023)	School leaders used flexible and optimistic approaches to manage crisis and adapt to New Normal during pandemic. They used their leadership expertise and organizational resources and routines for sense-making and responding to crisis.
Decman, Badgett, & Simieou (2021)	School leaders used meaning-making and sense-making to understand impact of pandemic and implications for their leadership.
Fourie & Naidoo (2022)	Schools used distributed leadership (involving middle leaders) to manage demands from pandemic.
Grooms & Childs (2021)	Principals implemented changes and developed new organizational routines to support students receiving special educational services.
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	Principals followed orders and guidelines from department of education to maintain safety and wellbeing and implement online/blended lessons. They also exercised flexibility and creativity to manage changing situations.
Huber & Helm (2020)	Schools used various strategies to manage (e.g., innovating, optimizing, sustaining school operations and development), depending on resources and capacities.
Hulme, Beauchamp, Clarke, & Hamilton (2021)	Headteachers employed adaptive leadership strategies (bridging, brokering, buffering).
Kearney, Schuck, Fergusson, & Perry (2022)	Schools provided teachers with supportive and flexible working conditions, reliable leadership, effective communication, training to meet specific needs, useful collaboration, fair expectations, and affirmation.
Law, Tan, Lan, & Pan (2021)	School leaders supported middle leaders in innovative solutions for problems encountered.
Longmuir (2021)	School leaders assessed and managed risks, relationships, and resourcing.

Authors (Year)	Findings
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	School leaders exercised autonomy to implement online lessons due to lack of adequate external support.
McLeod & Dulsky (2021)	School leaders prioritized vision and values and organizational capacity-building.
Midha (2021)	School leaders worked with limited resources and moderated expectations.
Mitchell (2021)	Principals supported teachers and students . Teachers perceived importance of shared leadership, relational trust, and opportunities to practice leadership skills complemented with support, coaching, and feedback.
Niu, Lee, Hughes, Xu, & Zhu (2022)	School leaders supported teachers in daily tasks, well-being, and professional development. They also empowered and inspired teachers.
Okilwa & Barnett (2021)	School leaders adapted policy guidelines and practices for teacher and student performance, parental expectations, technology usage, and communication with stakeholders. They benefited from district leadership for guidance and constant communication and support for school operations and instructional delivery.
Reyes-Guerra, Maslin-Ostrowski, Barakat, & Stefanovic (2021)	Principals leveraged their leadership qualities (personalized and pragmatic communicator; leadership with flexibility and care; adapting rules and priorities; resilience) and schools' strengths (school context, expertise).
Rumeli, Rami, Wahat, & Samsudin (2022)	Distributive leadership enabled teachers to share responsibilities and enhance knowledge and skills .
Smith & de Klerk (2022)	Teacher leaders empowered others by being responsive, open-minded, and developing relationships.
Sum (2022)	School leaders adapted their roles and relationships and reprioritised their work and wellbeing.
Tabatadze & Chachkhiani (2021)	School leaders emphasized differentiated and decentralized management.
Thornton (2021b)	Principals used relational, distributed, and collaborative leadership. They exercised flexibility in their responses to challenges. They refocused and experimented with new ways of working.
Trinidad (2021b)	School leaders' organizational support contributed to greater teachers' satisfaction and less burnout.
Watson & Singh (2022)	Principals and teacher leaders used own leadership skills and attributes for self-management.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	School leaders exercised visionary leadership.

Authors (Year)	Findings
Willermark & Islind (2023)	School leaders exercised virtual leadership focusing on core activities, trust, personal communication with staff, clear structure, and active outreach activities.

Table 14

Community-based Leadership

Authors (Year)	Findings
Ahtiainen, Eisen Schmidt, Heikonen, & Meristo (2022)	School leaders emphasized within-school communication.
Akbaba Altun & Bulut (2021a)	Schools communicated regularly with school community to (a) obtain information on pandemic situation and actions taken; and (b) feedback on how to improve crisis response and recovery.
Akbaba Altun & Bulut (2021b)	School administrators did a lot of communication which included new styles of communication and use of social media tools.
Al-Fadala, Amenya, Fitzpatrick, Godwin, Kirby, & Korin (2021)	Schools connected with families, caregivers, and communities and professionals from other sectors.
Alsaleh (2021b)	Schools communicated with administration, district, and parents.
Anderson, Hayes, & Carpenter (2020)	Schools connected with students and families via frequent communication and online means. They celebrated achievements and milestones in creative ways.
Arar, Sawalhi, Chaaban, Zohri, & Alhouti (2022)	Schools emphasized importance of school culture, collaboration, innovation, and networking.
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	School leaders were creative and steadfast in communicating to obtain and disseminate information.
Beauchamp, Hulme, Clarke, Hamilton, & Harvey (2021)	School leaders cultivated pragmatic, versatile, and personally reassuring communication approaches with parents, staff, pupils, and different external agencies.
Bozkurt (2023)	Schools communicated and cooperated with parents via meetings, seminars, and presentations.
Brock, Beach, Musselwhite, & Holder (2021)	Schools surveyed and obtained feedback from teachers, students, and families to understand stakeholders' needs, preferences, and challenges, and adapt accordingly.
Burkot, Sepioł, & Demeshkant (2021)	Schools met with teachers, school psychologist, and students.

