
| RESEARCH ARTICLE

Distance Learning in the COVID-19 Era and Beyond: A Multi-Dimensional Review of Teaching, Learning, Assessment, Infrastructure and Crisis Management

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| ABSTRACT

This study presents a systematic review (SR) of the author's research on distance learning (DL) during the COVID 19 pandemic, published between 2020 and 2024. As an author bounded corpus, it offers an exceptionally comprehensive, multi dimensional examination of DL during the COVID 19 pandemic, spanning every major dimension of the teaching learning process, thus offering one of the most extensive individual research programs on this topic in Saudi Arabia and beyond. The corpus consists of 30 studies that document the educational crisis, responses, adaptations, and outcomes across Saudi schools and universities during the pandemic period. The studies were organized into nine thematic clusters: digital infrastructure, technology use, and platforms; teaching practices and instructional strategies; student engagement and preferences; children, family role, and home based learning; psychological, social, and cultural dimensions; exams, assessment, and academic performance; curriculum adaptation; teachers' professional development; and the pandemic job market for graduates. Results revealed an interconnected system of challenges and innovations. Digital inequity was a major issue during the early months of the pandemic, though it was mitigated through community based solutions. Instructors rapidly diversified their pedagogical practices by integrating podcasts, YouTube videos, blogging, mobile audiobooks, online vocabulary tasks, virtual speaking activities, and redesigned practicum practices. Students' engagement patterns reflected both creativity and strain: while many benefited from interactive and technology mediated tasks, others experienced low self efficacy, anxiety, and a strong preoccupation with exams and grades. Studies on children highlighted the central role of parents in monitoring and supporting home based learning, as well as the benefits and risks of iPad use among young learners. Psychologically, the corpus revealed widespread dissatisfaction, low motivation, and emotional fatigue among students, alongside the potential of positive psychology and intercultural exchanges to enhance resilience. Assessment practices underwent some changes, resulting in flexible exam formats and grade inflation, while curricular structures remained largely unchanged due to institutional constraints. Only one study examined DL after the pandemic, indicating the need for further research on long term shifts in digital learning. Overall, the review demonstrates that DL during COVID 19 was not a uniform experience but a complex ecosystem shaped by infrastructure, pedagogy, learner agency, family dynamics, institutional policy, and socio emotional factors.

| KEYWORDS

Systematic review (SR), Al-Jarf research program, distance learning (DL), remote education, crisis management, COVID-19, Corona virus, Pandemic, distance learning infrastructure, student engagement

| ARTICLE INFORMATION

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1. Introduction

In March 2020, the outbreak of the COVID-19 pandemic triggered a sudden global shift from face-to-face instruction to distance learning (DL). This unprecedented transition generated an extensive body of research, including numerous systematic reviews (SRs) and meta-analyses (MAs) across all educational domains. In the field of education, DL became a central focus, with researchers examining a wide range of issues related to teaching, learning, access, equity, technology use and infrastructure, and teacher and learner experiences during the pandemic. The first group of SRs addressed early childhood and K–12 learners. These studies examined responses to emergency remote teaching (Al Mazrooei et al., 2022), the implementation of early childhood education during the pandemic (Gayatri, 2020), family–school relationships (Carrión-Martínez et al., 2021), early childhood learning losses (Uğraş et al., 2023), and the effects of remote learning on children’s learning abilities and school performance (Cortés-Albornoz et al., 2023).

A second group of SRs focused on higher education and university students. These SRs explored challenges influencing the adoption of e-learning systems (Abdelfattah et al., 2023), e-learning adoption before and during COVID-19 (Abdelfattah et al., 2024), the pandemic’s impact on higher education (Khan, 2021), students’ online learning experiences (Pedraja-Rejas et al., 2023), the role of service quality in student satisfaction (Limbu & Pham, 2023), the effectiveness of online learning (Meng et al., 2024), DL practices in higher education (Paiva, Abreu & Costa, 2021), digitalization challenges (Sing Yun, 2023),

Several SRs examined the psychological, social, and emotional dimensions of DL. These included SRs of the psychological impact of online learning (Thandavaraj et al., 2021), student connectedness in remote environments (Hehir et al., 2021), general learning experiences during the pandemic (Nasution et al., 2022), constraints faced by developing countries (Ndibalema, 2022), pedagogical trends and assessment practices (Ibna Seraj et al., 2022), and high prevalence of anxiety, depression, and stress among remote learning students (Xu & Wang, 2023).

Another group of studies investigated the digital divide, digital equity, access, and broader challenges associated with DL. These SRs addressed issues such as digital inequities in Nepal (Lamichhane, 2024), emergency remote education in secondary schools (Bond et al., 2021), the overall impact of the pandemic on learning (Betthäuser, Bach-Mortensen & Engzell, 2022), challenges encountered during online learning (Ahmadon, Ghazalli & Rusli, 2020), and students’ perceptions of digital technologies (Cramarenco et al., 2023).

Teaching and learning strategies were also a major focus. Relevant SRs examined online teaching strategies during the pandemic (Abbasnejad, Soltani & Wong, 2024), instructional strategies and their outcomes (Koh & Daniel, 2022), research topics in online learning (Doo, Zhu & Bonk, 2023), evaluations of DL systems (Adrian Mastan et al., 2022), Moodle implementation (Athaya et al., 2021),

Motivation, engagement, and student acceptance were addressed in SRs exploring students’ motivation and task engagement (Mohtar & Md Yunus, 2022), challenges and perceptions of emergency remote education (Ahmad Shazli et al., 2023), and the enhancement of learning outcomes across digital platforms (Alshammary & Alhalafawy, 2022).

A substantial body of SRs examined digital technologies, platforms, and innovation. These included SRs of gamification in higher education (Alzahrani & Alhalafawy, 2022; Burlacu, Coman & Bularca, 2023), mobile learning (Qazi et al., 2024; Lazaro & Duarte, 2023), benefits and challenges of mobile learning during the COVID-19 pandemic (Saikat, et al. 2021), the use of digital resources (Rodríguez & Pulido-Montes, 2022), online pedagogical resources (Oloyede, A., et al. 2022), digital technology adaptation (Zhou, Smith & Al-Samarraie, 2024), and the use of virtual educational spaces in the metaverse (Onggirawan et al., 2023); characteristics of learning environments during the COVID-19 pandemic (Al-Ansi, 2022).

Teacher education, professional development, and pedagogical challenges were addressed in SRs examining e-learning in teacher education (Matete et al., 2023), the effectiveness of DL (Kusmaryono et al., 2021), and challenges in transitioning to online teaching (Hamad, 2022).

A smaller group of SRs targeted special populations, such as deaf and hearing-impaired students (Aljedaani et al., 2023).

Finally, several broad, cross-cutting SRs explored issues such as resilience and sustainability in higher education (Bozkurt, 2022), research trends in e-learning (Brika et al., 2022), general developments in e-learning during COVID-19 (Sharin, 2021), challenges associated with e-learning (Zamani et al., 2022), and the use of e-portfolios during the pandemic (Zhang & Tur, 2024).

Although a plethora of SRs examined DL during the COVID-19 pandemic across diverse educational contexts, the literature remains highly fragmented. Prior SRs tended to focus on specific learner groups (e.g., early childhood, K–12, or higher education), isolated dimensions such as psychological impact, digital divide, teaching strategies, or particular technological tools, including mobile learning, gamification, and virtual platforms. While these studies provide valuable insights, they do not offer an integrated synthesis that brings together pedagogical, technological, social, and contextual factors across general and higher education. Moreover, many SRs adopt narrow scopes, single-country perspectives, or domain-specific lenses, limiting their ability to capture broader patterns in how DL was implemented, experienced, and sustained during the pandemic. Consequently, there remains a need for a comprehensive SR that consolidates findings across these scattered strands of research to provide a holistic understanding of DL during COVID-19 and to identify cross-cutting themes that can inform future digital learning policies and practices.

There is a lack of a comprehensive, integrative synthesis that unifies the fragmented SR landscape and explains how DL functioned across general and higher education during COVID-19, beyond isolated themes or populations. Therefore, the current study aims to fill this gap by conducting a systematic review (SR) of the author's research on DL during the COVID-19 pandemic published between 2020 and 2024. The corpus consists of 30 studies touching upon a wide range of issues related to the Covid-19 crisis, response and outcomes. The studies focus on the digital infrastructure, teaching practices, student engagement, psychological and cultural effects, assessment, curriculum adaptation, teachers' professional development, and children and families.

This SR is significant because it is grounded in a uniquely comprehensive, author-bounded research program comprising thirty studies, covering every major dimension of DL during the Pandemic, from digital infrastructure and instructional practices to assessment, parental involvement, and field-based learning alternatives, digital readiness, and pedagogical innovation. This breadth and depth make the corpus one of the most extensive individual research programs on pandemic-era distance education in Saudi Arabia and internationally.