Authors (Year)	Findings
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Schools included caregivers to support online or hybrid lessons and maintain communication with educators.
Da'as, Qadach, & Schechter (2023)	Schools made quick decisions, communicated effectively, and collaborated with different stakeholders.
De Voto, Superfine, & DeWit (2023)	Schools communicated and collaborated with internal and external stakeholders. They obtained assistance and advice from other districts, service agencies, and boundary spanners to address their resource gaps and implement external guidance to their contexts.
Decman, Badgett, & Simieou (2021)	Schools used technology and communication tools to develop emotional connections and trust among stakeholders. They shared experiences, resources, and strategies with peers and colleagues via professional learning and collaboration.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Schools developed and maintained caring relationships with all stakeholders based on relational ethics of care (reciprocity, empathy, communication, community). They engaged with parents, local clubs, businesses, and health services to provide care for children and families.
Fernandes, Wong, & Noonan (2023)	Principals exercised emotionally intelligent leadership.
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Schools collaborated with education ministry, UNICEF, and other agencies to develop education response plan for mitigating learning loss and supporting vulnerable students. They worked with informal networks and family support to manage challenges and develop online teaching skills and resources.
Forrester, Basford, Hudson, & Pugh (2021)	Schools used digital platforms (e.g., ClassDojo) to communicate with parents, broadcast student achievements, and provide support and guidance.
Fotheringham, Harriott, Healy, Arenge, & Wilson (2022)	Schools used horizontal communication, collaboration between school leaders, and collaboration across school communities.
Francois & Weiner (2020)	Schools used existing relationships and infrastructures for collaboration, sharing resource, making decisions, and innovation among staff members and with district leaders.
Ghamrawi, Shal, & Ghamrawi (2023)	Teachers used new ways of communication with stakeholders (students, parents, colleagues) via online platforms and applications.

Authors (Year)	Findings
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Schools performed informal needs assessments and collaborated with teachers, parents, and other stakeholders to identify and address gaps in online lessons. They used various communication methods (email, phone, social media, online platforms) to maintain contact with students and families, provide feedback and support, and inspire belonging and hope.
Gkoros & Bratitsis (2022)	Schools communicated and collaborated with parents, communities, and other stakeholders to ensure continuity and quality of student learning.
Guiamalon, Lumapenet, Katog, Kalipa, & Dilna (2022)	Principals encouraged teachers and stakeholders to collaborate and support each other in providing continuation of student learning. They developed linkages with parents and community to secure resources and feedback and to monitor students' progress.
Hamilton, Kaufman, & Diliberti (2020)	Schools shared with families on helping students with learning, accessing non-instructional services, supporting students' socio-emotional needs, and promoting students' physical activity. Schools participated in new professional learning communities (online groups, webinars, district-level communities) to support online lessons.
Handford, Yahia, Kettaneh, Finley, Schmidt, Rinshed, Abdeddaim, & Faisthuber (2022)	Schools experimented with joint academic-practitioner approach that incorporated voices of different stakeholders in shared learning community for collaborative problem-solving.
Hatcher III & Crum (2021)	School leaders communicated with stakeholders to address issues on technology use and equity.
Hayes, Flowers & Williams (2021)	Rural school leaders connected with stakeholders via constant communication, virtual check-ins, home visits, and celebrations. They promoted home-school cooperation to increase student attendance.
Heyward & Gill (2021)	Schools facilitated collaboration between special and general educators. They communicated and collaborated with families of students with special educational needs.
Huber & Helm (2020)	Schools leveraged different communication forms (emails, websites, newsletters, social media) to coordinate actions and inform stakeholders. They conducted surveys (School Barometer) and evaluations to monitor and assess situation and needs of stakeholders.

Authors (Year)	Findings
Hulme, Beauchamp, Clarke, & Hamilton (2021)	Schools needed coordination and communication with stakeholders on priorities during school closure.
Hunter, Hunter, Tupouniua, & Leach (2022)	Schools' priority on well-being led to increased home-school connections and positive home-school relationships.
Ivaniuk & Ovcharuk (2021)	Schools developed communication channels and online support for school staff, students, and parents They conducted online surveys to identify teachers' problems and needs.
Jopling & Harness (2022)	Principals perceived local responses as being more effective and coherent than national regulations and guidance. They wanted to provide more support to students and adults in their community.
Kafa (2023)	Importance of principals reaching out to parents, private organizations, local community, and other stakeholders
Kaminskienė, Tūtlys, Gedvilienė, & Chu (2021)	Experienced school leaders cooperated less with national authorities and received support from school communities.
Kruczek, Geesa, Mayes, & Odell (2022)	Schools used video meetings and platforms (Zoom, Google Classroom, newsletters) for communicating and collaborating with stakeholders.
Lavadenz, Kaminski, Armas, & López (2021)	Schools extended their collaborative leadership cultures to online space.
Law, Tan, Lan, & Pan (2021)	Schools participated in joint-school student-centered innovation projects.
Longmuir (2021)	School leaders perceived increased community leadership and need for effective, timely, and honest communication.
Luik & Lepp (2021)	Local stakeholders supported by external stakeholders.
Masry-Herzallah & Stavissky (2021)	Principals' transformational leadership affected quality of communication, which in turn contributed to effective online teaching.
McDonald, Lester, & Michelson (2023)	Collaboration between schools and families provided effective support.
McLeod & Dulsky (2021)	Schools were more involved in communication and family community engagement.