Additionally, the present SR synthesizes a unified, internally consistent corpus of studies conducted by the same researcher across multiple dimensions of DL during the pandemic in Saudi Arabia. This author-bounded corpus is methodologically aligned, pedagogically comparable, and contextually coherent, enabling a depth of analysis that heterogeneous global SRs cannot achieve. The review traces how DL operated within one higher-education environment across nine interconnected domains: instructional strategies, student engagement, curriculum adaptation, assessment practices, children and family roles, digital infrastructure, psychological and cultural dimensions, teacher professional development, and crisis-management policies. Integrating these domains into a single synthesis reveals cross-cutting patterns, institutional responses, pedagogical innovations, and socio-cultural dynamics that remain invisible in international reviews that aggregate disparate contexts. This coherence also makes it possible to document how a national system adapted, stabilized, and evolved during and after the pandemic, offering insights directly relevant to digital-learning policy, preparedness planning, and post-pandemic educational reform. In short, the significance of this SR lies in its ability to produce a unified, context-rich, and longitudinal interpretation of DL during COVID-19, something the global literature, with its dispersed focus and methodological heterogeneity, has not achieved.

Finally, this SR is significant because it is part of a broader series of SR/MA projects by the author, that has so far cover the following: *teaching English for art education purposes to Ph.D. students (Al-Jarf, 2026a); EFL reading instruction: themes, methods, and pedagogical insights (Al-Jarf, 2026b); diverse educational evaluation domains (Al-Jarf, 2026c); students' errors in English–Arabic and Arabic–English translation (Al-Jarf, 2026d); mobile apps for developing multiple language skills in EFL (Al-Jarf, 2026e); adult reading practices, interests, habits and challenges (Al-Jarf, 2026f); pronunciation instruction and practice in L2 (2005–2025) (Al-Jarf, 2026g); teaching reading in Arabic to grades 1–12: textbooks, skills, and learning outcomes (Al-Jarf, 2026h); specific-skill assessment (Al-Jarf, 2026i); Arabic–English transliteration of personal names and public signages (Al-Jarf, 2026j); children's language acquisition and development in Saudi Arabia (Al-Jarf, 2026k); classroom practices, writing enhancement and creativity among EFL struggling students (Al-Jarf, 2026l); collaborative learning and teaching in digital environments (Al-Jarf, 2026m); effectiveness of mind-mapping on multiple English language skills in the Saudi context (Al-Jarf, 2026n); inadequate staffing and large class sizes in Saudi EFL and translation programs (Al-Jarf, 2026o); innovative word formation and pluralization processes in Arabic (Al-Jarf, 2026p); 2024–2025 studies on AI Arabic translation, linguistics and pedagogy (Al-Jarf, 2026q); three decades of ESP innovation (Al-Jarf, 2026r); and electronic searching studies (2002–2021) (Al-Jarf, 2026); implementation, use, infrastructure, and success factors in LMS-supported EFL Instruction (Al-Jarf, 2026s).*

2. Methodology

Studies were included if they met all of the following conditions: (i) To maintain contextual, methodological, and thematic coherence, only studies authored by Al-Jarf were included in the corpus. (ii) The studies must examine teaching, learning, assessment, engagement, curriculum, technology use, educational experiences, DL infrastructure, or crisis management that

occurred during the COVID-19 pandemic. (iii) Eligible studies must address learners, instructors, or institutions within general education, higher education, language education, teacher education, or home-based learning contexts. (iv) studies must report empirical findings, descriptive analyses, instructional practices, or documented experiences related to DL during the Pandemic. (v) The studies should be published between 2020 and 2024. This timeframe reflects the period of emergency remote teaching that started in 2020, the transition to sustained DL, and the post-pandemic educational landscape.

2.1 Study Corpus

The study corpus comprises 30 research studies by the author conducted during and after the COVID-19 pandemic, addressing multiple dimensions of DL within higher education and related contexts. To enable a structured synthesis, the studies were organized into nine thematic clusters that reflect macro-, meso-, and micro-level perspectives on distance learning. This organization captures the complexity of the pandemic's impact on teaching, learning, policy, technology, and learner experience.

Cluster 1: Digital Infrastructure, Technology Use, and Platforms

Studies in this cluster address the technological foundations of distance learning, including digital equity, access to platforms, and the affordances and limitations of specific technologies used during emergency remote teaching. Studies include:

- 1) *Investigating digital equity in distance education in Saudi Arabia during the COVID-19 pandemic (Al-Jarf, 2021i)*
- 2) *Issues in using Periscope for live academic lectures during the Covid-19 pandemic (Al-Jarf, 2021j)*

Cluster 2: Teaching Practices and Instructional Strategies

This cluster encompasses research on pedagogical approaches adopted during the pandemic, including instructional design, online teaching strategies, and the use of digital tools to support language learning, skills development, and practicum experiences. The studies include:

- 1) *Grammar podcasts for ESL college students in distance learning (Al-Jarf, 2023b)*
- 2) *YouTube videos as a resource for self-regulated pronunciation practice in EFL distance learning environments (Al-Jarf, 2022)*
- 3) *Bloggng about the Covid-19 pandemic in EFL writing courses (Al-Jarf, 2022a)*
- 4) *Online vocabulary tasks for engaging and motivating EFL college students in distance learning (Al-Jarf, 2022j)*
- 5) *EFL speaking practice in distance learning during the coronavirus pandemic 2020–2021 (Al-Jarf, 2021d)*
- 6) *Mobile audiobooks, listening comprehension and EFL college students (Al-Jarf, 2021).*
- 7) *Emergency student practicum and training during the pandemic at Saudi universities (Al-Jarf, 2022e)*
- 8) *Strategies for effective distance learning in foreign language, linguistics and translation college courses (Al-Jarf, 2022m)*
- 9) *Issues in interactive translation practice on Twitter (Al-Jarf, 2020e)*

Cluster 3: Student Engagement and Preferences

Studies in this group investigate how students engaged with online learning environments, their preferences, and the strategies instructors used to foster participation, motivation, and interaction across local and international contexts. Studies in this cluster include:

- 1) *How EFL, linguistics and translation instructors engage students in distance learning during the Covid-19 second wave (Al-Jarf, 2022g)*
- 2) *Collaborative distance education between Russia and Africa during Covid-19 (Al-Jarf, 2020c)*
- 3) *Building cultural bridges through social media networks (Al-Jarf, 2020a).*

Cluster 4: Children, Family Role, and Home-Based Learning

This cluster focuses on young learners and the role of parents in supporting home-based learning, including parental involvement, device use, and the impact of digital tools on children's first and second language development. Studies include:

- 1) *Parental attendance of children's online classes from the perspective of parents and teachers in Saudi Arabia (Al-Jarf, 2022)*
- 2) *Differential effects of the iPad on first and second language acquisition by Saudi children during the Covid-19 pandemic (Al-Jarf, 2021c)*
- 3) *Impact of the iPad on Saudi young children in the home environment as perceived by their mothers (Al-Jarf, 2021h)*
- 4) *Digital reading among children in Saudi Arabia (Al-Jarf, 2023a)*

Cluster 5: Psychological, Social, and Cultural Dimensions

These studies explore the affective, social, and cultural aspects of distance learning, including student attitudes, agency, well-being, cultural expression, and the broader social dynamics shaped by the pandemic. The cluster includes:

- 1) *Distance learning revisited: Students' preferences and attitudes in the post-pandemic era (Al-Jarf, 2024)*
- 2) *Positive psychology in emergency distance education in Saudi Arabia during the pandemic and beyond (Al-Jarf, 2022)*
- 3) *Distance learning and undergraduate Saudi students' agency during the Covid-19 pandemic (Al-Jarf, 2020d)*
- 4) *Combating the Covid-19 hate and racism speech on social media (Al-Jarf, 2021)*
- 5) *Educated Arabs' reading interests and preferences before, during and after the pandemic (Al-Jarf, 2022d)*
- 6) *Distance education during the Pandemic: Advantages and challenges (Al-Jarf, 2020).*

Cluster 6: Exams, Assessment, and Academic Performance

This cluster includes research on online assessment practices, academic integrity, grade patterns, and the broader implications of remote evaluation during and after the pandemic:

- 1) *Online exams in language, linguistics and translation courses during the pandemic in Saudi Arabia (Al-Jarf, 2022i)*
- 2) *Grade inflation at Saudi universities before, during and after the pandemic: A comparative study (Al-Jarf, 2022f)*

Cluster 7: Curriculum Adaptation

Studies in this group examine how curricula were modified, restructured, or maintained during emergency remote education, highlighting institutional decision-making and pedagogical continuity. Studies include:

- 1) *Pandemic crisis management programs at Saudi universities: Current status and future perspectives (Al-Jarf, 2023c)*
- 2) *Curriculum in emergency Covid-19 remote education at Saudi universities: Same or adjusted (Al-Jarf, 2022c)*

Cluster 8: Teachers' professional development

This final cluster focuses on teacher learning and professional growth, including the use of social media and online communities for professional development during the pandemic. The cluster includes:

- 1) *ESL teachers' professional development on Facebook during the Covid-19 pandemic (Al-Jarf, 2021)*

Cluster 9: The pandemic job market for female graduates

This cluster includes studies examining institutional and national responses to the pandemic, with a focus on leadership effectiveness, crisis-management strategies, and policy implications for higher education systems. The cluster includes:

- 1) *The pandemic job market from the perspective of female languages and translation college graduates in Saudi Arabia: Crisis or opportunity (Al-Jarf, 2022o)*

Together, these nine clusters provide a comprehensive, multi-layered view of DL during COVID-19, capturing the interplay between policy, technology, pedagogy, learner experience, and institutional adaptations. Clusters 1–2 set the structural and technological conditions for DL. Clusters 3–4 represent the pedagogical core of online education. Clusters 5–6 capture the human and socio-cultural experience of learners and families. Cluster 7 reflects measurable academic outcomes. Cluster 8 shows whether institutions adapted curricula in response to the Pandemic. Cluster 9 represents long-term capacity building and professional growth. This model demonstrates a logical, hierarchical flow from crisis response to sustainable educational development.