Authors (Year)	Findings
Mitchell (2021)	School leaders perceived improvement in skills and confidence in communication, collaboration, and socio–emotional development.
Mullen & Badger (2023)	School administrators helped with communication with parents.
Mundy, Manion, Proulx & de Britto (2022)	Teachers led as community mobilizers to educate local communities about COVID-19 risks and prevention.
Mutongoza, Olawale, & Mzilikazi (2021)	Rural school principals used clear, consistent communication with staff.
Parmigiani, Benigno, Giusto, Silvaggio, & Sperandio (2020)	Schools needed positive relationships with families to have effective e-inclusion for students with special educational needs.
Pino-Yancovic, Ahumada, DeFerrari, Correa, & Valenzuela (2022)	Teachers' active participation in within- and between-schools networks enabled them to share knowledge among schools and obtain support for innovative practices in their own schools.
Price & Mansfield (2021)	Community partners (churches, restaurants, organizations) provided meals and funding to needy students and families.
Reyes-Guerra, Maslin-Ostrowski, Barakat, & Stefanovic (2021)	Principals developed inter-school connections.
Tabatadze & Chachkhiani (2021)	Increased parental engagement during pandemic led to positive outcomes.
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	Schools perceived community support as most beneficial factor for implementing online lessons.
Thornton (2021b)	Principals leveraged expertise from within and outside of school.
Virella & Cobb (2021)	Principals helped students and families to obtain more resources (e.g., food, health care) from districts or local governments. They used pandemic as opportunity to systematize and enhance communication and operations with community partners.

Authors (Year)	Findings
Walker, Sharp, & Sims (2020)	Most senior leaders obtained support from local authority services, professional associations, and peers from other schools. Most teachers obtained support from colleagues and peers, senior leaders from their schools, and unions. Senior leaders received good support from colleagues in other schools.
Watson & Singh (2022)	Principals and teacher leaders obtained support from colleagues, networks, and education department.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Schools increased community partnerships.
White, Harmon, Johnson, & O'Neill (2022)	Principals of rural schools accessed support for student learning from regional and state education agencies.
Wilcox (2022)	Schools conducted surveys and focus groups to understand stakeholders' experiences and perspectives.
Yang, Manchanda, & Greenstein (2021)	Educators who connected with school community were more efficacious in online teaching but they experienced compassion fatigue.

Table 15

Digital Instructional Leadership

Authors (Year)	Findings
Akbaba Altun & Bulut (2021b)	School leaders used digital management because of the heavy technological use during pandemic.
Alajmi (2022)	Teachers whose principals exercised digital leadership had higher levels of technology integration in their lessons.
Baxter, Floyd, & Jewitt (2023)	Digital innovations during pandemic changed school leaders' thinking about digital strategy.
Berkovich & Hassan (2023)	Principals' digital instructional leadership influenced teachers' intrinsic motivation to use digital instruction, which in turn contributed to perceived students' online learning.
Berkovich (2023)	School leaders exercises regular and digital instructional leadership for online or hybrid lessons.
Brown, O'Hara, McNamara, Skerritt, & Shevlin (2021)	School leaders perceived need to exercise flexibility in leadership to cope with challenges.
Burton, Rigaud, & Googins (2021)	School leaders assumed different digital leadership roles (technology specialists, online support providers, professional development facilitators).
Da'as, Qadach, & Schechter (2023)	School leaders exercised leadership via digital means.
Gkoros & Bratitsis (2022)	Principals exercised e-leadership to influence, motivate, and empower teachers and staff.
Hadriana, Mahdum, Isjoni, Futra, & Primahardani (2021)	Principals' planning, organizing, and monitoring-evaluation contributed to implementation of principal management in online learning.
Hamzah, Nasir, & Wahab (2021)	Principals' digital citizenship (in their digital leadership) strongly predicted teachers' online teaching.
Indra, Ritonga, & Kustati (2022)	Principal's e-leadership (continuous learning vision, teachers' professional development, classroom supervision, teachers' performance assessment) positively influenced teacher behavior.
Ivaniuk & Ovcharuk (2021)	School leaders' digital instructional leadership included developing strategies and guidelines to digitize education and train teachers, enhancing technical support and informing teachers about new online opportunities, developing tools and approaches for online learning, and monitoring and evaluating access and quality of educational services.

Authors (Year)	Findings
Kaminskienė, Tūtlys, Gedvilienė, & Chu (2021)	Principals' initial focus on teachers' professional development for online lessons shifted to students' responsiveness and assessment two months later.
Lavadenz, Kaminski, Armas, & López (2021)	School leaders focused on enhancing connectivity, bridging digital divide, and maximizing diverse English learners' learning experiences.
Law, Tan, Lan, & Pan (2020a)	Schools with e-learning preparedness before pandemic were more equipped to implement online lessons during pandemic.
Law, Tan, Lan, & Pan (2020b)	Some schools had e-learning team with members having different roles and functions.
Lien, Khan, & Eid (2022)	Principals supported and experienced rapid transition to online lessons.
Luik & Lepp (2021)	Educational technologists were instrumental to implementation of online lessons.
McLeod & Dulsky (2021)	School leaders exercised instructional leadership.
Midha (2021)	Principals addressed challenges on enhancing effectiveness of online lessons.
Mullen & Badger (2023)	School leaders provided support for helping faculty implement effective online lessons.
Mutongoza, Olawale, & Mzilikazi (2021)	Principals cultivated technological culture (including effective delivery of content in online lessons) among teachers to address challenges with teaching and learning.
Pollock (2020)	Principals exercised 'extensive digital instructional leadership' to (a) create conducive conditions for teaching and learning and (b) identify novel ways to support online lessons and school operations.
Shaked (2022)	Principals temporarily abandoned instructional leadership, adapted instructional leadership during pandemic, or continued with instructional leadership.
Shaked & Benoliel (2022)	Principals exercised instructional boundary management to address (a) challenges confronting teachers, students, and parents, and (b) transition to online lessons.
Tamar, Yaffa, Lea, Haia, & Nitzan (2023)	Principals were responsible for facilitating online lessons, including addressing access to educational tools and managing difficulties with online lessons.
Westberry, Hornor, & Murray (2021)	Principals most needed virtual instructional leadership as a systems approach for sustainable instructional leadership.

Table 16

Teachers' Agentic Leadership in Classrooms

Authors (Year)	Findings
Akbaba Altun & Bulut (2021a)	Schools identified and supported students at risk of falling behind or dropping out due to pandemic, provided personalized instruction for these students, collaborated with other agencies and organizations to provide additional resources and services for these students.
Al-Fadala, Amenya, Fitzpatrick, Godwin, Kirby, & Korin (2021)	School leaders and teachers monitored progress of vulnerable students, shared information on these students, and provided targeted support.
Baxter, Gardner, & Southall (2023)	Schools specially developed learning materials to meet vulnerable students' needs.
Cameron, Matre, & Canrinus (2022)	Schools let students with special educational needs learn in school while their schoolmates stayed at home.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Schools let teachers provide more choices, convenience, and personalization for students. Teachers used their creativity to develop new strategies to engage students, facilitate learning, assess learning, and cope with challenges of online or hybrid teaching.
Forrester, Basford, Hudson, & Pugh (2021)	Teachers provided flexible, practical, and interesting online and paper-based learning activities for students.
Ghamrawi, Shal, & Ghamrawi (2023)	Teachers exercised agentic leadership, making decisions and customizing instruction to meet students' needs.
Giunco, Rosen-Reynoso, Friedman, Hunter, & Cownie (2020)	Schools exercised curricular and instructional autonomy and innovation to adapt practices and meet students and families' needs.
Hayes, Flowers & Williams (2021)	Schools provided flexible, individualized interventions to encourage students to attend school (e.g., permitting students to attend school in person and online), address students' needs (challenges, strengths, interests), and implement more structure, routines, and close monitoring.
Heyward & Gill (2021)	Schools used new technology tools to support learning of students with disabilities, incorporate 'open time' during the day to provide extra support for these students, and integrate competency-based grading with interventions for these students.
Julius & Sims (2020)	Most schools used printed resources and worksheets to support vulnerable pupils who were doing home-based learning.

Authors (Year)	Findings
Kearney, Schuck, Fergusson, & Perry (2022)	Schools addressed digital inequities, developing and sharing instructional videos and other media, and implementing blended learning that developed student agency and encouraged collaboration.
Kruczek, Geesa, Mayes, & Odell (2022)	Schools exercised flexibility and creativity (e.g., adapting schedules, modifying expectations, identifying innovative solutions).
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Teachers implemented differentiated and individualized instruction practices (customizing tasks and materials, providing formative feedback, and developing tutoring systems) to meet at-risk students' needs.
Niño & Perez-Diaz (2021)	Schools adopted pedagogy that met students' needs.
Orbach, Fritz, Haase, Dowker, & Räsänen (2023)	Adverse effects of home risk factors on students' basic numeracy skills were moderated when teachers used personalized teaching approach.
Parmigiani, Benigno, Giusto, Silvaggio, & Sperandio (2020)	Teachers developed customized, interactive activities (synchronous, asynchronous) for students (preferably in small groups and individually).
Velasco, Cominelli, Scattola, & Celata (2021)	Teachers adapted instruction and curriculum to address student needs.
Vilchez, Kruse, Puffer, & Dudovitz (2021)	Teachers developed effective online learning environment for physical education lessons characterized by personalization, creativity, and inclusiveness.
Yates, Starkey, Egerton, & Flueggen (2021)	Students appreciated supportive pedagogies and motivational strategies that enabled them to enjoy learning and positive wellbeing.

Table 17
Maximizing Teaching and Learning

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Schools made decisions on subjects or topics to teach and when based on student needs and school context. They implemented academic interventions when needed.
Adams, Cheah, Thien, & Md Yusoff (2021)	School leaders exercised instructional and distributed leadership and revised school plans and curriculum as necessary.
Ahtiainen, Eisen Schmidt, Heikonen, & Meristo (2022)	Schools provided support to teachers in using technology in teaching.
Akbaba Altun & Bulut (2021a)	Schools delivered instruction, assessment, and feedback to students using online platforms and tools. They ensured that students had access to devices, Internet, and learning materials and provided training and support for students to use these technologies.
Akbaba Altun & Bulut (2021b)	School administrators were responsible for planning and commencing online lessons, starting social media accounts, managing the online program, helping students and teachers to adapt to use online technologies, monitoring, and motivating teachers, students, and parents to engage in online lessons.
Al-Fadala, Amenya, Fitzpatrick, Godwin, Kirby, & Korin (2021)	School leaders communicated with teachers and developed teachers' self-efficacy. They collaborated with each other and encouraged teacher collaboration.
Anderson & Weiner (2023)	Principals bridged and buffered for instructional continuity.
Beckmann & Klein (2022)	Schools with higher leadership capacity before pandemic were more effective in implementation of online lessons.
Berkovich (2023)	Schools developed learning-centred climate and coherence, established clear instructional goals, and nurtured broad and inclusive online community for teachers and students.
Bharaj & Singh (2021)	Schools provided technical and logistical assistance for implementation of online lessons and for engaging parents in their children's education. Schools implemented innovations to create interactive, engaging learning opportunities for students.
Bozkurt (2023)	Schools provided guidance, training, feedback, and motivational activities to help teachers and students adapt to online lessons. They organized course schedules and assessment and evaluation for hybrid lessons.