2.2 Eligibility (Inclusion & Exclusion) Criteria

The eligibility criteria were established to ensure that only studies directly relevant to DL during the COVID-19 pandemic, and aligned with the scope of the present SR, were included in the corpus. Screening proceeded in two stages: the title and abstract screening, followed by a full-text verification for studies with ambiguous or overlapping themes. The following kinds of studies by the author were excluded:

- **Duplicate or multiple versions of the same study** as: *How EFL, linguistics and translation instructors engaged students in distance learning during the COVID-19 second wave (Al-Jarf, 2021f)*; *How instructors engage students in distance learning during the Covid-19 second wave (Al-Jarf, 2021)*; *Curriculum in emergency Covid-19 remote education at Saudi universities (Al-Jarf, 2021b)*; *Collaborative distance Arabic language learning between Russian and Arab Students in Africa (Al-Jarf, 2025)*. *COVID-19 emergency remote education curriculum at Saudi universities: Same or adjusted (Al-Jarf, 2022b)*. *How students were engaged during the second wave of COVID-19 by EFL, linguistics and translation instructors in distance learning (Al-Jarf, 2022h)*; *Building cultural bridges through social media networks (Al-Jarf, 2020b)*; *The pandemic job market from the perspective of female languages and translation college graduates in Saudi Arabia (Al-Jarf, 2021k)*; *how instructors engage students in distance learning during the Covid-19 second wave (Al-Jarf, 2021g)*.

- **The author's studies that use DL or webconferencing in normal, non-Covid circumstances as:** *Issues in using Periscope for live academic lectures during the Covid-19 pandemic (Al-Jarf, 2021b); using social media live video streaming to broadcast lectures to college students (Al-Jarf, 2018b); connecting graduate students across the world with research web-conferences (Al-Jarf, 2018a); Integrating Elluminate in EFL reading instruction (Al-Jarf, 2014b); Integrating Elluminate Webconferences in EFL grammar Instruction (Al-Jarf, 2013b); connecting the EFL classroom with local and global communities (Al-Jarf, 2009a); connecting EFL students and instructors online (Al-Jarf, 2009b); synchronous online training workshops (Al-Jarf, 2013c); videoconferencing for segregated university campuses at Saudi universities (Al-Jarf, 2005b); connecting students across universities in Saudi Arabia (Al-Jarf, 2005a); and eLearning and distance education at Arab universities (Al-Jarf, 2008).*
- **The author's studies about Covid-19 issues that do not involve DL as:** *The COVID-19 crisis management: Male and female leaders' success factors as perceived by educated Arabs (Al-Jarf, 2022).* This study examines national political leaders, gender differences in leadership and public perceptions of leadership efficiency
- **The author's studies that examine technology use unrelated to DL during the Pandemic** (e.g., general ICT adoption; mobile learning, online Learning Management Systems and others) were excluded as a systematic review on the *implementation, use, infrastructure, and success factors in LMS-supported EFL Instruction (Al-Jarf, 2026s); use of SharePoint as a learning management system by KSU faculty (Al-Jarf, 2009c).*

2.3 Corpus Characteristics

The final corpus consisted of 30 studies authored by Reima Al Jarf between 2001 and 2022. Because the dataset represents a closed, author-bounded research program, it is both comprehensive and internally coherent, reflecting a sustained scholarly trajectory in DL during the Covid-19 Pandemic. Although the studies address diverse topics, they share a consistent analytical orientation and employ comparable data collection approaches. Across the corpus, data were primarily descriptive and derived from three sources: questionnaire surveys and interviews with students, faculty, and parents, content analysis of teachers' professional development pages on Facebook, and examination of college courses and recruitment websites. Together, these methods generated a coherent body of evidence on the DL during the COVID-19 pandemic across Saudi Arabia. For synthesis purposes, the 30 studies were grouped into 9 thematic clusters, each representing a distinct dimension of the research program. Collectively, these clusters offer an integrated overview of the author's contributions to research on DL during the COVID-19 pandemic in Saudi Arabia. Overall, the corpus reflects a longitudinal, methodologically consistent body of work that traces the evolution of **DL** during the Pandemic from the crisis response to sustainable educational development.

2.4 Information Sources

Because this SR examines a closed, author-bounded corpus, the information sources were limited to the complete body of research published by Reima Al-Jarf between 2020 and 2025. All studies were retrieved from platforms that index the author's full scholarly output. No external database search was required, as the aim was not to identify global studies on DL during the Pandemic, but to synthesize all studies related to DL during the Pandemic within a single, self-contained research program. All records were obtained from publicly accessible academic platforms where the author's publications are archived, including Google Scholar, ResearchGate, Semantic Scholar, Academia.edu, SSRN, ERIC, EBSCO, ProQuest, and institutional repositories. Collectively, these platforms provide full coverage of the author's publications across journals, conference proceedings, and digital repositories. All included and excluded studies were verified manually to ensure accuracy, remove duplicates, and confirm alignment with the eligibility criteria described in Section 2.2.

2.5 Data Extraction and Synthesis

Data extraction was conducted manually using a structured template developed specifically for this author-bounded corpus. For each study, key information was recorded, including publication year, research purpose, methodological approach, participant characteristics, data collection tools, analytical procedures, and major findings. Additional fields captured each study's alignment with one of the 9 thematic clusters: crisis management, leadership, and policy; digital infrastructure, technology use, and platforms; teaching practices and instructional strategies; student engagement and preferences; children, family role, and home-based learning; psychological, social, and cultural dimensions; exams, assessment, and academic performance; curriculum adaptation; teachers' professional development. All extracted data were cross-checked manually to ensure accuracy and consistency across the corpus.

Given the descriptive nature of the studies and the heterogeneity of their designs, a qualitative synthesis approach was employed. Studies were compared within and across clusters to identify convergent themes, developmental patterns, and conceptual linkages. The synthesis emphasized longitudinal progression, methodological coherence, and the evolution of

country-wide DL in Saudi Arabia during the pandemic. Rather than aggregating numerical outcomes, the analysis focused on tracing how the author's research program collectively contributed to understanding the implementation of DL in Saudi Arabia during the Pandemic focusing on issues like crisis management, leadership, and policy; digital infrastructure, technology use, and platforms; teaching practices and instructional strategies; student engagement and preferences; children, family role, and home-based learning; psychological, social, and cultural dimensions; exams, assessment, and academic performance; curriculum adaptation; teachers' professional development within Saudi education contexts. This integrative synthesis provided a comprehensive account of the trajectory and impact of the research program.

2.6 PRISMA Flow Description

Because this SR is based on a closed, author-bounded corpus of 30 studies published by Reima Al Jarf between 2020 and 2025, the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) flow reflects a streamlined and fully contained identification and screening process. All publications produced by the author during this period were retrieved from academic platforms and institutional repositories and were manually screened for relevance to country-wide DL implementation, focusing on issues like crisis management, leadership, and policy; digital infrastructure, technology use, and platforms; teaching practices and instructional strategies; student engagement and preferences; children, family role, and home-based learning; psychological, social, and cultural dimensions; exams, assessment, and academic performance; curriculum adaptation; teachers' professional development within Saudi education contexts.

During the screening stage, each record was assessed against the predefined eligibility criteria. Studies were excluded if they were duplicates, non-empirical, or if they addressed topics outside the scope of DL during the Pandemic—such as studies in which the live-streaming and web-conferencing platforms were not used during the pandemic, or studies focusing on other technologies, blogs, podcasts, mobile apps, mind maps, online videos, online tasks, or social media in normal circumstances.

Full-text screening confirmed the final set of 30 studies that directly contributed to the 9 domains of the research program. The PRISMA flow therefore documents a linear progression from the initial identification of all publications within the author's research record, through relevance screening and eligibility assessment, to the final inclusion of studies that substantively address implementation of country-wide DL, DL infrastructure and use; teaching practices and instructional strategies in DL; student engagement and preferences; psychological, social, and cultural dimensions; children, family role, and home-based learning; exams, assessment, and academic performance; curriculum adaptation; and teachers' professional development within Saudi education contexts. This process ensured that the resulting corpus was comprehensive, coherent, and methodologically aligned with the aims of this SR.

3. Results

3.1 Overview

The analysis of the 30-study corpus revealed a coherent yet multi-layered picture of how distance learning (DL) functioned during and after the COVID-19 pandemic within the Saudi educational context. The studies, though diverse in focus, collectively map the digital, pedagogical, psychological, and institutional dimensions of the DL experience. To capture this breadth, the findings were organized into nine thematic clusters that reflect the major domains addressed across the corpus. These clusters provide a structured lens through which cross-cutting patterns, recurring challenges, and emerging innovations can be examined. The following sections present the results of each cluster, highlighting both the distinct contributions of individual studies and the common themes that connect them.

Cluster 1: Digital Infrastructure, Technology Use, and Platforms

Investigating digital equity in distance education in Saudi Arabia during the COVID-19 pandemic (Al-Jarf, 2021i)

This study investigates the digital equity in accessing online courses by students in low-income families, orphanages, and remote areas. A sample of school and university teachers and students from different regions in SA reported that lack of devices/Internet access was overcome by: (i) Governorates donating thousands of tablets to disadvantaged students; (ii) charity organizations and affluent individuals donate tablets/laptops and financial aid; (iii) some school teachers collect money to buy tablets for needy students; (iv) students who do not have devices and/or Internet go to school few times a week and meet with teachers face-to-face to teach them and help them with homework; (v) needy college students are allowed to use devices and Internet at their college computer labs or library; (vi) some underprivileged students reported borrowing a smart phone/laptop from relatives or neighbours and/or use relatives and neighbours' Internet; (vii) Saudi mobile companies offer special Internet packages for students and teachers.