Authors (Year)	Findings
Brinkmann, Cash, & Price (2021)	Schools redesigned instructional practices and assessment to align with curriculum and standards in online or hybrid lessons.
Brock, Beach, Musselwhite, & Holder (2021)	Schools built teachers' capacity and confidence as online educators by providing professional learning, technical support, and instructional resources. They leveraged online platforms and tools for lesson delivery, communicate with teachers and students, and monitor student progress and engagement. They used collaborative team structures and practices for teachers to plan, share, and reflect on online teaching. They celebrated successes of teachers and students in online lessons.
Cahapay (2022)	Schools promoted inclusivity in online education.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	Schools kept students in classrooms for as long as possible. They implemented online or hybrid learning models. They provided teachers with opportunities to maintain teaching and learning routines.
De Voto & Superfine (2023)	Schools focusing on teaching and learning and that had more developed distributed leadership networks could switch to online lessons more effectively.
Decman, Badgett, & Simieou (2021)	Schools used technology and communication tools to conduct online lessons.
Diliberti, Schwartz, Hamilton, & Kaufman (2020)	Schools differed as to whether, before the pandemic started, they had trained teachers to implement online lessons, used learning management systems, developed plans to implement online lessons during long school closures, and implemented online or blended courses.
Ermenc, Kalin, & Mažgon (2021)	Schools prepared common instructional strategies for teachers and agreed on how to work in subject teams or program groups. Teachers uploaded educational materials to online classrooms and used them in live instruction via online applications. Teachers reached unengaged students and organized learning and socio-psychological assistance for students.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Schools leveraged technology (MS Teams, SeeSaw, Glow) for online lessons, connection, and communication with students and families.
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Schools employed blended learning comprising face-to-face and online classes to ensure learning continuity and preparedness for emergencies.
Finch, Hernández Finch, & Avery (2022)	Non-native language students who received more school-level support perceived that they had better academic performance before and during pandemic.
Francois & Weiner (2020)	Schools remained accountable for teaching and learning by focusing on student-centered instruction, rigor and relevance, and student engagement.

Authors (Year)	Findings
Gkoros & Bratitsis (2022)	Schools used different platforms and tools (synchronous, asynchronous, blended learning) to implement teaching and learning.
Herrmann, Nielsen, & Aguilar-Raab (2021)	Students learned more effectively in smaller-sized classes.
Ivaniuk & Ovcharuk (2021)	Schools developed and used different online tools and resources for online lessons.
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Schools and teachers used different digital and online tools (learning management platforms, educational apps, video conferencing, television broadcasting) for online lessons.
Mundy, Manion, Proulx & de Britto (2022)	Teachers worked individually and collectively to identify appropriate high-, low-, or no-tech solutions to continue teaching and learning.
Parmigiani, Benigno, Giusto, Silvaggio, & Sperandio (2020)	Effective e-inclusion for students with special educational needs required technologies, teacher collaboration, and online teaching strategies.
Price & Mansfield (2021)	Teachers collaborated to develop online video lessons that contained review material for students and parents.
Wang, Yang, & van Aalst (2021)	Students' online learning depended on their technology self-efficacy and perceptions of useful of technology and teachers' engagement.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Teachers used innovative instructional models for online lessons.
Wilcox (2022)	Schools used positive outlier research and improvement science principles to inform planning and implementation of online lessons.

Table 18

Providing Resources

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Schools, especially those with high proportion of students on Free School Meals, provided students with essentials for learning (laptops or other devices, online platforms, COVID-19 related equipment) from Autumn 2020 to Spring/Summer 2021.
Anderson, Hayes, & Carpenter (2020)	Schools provided technology and broadband resources for students and families and developed home lesson packets for students without Internet access. They collaborated with districts and community partners to distribute and deliver food and groceries for students and families.
Banerjee-Batist, Gajjar, Saxena, Smetana, & Muduli (2022)	School leaders creatively worked to address needs of students, faculty, and communities.
Beckmann, Kötter-Mathes, Klein, Bremm, & van Ackeren (2022)	Schools with larger initial school improvement capacity found it easier to identify flexible, pragmatic solutions for student learning and well-being.
Bozkurt (2023)	Schools started technology classes, distributed tablets and internet packages, and leveraged online platforms to resolve technical problems for online lessons.
Brinkmann, Cash, & Price (2021)	School advocated for funding, policies, and infrastructure to improve availability and quality of technology and Internet for students and teachers. They collaborated with community resources and partners to provide needy families with food and health and educational services.
De Voto & Superfine (2023)	Schools with more material resources could respond to pandemic more effectively.
Diliberti, Schwartz, Hamilton, & Kaufman (2020)	Some schools provided devices (laptops, tablets) to students (e.g., from needy families).
Giunco, Rosen-Reynoso, Friedman,	Schools provided resources and services (Chromebooks, free Internet, food banks, rent assistance, health care, counselling) to students and families.

Authors (Year)	Findings
Hunter, & Cownie (2020)	
Kafa (2023)	Principals addressed problem of students' lack of technological equipment.
Kearney, Schuck, Fergusson, & Perry (2022)	Schools provided resources and strategies to help parents with home learning, and showed sensitivity to familial circumstances and contexts.
Kruczek, Geesa, Mayes, & Odell (2022)	Schools met families' basic needs and connected them to resources (food distribution, community referrals, grants), provided remote service delivery (advising, student check-ins, counseling, socio-emotional learning), and prepared and planned for online lessons (developing emergency operations plans, implementing health and safety measures, providing technology support).
Mutongoza, Olawale, & Mzilikazi (2021)	Principals mobilized resources to address challenges in implementing online lessons.
Newberry & Hinchcliff (2023)	Schools providing teachers with autonomy, resources, and support to enable teachers to be prepared, focused, and effective.
Orbach, Fritz, Haase, Dowker, & Räsänen (2023)	Students' learning benefited from use of learning management systems.
Price & Mansfield (2021)	District leaders creatively provided Wi-Fi access to students and staff (installing exterior Wi-Fi at schools, deploying Wi-Fi-equipped buses).
Vilchez, Kruse, Puffer, & Dudovitz (2021)	Schools needed resources (professional development, administrative support, equipment) to conduct online physical education lessons.
Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A (2022)	Schools needed resources to mitigate disparities in student learning.

Table 19

Teachers' Professional Development

Authors (Year)	Findings
Akbaba Altun & Bulut (2021a)	Schools provided teachers with training and support to enable teachers to use technologies effectively.
Berkovich (2023)	Schools developed principals and teachers' digital literacy and motivation and provided them with technological resources and professional development.
Brinkmann, Cash, & Price (2021)	Schools provided teachers and staff with professional development and resources to enhance their skills and efficacy in online teaching and learning.
Burkot, Sepioł, & Demeshkant (2021)	Schools provided staff with professional development.
Ermenc, Kalin, & Mažgon (2021)	Schools examined teachers' technical capacities and developed short training sessions and written instructions on how to use selected online tools. They depended on support of information and communication technologies (ICT) experts or ICT-skilled teachers and provided moral and professional support to teachers. They developed good practices (individualization, collaboration, community involvement, student-centered education).
Fikuree, Shiyama, Muna, Nasser, & Mohamed (2021)	Teachers found training and certification in Google Workspace for online lessons useful and user-friendly.
Forrester, Basford, Hudson, & Pugh (2021)	Teachers received continuous professional development and upskilling in digital literacy and online pedagogy.
Ghamrawi, Shal, & Ghamrawi (2023)	Teachers took on new or enhanced roles (curriculum specialists, instructional specialists, mentors, change agents, data coaches). They were involved in individual and peer learning and self-reflective practice (self-evaluation of performance, seeking feedback from others).
Hamilton, Kaufman, & Diliberti (2020)	Schools provided teachers with training and support for online lessons (using virtual learning platforms and technology) and identified training gaps (meeting needs of vulnerable students).
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	Principals decided on training teachers for online lessons.
Kruczek, Geesa, Mayes, & Odell (2022)	Teachers displayed effort and investment (showing resilience, dedication, professionalism).

Authors (Year)	Findings
Law, Tan, Lan, & Pan (2020b)	Schools prioritized teachers' professional learning and support.
Letzel-Alt, Pozas, Schwab, Schneider, Lindner, Dias, & Cadime (2022)	Teachers participated in professional learning and collaboration activities (online courses, webinars, workshops, networks, sharing resources and experiences with colleagues) for implementing online lessons.
Mažgon, Kalin, Kaminskienė, Gedvilienė, Tūtlys, & Ermenc (2021)	Schools developed culture of collaboration and support in which teachers shared experiences, practices, and resources. They trained teachers on use of online tools for online lessons. Teachers benefited from professional development (more confident, creative, and innovative in technology use and adapting to new situation).
Tabatadze & Chachkhiani (2021)	Teachers benefited from professional development addressing specific needs. Teacher accountability increased and this improved teaching quality.
White, Harmon, Johnson, & O'Neill (2022)	Principals in rural schools developed teacher capacity for online lessons.