Issues in using Periscope for live academic lectures during the Covid-19 pandemic (Al-Jarf, 2021j)

The author used Periscope to broadcast live language, translation and technology lectures to her Twitter followers. The Periscope lecture analytics showed that lectures with the highest viewers, impressions and engagement were those about how to develop

translation and interpreting skills and how to integrate Elluminate in teaching. Followers' surveys indicated that the Periscope lectures and their replays were beneficial, interesting, enriching, invaluable, and fulfilling their needs. As a lecturer, the author found Periscope easy to use. She could go live anytime and anywhere. She did not have to register students. Replays can be accessed via Periscope or Twitter. However, reading comments and questions while live-streaming was somewhat challenging. When lecturing via Periscope, the author could not hear viewers' voices or see their facial expressions as in Zoom. Engagement, interaction and communication among the viewers themselves, and between the viewers and the instructor were very low.

Cluster 2: Teaching Practices and Instructional Strategies

Grammar podcasts for ESL college students in distance learning (Al-Jarf, 2023b)

The study proposed a model for integrating grammar podcasts in teaching English grammar to EFL/ESL college students. It gives examples of English grammar podcasts and shows how they can be downloaded and used. Grammar podcasts contain 2-5-minute-long audio explanations of a particular grammatical point or structure. They include a lesson script, exercises, quizzes with an answer key, and/or English grammar help where answers are given to students' questions about problematic grammatical points. Students can download podcasts, print the script, do the exercises and score their answers themselves. Elementary, intermediate, and advanced level grammar podcasts can be downloaded. Students can listen to grammar podcasts anywhere, anytime and as many times as they need. Classroom discussions on a grammar podcast can be performed in pairs, small groups or even the whole class. End-of-semester grammar tests can be given to find out improvements in the students' grammatical knowledge/achievement as a result of integrating grammar podcasts in EFL grammar courses.

YouTube videos as a resource for self-regulated pronunciation practice in EFL distance learning environments (Al-Jarf, 2022)

This article shows how YouTube videos can be integrated in EFL instruction to teach pronunciation and how to locate YouTube videos that target a specific pronunciation skill. YouTube videos are free, provide a variety of topics, speakers, and difficulty levels, can be easily downloaded to a laptop or mobile phone and can be viewed anywhere and anytime. Criteria for selecting online videos include the video length in minutes, topic familiarity, difficulty level, speed of the speakers, students' proficiency level, and students' interests. It gives the pronunciation subskills that can be developed through YouTube videos and the teaching and learning guidelines before watching, while watching and after watching the video.

Bloggng about the Covid-19 pandemic in EFL writing courses (Al-Jarf, 2022a)

This study presented a model for blogging about the Covid-19 Pandemic in EFL writing courses. Topics about the Covid-19 Pandemic are current, familiar, tangible, specific and widespread; the students will have no problem in generating ideas and will only need to focus on organizing ideas and linguistic aspects. A class blog can be selected and used as a supplement to in-class EFL writing instruction. The students search for articles, photos, or videos related to the Covid-19 topic assigned and write a short paragraph or s summary of the article or video and post it in the blog. They post questions, comments, reactions and feedback on their classmates' blog posts' form and content. The instructor serves as a facilitator and encourages the students to write and interact.

Online vocabulary tasks for engaging and motivating EFL college students in distance learning (Al-Jarf, 2022j)

This study proposes a variety of online vocabulary tasks and technologies that instructors can choose from, such as mobile-based applications viz Vocup, Quizlet, Quizizz, game-based mobile apps, Saving Alice, Duolingo, Kahoot, vocabulary flashcards, mobile audiobooks, collaborative mobile ebook reading; podcasts; online dictionaries; concordance-based glosses; picture viewing and picture drawing on tablets, videos; e-portfolios; teaching idioms via graphic novels; multimedia annotations, social networks, project-based learning and mind-maps. To engage, motivate and encourage student-student and student-instructor interaction in the DL environment, the study proposes using WhatsApp, ConnectYard, creating a community of inquiry, creating a learning partnership, collaborative writing exchange projects, student collaboration, social interaction, integrating text-chat and webcam, and utilizing technology-mediated task-based language teaching. Online vocabulary tasks can be performed individually, in pairs, or in small groups; interactively or collaboratively; synchronously or asynchronously. Instructional phases and teacher and students' roles are also described.

EFL speaking practice in distance learning during the coronavirus pandemic 2020–2021 (Al-Jarf, 2021d)

The study explored the types of online speaking activities that a sample of college instructors were using in DL and how they engaged students online in the absence of face-to-face activities, interaction, and communication. Survey results showed that EFL college instructors used a variety of online speaking activities such as: assigning a topic which the students research and prepare at home and then give an online oral presentation about it online through the platform; using online debates about some issues; answering problem-solving questions; student-created podcast on a topic of their choice and publishing them in a Speaking Center on Twitter; combining listening and speaking activities; using Vicaroo, a free online audio recording creator to

record conversations and presentations; using the Kahoot app and others. The students found the activities fun and beneficial. They learnt a lot. Their speaking skills improved a lot. They can speak confidently and fluently.

Mobile audiobooks, listening comprehension and EFL college students (Al-Jarf, 2021)

This article proposes the integration of mobile audiobooks (MABs) to develop EFL college students' listening comprehension skills. It outlines the following: The advantages of integrating MABs in listening instruction; sources of MABs; how to search for MABs; criteria for selecting MABs; examples of MABs; listening comprehension skills and literary appreciation skills that can be developed through supplementary MABs; phases of teaching and learning with MABs and types of tasks that can be used with MAB; evaluation and assessment; the effect of MABs on listening comprehension skill improvement and attitudes as perceived by the students; and recommendations for the effective use of MABs.

Emergency student practicum and training during the pandemic at Saudi universities (Al-Jarf, 2022e)

Results of surveys with a sample of instructors showed that Languages, Translation, Literature, Linguistics, Education and Computer Science Departments in Saudi Arabia shifted to online (virtual) practicum such as online micro-teaching, online simulated teaching, remote hands on teaching using the Saudi Ministry of Education's Platform "Madrasati" that is used for Grades k-12; reduced hours and days of face-to-face teaching practicum and training; a Teacher Mentoring Program for EFL majors and a Cooperative Training Program for linguistics and translation students. Translation students also had the option to translate 14,000 words remotely (at home), discuss and receive feedback online instead of field training in translation. In computer science, the students could complete their face-to-face practicum in small groups during the summer to maintain social distancing or attend 135 hours of online training courses in a variety of computer fields. Recommendations for further emergency practicum solutions are given such as student-created videos and podcasts, delivering lessons via a variety of live-streaming software such as Elluminate, Periscope and Facebook Watch Party, joining professional teachers and translators' forums and pages on social media, developing Apps, robots, and conducting some learning analytics of students' data in DL contexts in Saudi Arabian schools and universities; offering courses that prepare students for remote (online) jobs during the Pandemic and beyond.

Strategies for effective distance learning in foreign language, linguistics and translation college courses (Al-Jarf, 2022m)

This article proposes strategies for making distance teaching and learning in foreign language, linguistics and translation college courses effective, interactive, engaging and fun. The strategies include: Using some free platforms, supplying devices and good infrastructure to both students and instructors, practicing using the platform, supplementing the platform with one or more technologies, orientation, training and support, telling the students about online class logistics, selecting online course material and resources, integrating global topics and participation goals in the class material, practicing a variety of language skills with online videos, blogs, mobile apps and others, using effective teaching techniques, assignments, and activities, giving feedback, motivating and engaging the students, online communication and interaction, nurturing the online classroom community, preparing and following effective and reliable online testing procedures, the instructor's role in the DL environments, evaluating the students' and faculty DL experience, and providing teachers' professional development and support.

Issues in interactive translation practice on Twitter (Al-Jarf, 2020e)

The author used her Twitter account to tweet images of English and Arabic texts to be translated by her student followers who are translation majors. Her followers translated the texts and corrected the translation errors, tweeted and re-tweeted their translations and corrections for feedback. She gave feedback on the location and types of translation errors, tweeted prompts, translation tips and resources while followers were re-thinking and working on their answers. The followers reported that they benefited from the variety of translation tips, feedback and dictionaries tweeted.

Cluster 3: Student Engagement, and Preferences

How EFL, linguistics and translation instructors engage students in distance learning during the Covid-19 second wave (Al-Jarf, 2022g)

This study reports 15 types of activities that EFL, linguistics and translation instructors at a sample of Saudi universities used in DL. These include searching for linguistic and translation key terms and concepts, problem-solving questions, online debates, summarizing a research paper, attending a thesis defense, inviting guest speakers, project-based assignments, connecting writing and speaking topics with the Kingdom of Saudi Arabia's Vision 2030, collecting and analyzing translation errors, translating Wikipedia articles, interpreting contests, linguistic analyses of family speech and videos, student-created podcasts and digital stories, dynamic online speaking activities, and integrating technology such as Slido and Padlet. The participating students found those activities beneficial, enjoyable, and helpful. Their skills improved as a result of reading, preparing and synthesizing information and the feedback received.