Table 20

Addressing the School Community's Well-being

Authors (Year)	Findings
Achtaridou, Mason, Behailu, Stiell, Willis, & Coldwell (2022)	Schools provided pastoral support (offering broad curriculum, information for parents, customized support and skills development for students, additional training for staff).
Adams, Cheah, Thien, & Md Yusoff (2021)	Schools developed positive relationships and trust with community and communicated with empathy and humanity.
Ahtiainen, Eisen Schmidt, Heikonen, & Meristo (2022)	Schools provided emotional support and school leaders showed care and empathy. Leaders had to self-manage and cope with stress.
Akbaba Altun & Bulut (2021a)	Schools adhered to health guidelines and protocols to prevent spread of virus. They educated school community on symptoms, prevention, and treatment of virus. They monitored and reported cases or contacts among staff and students. They provided psychological and emotional support and counseling for staff and students.
Anderson & Weiner (2023)	Principals bridged and buffered to ensure socio-emotional well-being and health of teachers, students, and families.
Anderson, Hayes, & Carpenter (2020)	Schools addressed students and families' socio-emotional needs and offered virtual check-ins, counseling, and resources for well-being and mental health. School leaders exercised self-care through exercise, optimism, and connections with other principals and peers.
Arastaman & Çetinkaya (2022)	Principals exercised self-care and ensured their well-being.
Argyropoulou, Syka, & Papaioannou (2021)	School leadership evolved to focus on human interactions, less control, emotional intelligence, and ethical aspects of teaching and learning.
Baroudi (2022)	School leaders developed relationships, motivated and recognized team efforts, and kept open communication. They exercised adaptability, emotional intelligence, and self-control.
Baxter, Gardner, & Southall (2023)	Teachers used existing reflective structures encompassing mutual support to sustain wellbeing and cultivate supportive environments. They embraced unexpected learning opportunities.
Bharaj & Singh (2021)	Schools implemented adaptations and innovations to ensure health and safety.
Brinkmann, Cash, & Price (2021)	Schools developed positive relationships and school climate with school community via frequent, flexible communication. They addressed socio-emotional needs of school community through counseling, support groups, and self-care strategies.

Authors (Year)	Findings
Brivio, Fagnani, Pezzoli, Fontana, Biffi, Mazzaferro, Velasco, & Greco (2021)	School leaders shared good practices among themselves to enhance wellbeing and health in school.
Burkot, Sepioł, & Demeshkant (2021)	Schools supported mental health of teachers and students.
Burton, Rigaud, & Googins (2021)	School leaders developed and sustained relationships with students, staff, and community via multimodal communication, socio-emotional learning, and collaboration.
Burwell (2021)	School leaders incorporated qualities of 'calm', 'cool', 'collected', and 'confident' into their professional and personal well-being to benefit well-being of staff, students, and parents.
Cahapay (2022)	Schools focused their care on what was important.
Constantia, Christos, Glykeria, Anastasia, & Aikaterini (2021)	Principals emphasized empathy, teamwork, and decentralization.
Crawford, Wells, McBrayer, Dickens, & Fallon (2022)	School leaders kept students in classrooms for as long as possible for students' socio-emotional well-being. They implemented safety and sanitary measures to protect health of teachers, students, and families. Teachers had more opportunities to monitor students' well-being. They managed stress and emotions with social support and functional coping strategies.
Crean, Devine, Moore, Martínez Sainz, Symonds, Sloan, & Farrell (2023)	Schools were responsible for students' well-being and welfare, in addition to academic learning, from low socioeconomic status families.
Da'as, Qadach, & Schechter (2023)	Schools showed empathy, care, and concern for health and mental well-being of school community during and post-crisis.
Ferguson, McKenzie, Mercieca, Mercieca, & Sutherland (2021)	Schools provided practical and emotional support (delivering food parcels, making pastoral phone calls, sharing personal stories and vulnerabilities) to students and families.
Fogg (2021)	Schools provided safeguarding and pastoral care to students during high-anxiety social isolation.
Forrester, Basford, Hudson, & Pugh (2021)	Schools delivered food, books, games, and other resources to needy families. They performed welfare checks and referred parents to counselling or other support services. They prioritized staff and students' mental health and well-being, emotion coaching, and self-regulation.
Francois & Weiner (2020)	Schools showed advocacy and compassion and prioritized stakeholders' well-being (care for students and community, support for teachers, communication with families).

Authors (Year)	Findings
Hayes, Flowers & Williams (2021)	Rural school leaders exercised caretaker leadership via focusing on stakeholders' socio-emotional well-being and providing support and resources to stakeholders. They emphasized social interactions and relations between teachers and students and between peers. They helped students who were absent from school to confront fears and rejoin schools.
Herrmann, Nielsen, & Aguilar-Raab (2021)	Schools strengthened cohesion among faculty.
Ivaniuk & Ovcharuk (2021)	Schools provided psychological support and supervision for teachers and students.
Jopling & Harness (2022)	Principals were worried about mental health and wellbeing of adults and students in schools after lockdown. They focused on pastoral support, creative expression, and outdoor time and play instead of testing and results.
Julius & Sims (2020)	Schools ensured safety and well-being of vulnerable students.
Kafa (2023)	Trust, collaboration, and positive climate were paramount during pandemic.
Kearney, Schuck, Fergusson, & Perry (2022)	Schools prioritized student wellbeing, provided frequent check-ins, enhanced social interactions, and developed engaging and authentic learning activities.
Law, Tan, Lan, & Pan (2021)	Schools cultivated culture of trust, collaboration, and openness to innovation.
Lee (2022)	School leaders and teacher teams prioritized meeting needs of economically disadvantaged students and families.
Loloçi & Halilaj (2022)	School leaders cared for well-being of staff and students.
Lynch (2022)	Well-being was needed for educational recovery.
McLeod & Dulsky (2021)	Schools cared for staff and exercised equity-oriented leadership.
Mullen & Badger (2023)	School leaders listened to teachers' concerns and suggestions. Administration was supportive and positive.
Mundy, Manion, Proulx & de Britto (2022)	Teachers prioritized well-being of students and community via developing social connections with students and families, supporting student mental and physical health, and protecting students from risk.
Mutongoza, Olawale, & Mzilikazi (2021)	Rural school principals promoted school safety by transparent and effective communication and providing safe and adequate facilities. They provided psychosocial assistance to staff and adapted performance expectations.
Niño & Perez-Diaz (2021)	Educators were empathetic toward community they were serving.