Collaborative distance education between Russia and Africa during Covid-19 (Al-Jarf, 2020c)

This study proposed a model for online collaboration among Russian AFL teachers and students and Arabic-speaking teachers and students in African Arab countries through video-conferencing platforms to help Russian students practice oral skills. First, the host and guest teachers select the platform, set the practice schedule, prepare the material and online resources for oral practice, try the platform, how to share the screen, call on students, breakout rooms...etc, and how to upload/share material. The practice material may consist of Arabic language functions, things around the students, daily activities, experiences and students' environment, describing pictures, talking about cultural topics and so on. Only Standard Arabic should be used. No explanation of grammatical rules in L1 (Russian), no translation, no use of Arabic grammatical terms, and no writing of the question and answer on the board. The students should depend on their ear. They use short sentences and concrete objects, nouns, verbs ... etc. Vocabulary and sentence structure are taught together. Pictures, gestures, and short videos can be used. The same question pattern *ماذا يفعل ما هذا؟* is used when the teacher asks about names of objects and actions (verbs). They ask questions to help students discriminate singular, dual, plural, masculine and feminine forms and verb conjugations. Mistakes are corrected instantly. The students repeat the correct form, new word or question several times. Correct answers are reinforced. Positive feedback is given for every answer.

Building cultural bridges through social media networks (Al-Jarf, 2020a).

An English teacher uses Skype to connect his high school students in an Indian village with international teachers on a daily basis to help them interact and converse with them in English for 40 minutes. Results of this intercultural exchange showed many benefits for the students: Listening and speaking skill enhancement, getting used to different native and non-native accents, improved pronunciation, learning new vocabulary and grammatical structures, learning names of countries, their location, flags, currency, cities, people, and exchanging information and pictures about the local and target cultures. They learn about the foreign country's educational system, history, antiquities, food, art, traditions, and costumes. They are taken on virtual field trips to some historical places and museums. They learn about natural phenomena such as the northern lights. Sometimes they receive books, T-shirts and pens as gifts from foreign teachers.

Cluster 4: Children, Family Role, and Home-Based Learning

Parental attendance of children's online classes from the perspective of parents and teachers in Saudi Arabia (Al-Jarf, 2022)

Results of a survey showed that more parents (54%) than teachers (46%) are in favor of parental attendance of children's online classes, especially if the children are in the lower grades, but more teachers (54%) than parents (46%) disapprove of parental attendance of online courses. Both parents and teachers reported that parents organize, facilitate, monitor children's attention in classes, motivate, nurture, and support online learning. Those who do not prefer parental attendance indicated that traditionally, parents do not attend face-to-face classes and rules for online class attendance should be the same as face-to-face class attendance. Children should be given the opportunity to adjust to online learning, face challenges, develop self-discipline, a sense of responsibility and autonomy. Parents can interfere if the child is having an internet connectivity, platform problem, difficulty submitting an assignment, is new to the platform or has a learning disability.

Differential effects of the iPad on first and second language acquisition by Saudi children during the Covid-19 pandemic (Al-Jarf, 2021c)

Results of the survey-questionnaire showed that the iPad is more effective in helping young children in language learning than children in grades 1-3, and those in grades 4-6, respectively. Older children mainly use the iPad to play games and watch movies. More children under 6 use the iPad to learn English than Arabic. They use Arabic Alphabet apps (21.88%); use apps to learn the Quran (15.6%); arithmetic apps (12.5%); animal apps (12.5%), names of colors, fruits, seasons, and continents apps. They learn from games, cartoons, movies, nursery rhymes, stories, and flash cards. The iPad helps children focus on and engage in learning because the apps are interactive and use color, animation, audio, and video. Negative effects of the iPad on language learning include learning bad language, bad handwriting and some children no longer read print books. Most parents supervise their young children but not older children, while using the iPad.

Impact of the iPad on Saudi young children in the home environment as perceived by their mothers (Al-Jarf, 2021h)

Results showed that half of the children in the sample have their own iPad. 50% spend 1-2 hours a day using the iPad; 30% use it on holidays. 74% of the parents believe that the iPad has become a necessity. They like to introduce their children to latest technologies. They indicated that the iPad helps children learn quickly and easily, and keeps the child calm and occupied while the mother is busy, having visitors, or running errands. However, use of the iPad by young children causes distraction, social isolation; addiction to the iPad; losing their temper when the iPad is taken from them or when it is out of battery. Staring at the iPad for a long time affects children's eyesight. Some children do not move or play, socialize, or communicate with others while

using the iPad. The mothers did not agree on the optimal age for using the iPad. The majority recommended setting a time limit for using the iPad under the parents' supervision.

Digital reading among children in Saudi Arabia (Al-Jarf, 2023).

Survey results showed that all the children in the sample use a smart phone to access apps, games, cartoons, and YouTube videos. About 41% use an iPad or tablet and few use their parents' or older siblings' laptops. None of the children in the sample uses an e-reader such as Kindle. 5% do not like to use an iPad/tablet and prefer to use their parents' smart phones. Children under 6 enjoy reading English and Arabic letters, numeracy and words on touch screens. 36% of the children in grades 1-3 use touch screen devices in learning to read and 64% use them for games and entertainment. Children in grades 4-6 mainly use touch screen devices to play games, soccer, car races and watch English movies but do not use those devices for reading purposes. Older children feel that educational and language learning and reading apps are boring. During the pandemic, children used technology intensively due to remote teaching and learning, i.e., more than before and after the Pandemic. About half of the parents do not share, nor supervise their children while reading from touch screen devices whether during, before or after the pandemic. Most parents and children in Saudi Arabia still prefer print books and stories. Mobile audiobooks, electronic reading games, storybooks, picture books and glossy magazines, reading lessons with a digital, human-like character, WhatsApp remote reading, online book clubs, and children's digital libraries are not used.

Cluster 5: Psychological, Social, and Cultural Dimensions

Distance learning revisited: Students' preferences and attitudes in the post-pandemic era (Al-Jarf, 2024)

Use of DL continued at many schools and universities after the end of the Pandemic. Responses to a survey showed that 36% of the students in the sample prefer DL because it has become a necessity during emergencies such as pandemics and wars. They can check the lecture recording any time. They save commuting time. In addition, 40% of the respondents prefer face to face instruction because they get better grades. It is more suitable for science classes (labs, experiments, anatomy). Participation, interaction, and questions make a difference. In DL, students can leave Blackboard or Zoom, walk around, and take a nap, whereas in face to face, they focus better. Some health sciences, engineering, law, and/or business instructors talk about their experiences and views of the job market which is enriching and enjoyable for the students. Moreover, 17% have no preference and believe that the mode of learning depends on the instructors' competence, teaching techniques used, integration of technologies, and online resources, interaction, engagement, and students' participation.

Positive psychology in emergency distance education in Saudi Arabia during the pandemic and beyond (Al-Jarf, 2022)

Due to the COVID-19 Pandemic, and the sudden transition to DL at Saudi schools and universities, 55% of students surveyed were dissatisfied with DL, online communication and had difficulty understanding the course material. Students showed low self-efficacy, engagement and motivation, a negative role and absence of goals. They were mostly concerned about passing the exams. To enhance college students' self-efficacy, interest, interaction, and engagement in DL, and help students become happy and relaxed learners, overcome their anxiety, this study proposes the integration of positive psychology and gives practical guidelines to develop positive attitudes, positive thinking, build students' resilience and teach them how to cope with and manage challenging learning situations in DL by setting clear teaching and learning goals, standards for passing courses, sending positive messages, writing success stories, providing moral support, reading self-help books, watching self-improvement videos and giving positive feedback. It also gives sample activities for increasing students' engagement, interaction, and communication.

Distance learning and undergraduate Saudi students' agency during the Covid-19 pandemic (Al-Jarf, 2020d)

Survey results showed that 55% of the translation students and instructors were dissatisfied with DL, online communication and had difficulty understanding online lectures. Findings also showed the absence of goals, low self-efficacy, low student engagement and motivation, and a negative role. The most common concern was exams and passing courses with high grades. Instructors reported that many students were not interested in online learning, refused to do assignments, refused to give oral presentations, did not participate in online class discussions, preferred lecture recordings, cheated on exams, overslept and started exams late.

Combating the Covid-19 hate and racism speech on social media (Al-Jarf, 2021)

The spread of Covid-19 worldwide was associated with hate and racism speech on social media which sometimes encourages violence and bullying in different communities. This study proposed a model for creating an anti-hate Twitter page to teach students tolerance rather than negative sentiment associated with Covid-19, to encourage dialogue, and teach students to accept others. Students and instructors from different backgrounds enter into dialogue with each other to gain knowledge of the reality of Covid-19, and to critically reflect on the pandemic. Students may use art and culture to create counter-narratives to counterbalance one-sided narratives and simplified overgeneralizations by hate speakers. Bringing the outside world to the students' realm through publishing and watching videos about Covid-19 around the world. Students can search for and tweet

examples of pandemics that took place throughout history such as the Spanish flu, the plague in the Middle Ages and others. Students can search for and tweet examples of pandemics that took place throughout history such as the Spanish flu, the plague in the Middle Ages and others. Although the study focuses on combating Covid-19 hate speech, it is included in this SR because it employs Twitter-based writing tasks that promote critical thinking, creativity, and online written interaction among EFL learners.