Authors (Year)	Findings
O'Toole & Simovska (2022)	Schools instrumental to supporting local communities. Teachers valued relationships with students and families.
Price & Mansfield (2021)	Teachers collaboratively developed online video lessons providing socio-emotional support to students and parents.
Ramakrishna & Singh (2022)	Teachers adapted to change and loss and celebrated small victories.
Reyes-Guerra, Maslin-Ostrowski, Barakat, & Stefanovic (2021)	Principals prioritized care, safety, and wellbeing of students, teachers, and communities ahead of accountability measures.
Sharp & Nelson (2021)	Schools promoted students' emotional and mental health.
Smith, Nadeau, Archambault, Guimond, St-Amand, Fitzpatrick, & Gagnon (2022)	Teachers' emotional support strengthened students' competence beliefs which in turn promoted students' mastery goals.
Thornton (2021b)	Principals prioritized teachers and students' wellbeing.
Trinidad (2021b)	Teachers who were satisfied with school decisions were more personally satisfied and were less burnout.
Virella & Cobb (2021)	Principals challenged staff's deficit mindsets for students and families from marginalized groups. They implemented restorative practices, listening circles, and data analysis to promote equity-oriented thinking and actions.
Walker, Sharp, & Sims (2020)	Senior leaders' support increased teachers' job satisfaction.
Weiner, Francois, Stone-Johnson, & Childs (2021)	Schools' psychological safety increased when there was accountability, principal autonomy, professional culture, and teacher decision-making.
Wilcox (2022)	Schools adopted innovations to meet socio-emotional and academic needs of students and teachers.

Table 21

Recovery, Innovation, Future-proofing Post-pandemic

Authors (Year)	Findings
Bubb & Jones (2020)	Home-schooling was opportunity for innovation and school improvement. Schools could learn from positive experiences and continue to provide engaging and personalised education.
Cao, Zhang, Chan, & Kang (2021)	Need to reorganize instruction in face-to-face classroom settings
De Voto, Superfine, & DeWit (2023)	Schools learned lessons from challenges during pandemic, and identified areas for improvement and innovation.
Decman, Badgett, & Simieou (2021)	Schools adopted resilience perspective that drove their productive response to change and created opportunities from disruptive challenges. They embraced innovation from pandemic and revisited practices and policies to achieve mission and goals.
Fletcher, Klopsch, Everatt, & Sliwka (2022)	Teacher education could be redesigned to improve teacher-teacher and teacher-parent collaboration, prepare for use of blended teaching, recognise challenges confronting students from differing backgrounds (economic, cultural, special needs), and provide support.
Hamilton, Kaufman, & Diliberti (2020)	Upon school reopening, schools prioritized planning for future school closures emergencies, addressing disparities in students' learning, ensuring students' health and safety, and familial engagement. Schools implemented measures to manage pandemic-related disruptions (providing tutoring, changing assessment requirements, adapting curriculum, providing supplemental online courses).
Jackson, Bass, Jackman-Ryan, Hoeflaken, & Picart (2022)	Principals made important decisions for school reopening.
Jopling & Harness (2022)	Principals aspired for greater trust in schools and less pressure from external accountability. They wanted autonomy to develop curriculum relevant to their contexts and that was aligned to their role as community hubs.
Kim, Lim, Yang, & Park (2021)	Pandemic was perceived as opportunity to transform schools (emphasizing democracy, innovation, equity).
Longmuir (2021)	School leaders used prospective sensemaking from disruptive pandemic experiences to reconfigure for a better future.

Authors (Year)	Findings
McLeod & Dulsky (2021)	Schools recognized potential future opportunities post-pandemic.
Stephenson, Hardy, Seylar, Wayman, Peters, Bellin, & Roschelle (2021)	Schools learned that effective online learning could be achieved by (a) meaningful use of technology in student learning; (b) inclusive access (all students having full access to technology needed, and teachers skilful in developing and delivering learning experiences); and (c) effective school leadership (making informed choices about appropriate technology to be used, making continuous improvement during and after implementation, monitoring progress, obtaining buy-in from teachers and others).

Table 22

Hong Kong Studies

Authors (Year)	Challenges	Responses
Law, Tan, Lan, & Pan (2020a)	• Cumulative adverse effects on disadvantaged students from socioeconomic and digital divides • Schools and parents' efforts to sustain learning during school closure paid off.	• Schools with e-learning preparedness before pandemic were more equipped to implement online lessons during pandemic.
Tan, Liang, Pan, Law, Lan, Tao, Chan, Li, & Li (2023)	• Required digital parenting support • Parents most concerned about children's learning. • Students needed more support for cyber-wellness.	• Schools perceived community support as most beneficial factor for implementing online lessons.
Lee (2022)		• School leaders and teacher teams prioritized meeting needs of economically disadvantaged students and families.
Law, Tan, Lan, & Pan (2020b)		• Some schools had e-learning team with members having different roles and functions. • Schools prioritized teachers' professional learning and support.
Law, Tan, Lan, & Pan (2021)		• School leaders supported middle leaders in innovative solutions for problems encountered. • Schools participated in joint-school student-centered innovation projects. • Schools cultivated culture of trust, collaboration, and openness to innovation.