Educated Arabs' reading interests and preferences before, during and after the pandemic (Al-Jarf, 2022d)

Twitter threads, hashtags and surveys and responses to the question "What are you currently reading" were collected and analyzed. Data analysis showed that the preferred book titles with the highest percentages were novels/fiction (31.5% before the Pandemic and 41.5% during the Pandemic); Islamic books (22.5% before the Pandemic and 12% after the Pandemic); (iii) self-development books (12.5% before the Pandemic and 20% during the Pandemic). 80.7% preferred to read paper books and 19.3% electronic books. In most surveys, between 50%-60% of the respondents do not read at all. In 2 surveys, between 76%-80% do not read. The highest number of books read was during the Pandemic as 32.5% read 5 books and 38.5% read more than 20 books. The status of reading after the Pandemic was like that before the Pandemic (43.4% did not read). 31% of graduate and undergraduate students read nothing outside their course textbooks. The study recommended using book clubs, BookTok, encouraging students to visit libraries, using online courses, blogs, and mobile apps for discussing books read, integrating global topics in the school and college curriculum and others.

Distance education during the Pandemic: Advantages and challenges (Al-Jarf, 2020).

The study examined faculty and student perceptions of emergency remote teaching during the early months of the COVID-19 pandemic. Based on two surveys, the study revealed a sharp divide between supporters and skeptics of DL, with many respondents expressing a strong preference for face-to-face instruction due to its interpersonal, social, and interactive advantages. Participants emphasized that in-person learning fosters discussion skills, respectful dialogue, classroom discipline, and deeper concentration, while also enabling immediate clarification, hands-on practice, and richer social engagement. In contrast, the shift to DL was perceived as abrupt and insufficiently supported, with widespread concerns about limited digital skills, lack of training, weak infrastructure, and difficulties in communication and participation. Students reported challenges in understanding lectures, maintaining focus, completing assignments, and navigating online assessments, alongside anxiety about exams, academic integrity, and technical failures.

Despite these challenges, the study identified several benefits of distance learning, including flexibility of access, reduced transportation barriers, opportunities for shy students to participate more confidently, and the availability of recorded lectures and abundant digital resources. The presenter also highlighted successful experiences using diverse digital tools to teach language skills, noting increased engagement and improved writing productivity among students. The study concluded that the pandemic marked a systemic, not temporary, shift toward digital education, and recommended sustained training for faculty and students, improved technical and academic support, enhanced infrastructure, diversified assessment methods, and the integration of blended learning models to ensure long-term quality and readiness.

Cluster 6: Exams, Assessment, and Academic Performance

Online exams in language, linguistics and translation courses during the pandemic in Saudi Arabia (Al-Jarf, 2022i)

This study explored the status of online exams in language, linguistics, and translation courses in the first two semesters of the Pandemic (Spring 2020 and Fall 2020). Analysis of faculty surveys and students' comments on Twitter showed that the main concern of 91% of the students was final exams and passing courses with high grades. Students were worried about the negative effect of online exams on their GPA. Since the students were not familiar with online exams taken via Blackboard, they were anxious and wondered if they would do well. Some cheated on online exams as their cameras were turned off. Numerous adjustments were mandated by university administrations to alleviate students' anxiety such as allocating 20% of the course mark to the final exam, allowing more exam time, giving projects, open-book exams, term papers, reports, assignments or giving a presentation instead of the final. Some instructors gave easy questions and were lenient in grading to avoid students' complaints. They gave no essay, just objective questions. The students were given the option to drop the course, to choose a letter grade, pass/fail, i.e., no grade, or to have a course mark included in their GPA. Based on faculty surveys, this study reports challenges of online exams during the Pandemic, design and delivery of online exams, assessment forms and choices, grade inflation issues, and lessons learned and some recommendations.

Grade inflation at Saudi universities before, during and after the pandemic: A comparative study (Al-Jarf, 2022f)

This study examined grade inflation in 127 language, linguistics, translation, education, and computer courses taught at some Saudi universities before, during and after the Pandemic. Grades obtained from some instructors for courses taught over 8 semesters were analyzed as well. Results showed that 65% of the students chose a pass/fail and no-grade result, the rest mostly

earned A & B grades in Spring 2020 when instruction and assessment were held online compared to students' grades in Fall 2018, Spring 2018, Fall 2019, and after the Pandemic (in Fall 2020, Spring 2021, Fall 2021, Spring 2022). Grade inflation was the highest in computer courses, followed by education courses and was the least in language, linguistics, and translation courses. Grade inflation in Spring 2020 was due to the adjustments mandated by universities to alleviate students' anxiety caused by the sudden shift to online teaching and assessment. Universities allocated 20% of the course marks to final exams, gave alternatives to a written final and were lenient in grading. Students had the option to drop the course or have a pass with no-grade result. In Fall 2020, classes were still held online but exams were held on campus. Starting Fall 2021, both instruction and exams were held on campus. Mark distribution and exam requirements went back to normal as before the Pandemic. However, grade inflation continued in many courses even in Spring 2022.

Cluster 7: Curriculum Adaptation

Pandemic crisis management programs at Saudi universities: Current status and future perspectives (Al-Jarf, 2023c)

Websites of all Saudi higher institutions were searched for pandemic crisis management programs. Results revealed that none of the Saudi universities and/or colleges has a department, a program or offers courses in health crisis/disaster management education during pandemics for undergraduate or graduate students. An MA in Health services and Hospital Management offered by King Abdul-Aziz University and a B.A. Program in Health Informatics offered by the Saudi Electronic University. In addition, the College of Earth Sciences at King Abdul-Aziz University offers an M.A. program in Disaster Management as earthquakes, landslides, and dust collapses. Nayef Arab University for Security Sciences offers an M.A. program in Crisis and Disaster Management in cybersecurity and criminology. The Environmental Health Department at Imam Abul-Rahman Bin Faisal University offers a program in Occupational Health and Safety. The Islamic University in Madinah offers a diploma in occupational health and safety and security of factories and engineering companies. Few programs in Risk Management and Insurance are offered at King Saud, King Abdul-Aziz, Jeddah, and Imam universities. Numerous universities have centers, units or committees that are in charge of emergency and disaster occupational safety and security on campus. Due to the dearth of programs, establishing accredited Pandemic crisis management programs/courses in the healthcare field is urgently needed.

Curriculum in emergency Covid-19 remote education at Saudi universities: Same or adjusted (Al-Jarf, 2022c)

Surveys with a sample of instructors and students from English Language Centers, Colleges of Languages, Translation, Linguistics, English Literature, Education and Computer Science at 8 Saudi universities revealed no adjustments made and no new courses and skills offered in the languages, translation, linguistics, literature, education or computer science curricula in the DL courses offered to students during the first 3 semesters of the Pandemic (Spring 2020, Fall 2021 and Spring 2021). Graduate and undergraduate students surveyed confirmed what the instructors reported about the college curricula. The only difference is in the delivery mode. The instructors indicated that no changes could be made in the college curricula as those have to be approved by their Department, College and Academic Councils. However, there were some alternatives for completing the Teaching Practicum courses and Graduation Projects offered to senior students in the different colleges as there was no face-to-face training/practice. The students preferred lecture recordings (asynchronous DL) to synchronous DL.

Cluster 8: Teachers' professional development

ESL teachers' professional development on Facebook during the Covid-19 pandemic (Al-Jarf, 2021)

2500 posts from 75 ESL Teachers' Facebook Pages (TFPs) were analyzed. It was found that 12% are general Teachers' Facebook Pages (TFPs), 42% target ESL teachers in specific countries, 16% are devoted to recruitment and job announcements, 38% are theme-based, and 22% focus on online/virtual and home-based teaching. The topics that teachers post in the TFPs, teachers' views of the benefits and shortcomings of joining TFPs, and the role of TFPs in their professional development are reported in detail.

Cluster 9: Pandemic Job Market For Graduates During Covid-19

The pandemic job market from the perspective of female languages and translation college graduates in Saudi Arabia: Crisis or opportunity (Al-Jarf, 2022o)

The COVID-19 outbreak early 2020 has had a considerable impact on the global labor market. Many businesses closed down, constrained their working hours, reduced their staff, and/or limited their new recruitments. Many employees have been obliged to work remotely and interact digitally. Due to the Pandemic, the unemployment rates have gone up to unprecedented rates in all countries. This study investigates the status of unemployment in Saudi Arabia in May 2021 among languages and translation graduates and whether Saudi universities have adapted their curricula to equip languages and translation graduating seniors with the necessary skills needed for the Pandemic and Post-pandemic job market. Most participating graduates, instructors and administrators in the sample reported lack of jobs for language and translation graduates and that universities have not adapted their curricula nor offered any training courses or seminars in job search techniques and digital and interpersonal skills necessary for the new Pandemic job environment. The study recommends that Saudi universities offer online workshops and seminars to train graduating seniors in preparing a CV, writing a letter of purpose and cover letter, filling a job application form, answering

online vocational interest surveys, where to look for a job online, joining online business communities, getting ready for job interviews, raising students' awareness of recruitment and job advertisement websites/pages, and training students in effective communication, interpersonal, and digital skills needed for a remote job environment. Students are also advised to do volunteer work and take training courses while waiting to be recruited.

4. Discussion

4.1 Meta-Conclusion

Across the 30 studies analyzed in this SR, a coherent and multi-layered picture of DL during the COVID-19 pandemic emerges: one that reveals an interconnected ecosystem of pedagogical, technological, psychological, and institutional responses. The corpus demonstrates that the sudden transition to online learning exposed structural inequities in digital access, yet also mobilized unprecedented community-based solutions that mitigated device and connectivity gaps. At the instructional level, faculty across disciplines rapidly diversified their teaching practices, adopting podcasts, YouTube-based pronunciation training, blogging, online vocabulary tasks, virtual speaking activities, and redesigned practicum models to sustain learning continuity. Students' engagement patterns reflected both creativity and strain: while many students benefited from interactive tasks, cross-cultural exchanges, and technology-mediated collaboration, others struggled with low self-efficacy, anxiety, and a preoccupation with exams and grades. The home environment emerged as a decisive factor for younger learners, with parents assuming expanded roles in monitoring, facilitating, and regulating children's online learning and technology use. Psychologically and socially, the studies reveal a tension between digital learning and the emotional burdens of isolation, uncertainty, and shifting academic expectations. Assessment practices underwent major restructuring, leading to grade inflation and flexible exam policies, while curricular structures remained largely unchanged due to institutional constraints. Finally, the corpus highlights the importance of teacher professional development and the role of social media communities in supporting instructors' adaptation to emergency remote teaching. Taken together, these studies show that DL during COVID-19 was a complex, evolving system shaped by infrastructure, pedagogy, learner agency, family dynamics, institutional policy, and broader socio-cultural forces.

4.2 Meta-Interpretation

The findings across the corpus reveal that the effectiveness of DL during the COVID-19 pandemic cannot be attributed to any single technological, pedagogical, psychological, or institutional factors per se. Instead, the studies collectively show that DL functioned as an interdependent system, where weaknesses or strengths in one domain echoed across all others. Digital infrastructure, for example, was not merely a technical prerequisite; it shaped students' sense of agency, instructors' pedagogical choices, and even the emotional climate of learning. Where access was stable, instructors experimented with podcasts, YouTube-based pronunciation training, blogging, collaborative projects, and virtual practicum models. Where access was fragile, students' engagement, confidence, and academic performance were compromised, regardless of instructional quality.

A second interpretation emerges from the tension between innovation and constraint. Instructors demonstrated remarkable creativity in redesigning speaking tasks, vocabulary activities, writing assignments, and practicum experiences. Yet these innovations occurred within rigid curricular structures that remained largely unchanged due to institutional approval processes. This mismatch between dynamic pedagogy and static curriculum helps explain why teaching practices evolved rapidly while curricular adaptation lagged behind. It also clarifies why assessment practices became the primary site of institutional flexibility. Universities could not change curricula, but they could adjust grading policies, exam formats, and evaluation procedures to reduce student anxiety.

The corpus also reveals deep psychosocial factors that shaped learning more powerfully than technology or pedagogy alone. Students' dissatisfaction, low self-efficacy, exam anxiety, and disengagement were not simply reactions to online platforms; they reflected broader emotional responses to uncertainty, isolation, and the collapse of familiar academic routines. By contrast, studies that integrated positive psychology, intercultural exchange, or social-media-based dialogue showed that emotional support, community, and cultural connection could transform the online environment into a space of resilience and growth. This suggests that the success of DL depended on affective scaffolding as well as instructional design.

Finally, the corpus reveals that while students and instructors adapted their practices, institutions adapted their policies, and families adapted their roles, the curriculum itself remained largely immobile. This immobility created a pedagogical paradox: instructors were expected to innovate within curricular frameworks that were never designed for online delivery. The result was a system that functioned through localized, instructor-initiated solutions rather than systemic reform. This interpretation positions the pandemic not as a catalyst for curricular transformation, but as a catalyst for pedagogical improvisation, assessment flexibility, and community-based support mechanisms.

Taken together, the corpus suggests that DL during COVID-19 was not simply an emergency response but a complex negotiation among technology, pedagogy, emotion, policy, and social context. Its successes and failures were shaped by the degree to which these elements aligned—or collided—within the lived realities of students, instructors, families, and institutions.

4.3 Cross-Cutting Insights

A cross-cluster analysis of the 30 studies reveals several overarching insights that illuminate how DL functioned during the COVID-19 pandemic. These insights cut across technological, pedagogical, psychological, social, and institutional dimensions, showing that the pandemic reshaped education not through isolated changes, but through system-wide interactions.

First, the corpus demonstrates that digital access was the foundational determinant of all other educational experiences. Studies on digital equity show that device availability, connectivity, and community-based support mechanisms directly influenced students' engagement, instructors' pedagogical choices, and even the emotional climate of learning. Where access was stable, instructors experimented with podcasts, YouTube-based pronunciation training, blogging, collaborative tasks, and virtual practicum models. Where access was fragile, students' agency, confidence, and performance were compromised regardless of instructional quality. Digital infrastructure thus acted as a structural gatekeeper for learning.

Second, pedagogical innovation emerged as a compensatory response to structural constraints. Across clusters, instructors rapidly diversified their teaching practices—integrating podcasts, videos, blogs, vocabulary apps, online debates, digital stories, and cross-cultural exchanges. These innovations were not random; they were strategic attempts to recreate interaction, engagement, and skill development in the absence of physical classrooms. The studies collectively show that pedagogical creativity filled the gaps left by static curricula and institutional immobility, allowing learning to continue despite systemic limitations.

Third, student engagement was shaped more by emotional and social factors than by technology alone. Across clusters, students' dissatisfaction, low self-efficacy, exam anxiety, and disengagement were linked not only to platform challenges but to broader psychosocial pressures: uncertainty, isolation, disrupted routines, and fear of academic failure. By contrast, studies that integrated positive psychology, intercultural dialogue, or social-media-based collaboration showed that emotional support and community could transform online learning into a space of resilience. This indicates that affective support, not just instructional design, was essential for sustaining engagement.

Fourth, the home environment became an active educational space, reshaping learning conditions for younger learners. Studies on children and families show that parents assumed expanded roles as facilitators, monitors, motivators, and troubleshooters. The iPad studies reveal that home-based digital learning was shaped by parental supervision, children's developmental stages, and the affordances and risks of mobile technologies. This highlights a shift from school-centered to family-mediated learning, where household dynamics significantly influenced educational outcomes.

Fifth, assessment practices underwent rapid and flexible transformation, while curricula remained largely unchanged. Universities adjusted grading policies, exam formats, and evaluation procedures to reduce student anxiety, leading to grade inflation and alternative assessment models. Yet curricular structures remained static due to institutional approval processes. This asymmetry—flexible assessment versus rigid curriculum—reveals that institutions adapted policies more readily than pedagogical content, placing the burden of innovation on instructors rather than on systemic reform.

Finally, the studies collectively show that DL during COVID-19 was sustained through distributed forms of leadership and support. While formal curricular change was limited, learning continued through community donations, parental involvement, instructor-driven innovation, student agency, and social-media-based professional development. These distributed efforts compensated for institutional gaps, illustrating that the resilience of the educational system depended on multi-level collaboration rather than top-down directives.

Together, these cross-cutting insights reveal that the pandemic did not simply shift education online; it exposed the interdependence of infrastructure, pedagogy, emotion, family, assessment, and institutional policy. The effectiveness of DL emerged from the alignment—or misalignment—of these interconnected elements.

4.4 Macro-Level Impacts Beyond the Classroom

The study on the pandemic job market for female languages and translation graduates (Al-Jarf, 2022o) adds an essential macro-level dimension to the corpus by shifting the focus from instructional processes to post-graduation outcomes. It revealed that the COVID-19 crisis reshaped employment opportunities in ways that were both disruptive and generative. While many graduates faced hiring freezes, reduced internship opportunities, and limited access to traditional workplace training, the study

also documented emerging pathways created by the rapid digitalization of the labor market. Remote translation, online tutoring, digital content creation, and freelance language services expanded significantly, enabling graduates to enter new professional domains that were previously less accessible. The findings highlight that the pandemic functioned as both a crisis and an opportunity: it exposed structural vulnerabilities in the job market for humanities graduates, yet simultaneously accelerated the demand for digital linguistic skills. This study complements the rest of the corpus by demonstrating that the impact of COVID-19 extended beyond teaching and learning to influence employability, career trajectories, and the long-term professional landscape for language and translation graduates in Saudi Arabia.

4.5 Implications

The findings of this SR carry several important implications for educational policy, instructional practice, curriculum design, assessment systems, and future research. Collectively, the 30 studies demonstrate that DL during the COVID-19 pandemic was sustained by the alignment of digital infrastructure, pedagogical innovation, emotional support, family involvement, and institutional flexibility. These insights point to several directions for strengthening educational resilience beyond the pandemic.

Although digital equity was a major challenge in the early months of the pandemic, the situation has changed substantially in the years that followed. The studies in this corpus document how device shortages and connectivity gaps were filled through community donations, institutional support, and mobile-company initiatives. However, these challenges were specific to the emergency phase. Today, students across Saudi Arabia generally have personal devices, enjoy fast and stable Internet, and have access to technical support through universities and national digital services. Therefore, the implication for the post-pandemic era is not the need for basic infrastructure, but the need to sustain digital readiness, ensure continuous upgrading of platforms, and provide ongoing digital literacy training for both students and instructors. The focus shifts from “access” to effective, ethical, and pedagogically meaningful use of digital tools in higher education.

Second, the rapid pedagogical innovation observed across the corpus suggests that instructors need ongoing professional development in technology-enhanced teaching. Faculty members demonstrated creativity in integrating podcasts, YouTube videos, blogging, vocabulary apps, virtual speaking tasks, and redesigned practicum models. Yet these innovations were largely instructor-driven rather than institutionally supported. Structured, continuous professional development—grounded in real classroom needs—would enable instructors to sustain and expand these practices beyond crisis conditions.

Third, the emotional and psychological dimensions of learning require explicit integration into instructional design. Multiple studies show that students’ dissatisfaction, low self-efficacy, anxiety, and disengagement were major barriers to learning. However, positive psychology, intercultural dialogue, and social-media-based collaboration improved motivation and resilience. This indicates that emotional support—clear goals, supportive communication, positive feedback, and community-building activities—should be embedded into online and face-to-face teaching.

Fourth, the home environment must be recognized as a legitimate educational space for younger learners. Studies on children and families reveal that parents play crucial roles in monitoring, motivating, and supporting online learning. Policies and training programs that guide parents in managing children’s technology use, balancing screen time, and supporting learning routines can enhance outcomes in both emergency and non-emergency contexts.

Fifth, the mismatch between flexible assessment and static curricula underscores the need for curricular agility. Universities adjusted grading policies, exam formats, and evaluation procedures to reduce student anxiety, but curricular structures remained unchanged due to approval constraints. Future curriculum design should incorporate flexible pathways, modular content, and alternative practicum models that can be activated during emergencies without requiring lengthy administrative processes.

Sixth, the persistence of grade inflation during and after the pandemic calls for a re-examination of assessment validity and reliability. The studies show that lenient grading, alternative assessments, and student anxiety contributed to inflated grades. Institutions need clearer guidelines for online assessment, stronger academic integrity measures, and balanced evaluation systems that maintain rigor while supporting student well-being.

Seventh, the corpus highlights the importance of multi-level collaboration in sustaining education during crises. DL succeeded where instructors, students, families, institutions, and communities worked together. Future preparedness plans should formalize these collaborative structures, linking schools, universities, families, technology providers, and community organizations—to ensure coordinated responses in future disruptions.

Finally, the findings also carry implications for graduate employability. The study on the pandemic job market (Al-Jarf, 2022o) demonstrates that COVID-19 reshaped professional pathways for language and translation graduates, revealing both structural vulnerabilities and emerging digital opportunities. These results highlight the need for universities to integrate career-readiness skills, digital freelancing competencies, and remote-work preparation into academic programs to ensure that graduates are better equipped for post-pandemic labor market shifts.

Taken together, these implications suggest that the pandemic should not be viewed merely as a temporary disruption, but as a catalyst for rethinking the foundations of digital pedagogy, assessment, curriculum, and educational support systems. Building on the lessons of this corpus can help institutions design more equitable, flexible, and emotionally supportive learning environments for the post-pandemic era.

4.6 Positioning This Review Within the Global DL Research During COVID-19

When situated within the broader international SRs on DL during the COVID-19 pandemic, this SR occupies a unique and underrepresented position. Global SRs conducted between 2020 and 2024 typically synthesized heterogeneous studies drawn from multiple countries, educational levels, and methodological traditions. These SRs tended to focus on broad themes such as emergency remote teaching, digital readiness, student satisfaction, online assessment challenges, and the psychological impact of the pandemic on learners and instructors. While valuable, the global literature is characterized by fragmentation, contextual inconsistency, and methodological diversity, making it difficult to trace longitudinal patterns or derive context-specific insights.

In contrast, the present SR synthesizes a coherent, author-bounded corpus of 30 studies conducted within a single national system and a unified research agenda. This provides a level of internal consistency rarely found in global SRs. Because all studies were authored by the same researcher and conducted within the Saudi educational context, the corpus offers a longitudinal, thematically aligned, and methodologically stable account of how DL evolved during the pandemic. This allows for deeper insights into the interplay between digital infrastructure, pedagogical adaptation, student engagement, family dynamics, assessment practices, and institutional policy—relationships that are often obscured in multi-country SRs.

Moreover, global SRS frequently emphasize macro-level challenges such as digital divides, teacher preparedness, and institutional readiness, but they seldom capture the micro-level pedagogical innovations documented in this corpus. The studies included here provide detailed accounts of how instructors redesigned speaking tasks, vocabulary activities, writing assignments, pronunciation training, practicum models, and cross-cultural exchanges. They also illuminate the affective and social dimensions of learning, self-efficacy, anxiety, agency, motivation, and cultural connection, areas that global SRs often treat superficially due to data heterogeneity.

Another distinguishing feature of this SR is its attention to family-mediated learning and the experiences of young children using mobile technologies at home. While global literature acknowledges parental involvement, few SRs provide the depth of analysis found in the iPad studies or the parental attendance study included in this corpus. Similarly, the examination of grade inflation, assessment flexibility, and curricular immobility offers a nuanced institutional perspective that is largely absent from international syntheses.

Finally, this SR contributes a rare perspective on the ways in which instructors, students, families, and communities collectively sustained learning in the absence of systemic curricular reform. Global SRs often highlight institutional strategies, but they seldom document the grassroots solutions, community donations, social-media-based professional development, and instructor-driven innovations that played a central role in the Saudi context.

Taken together, this SR extends the global literature by offering a context-rich, longitudinal, and multi-dimensional account of DL during COVID-19. It complements international findings while addressing gaps related to pedagogical detail, emotional experience, family involvement, assessment dynamics, and the lived realities of learners and instructors. In doing so, it positions the Saudi experience not as an outlier, but as a critical case study that deepens global understanding of how educational systems adapt under crisis conditions.

A notable observation emerging from the literature reviewed within the individual studies is that the challenges identified in the Saudi context closely mirror those reported internationally. Researchers in Greece, Turkey, Malaysia, Pakistan, the United Kingdom, and the United States documented similar patterns of digital inequity, platform instability, limited student engagement, exam anxiety, low self-efficacy, and the emotional strain associated with emergency remote teaching. Across these diverse contexts, students struggled with motivation, instructors faced difficulties redesigning courses for online delivery, and institutions grappled with assessment integrity and technological readiness. This convergence of findings suggests that the challenges observed in the Saudi experience were not unique or isolated, but part of a broader global phenomenon shaped by

the sudden, large-scale shift to DL. The alignment between this corpus and international research strengthens the external validity of the review and positions the Saudi case as a representative example of the worldwide educational disruptions caused by the pandemic.

4.7 Limitations of This Systematic Review

This review is intentionally author-bounded, synthesizing a coherent corpus of studies produced by a single researcher within the Saudi educational context. While this provides strong thematic alignment and methodological consistency, several limitations arise from the scope of the corpus itself. First, most studies focus on DL in higher education, with only a small number addressing children or K–12 learners, and a limited examination of the Madrasati Platform, despite its central role in school-level DL during the pandemic. Second, the majority of studies were conducted within language, literature, and translation departments, with fewer contributions from education or computer science, and no comparative analyses involving medical, engineering, or business programs, which limits the ability to generalize findings across academic disciplines. Third, the corpus does not include studies that systematically compare the utilization, adoption rates, or effectiveness of different DL platforms (e.g., Blackboard, Microsoft Teams, Zoom), nor does it quantify the percentage of use, benefits, or shortcomings of each platform. Fourth, only one study examined the use of DL after the pandemic and compared post-pandemic challenges with those experienced during COVID-19, limiting insights into long-term shifts in digital learning practices. These limitations reflect the intentional boundaries of the corpus and highlight areas where additional research would enrich understanding of DL across educational levels, disciplines, and technological ecosystems.

6. Recommendations

Based on the insights generated by this corpus, this SR offers several recommendations for future research. First, there is a need for longitudinal studies that track how students' engagement, digital habits, and learning outcomes evolve in the post-pandemic era, especially as hybrid and blended models become more common. Second, future research should explore comparative analyses across institutions, regions, or countries to contextualize the Saudi experience within broader global patterns. Third, more experimental and mixed-methods designs are needed to examine the effectiveness of specific pedagogical interventions, such as podcasts, YouTube-based pronunciation training, blogging, or virtual practicum models, on measurable learning outcomes. Fourth, the emotional and psychological dimensions of DL warrant deeper investigation, particularly the role of positive psychology, resilience-building strategies, and community-based support mechanisms. Fifth, the persistent issue of grade inflation calls for studies examining assessment validity, academic integrity, and the long-term consequences of lenient grading policies. Sixth, future research should investigate curricular agility, exploring how curricula can be designed to accommodate rapid transitions and emerging crises without compromising academic rigor or learning continuity. Finally, future studies are needed to examine how digital freelancing, online language services, and remote translation work reshape career trajectories for humanities graduates, and how universities can better prepare students for emerging digital and remote labor markets.

7. Conclusion

Results of the current SR underscore that DL during the COVID-19 pandemic was not merely a temporary shift in delivery mode but a profound reconfiguration of the whole educational system. The 30 studies reveal a system sustained by digital infrastructure, pedagogical innovation, emotional support, family involvement, and institutional flexibility, yet constrained by static curricula and uneven access. By positioning this corpus within the global literature, the SR highlights both the universal challenges of emergency remote teaching and the distinctive features of the Saudi context, where community-based solutions, instructor-driven creativity, and distributed resilience played central roles. The insights generated here offer a foundation for reimagining post-pandemic education as more equitable, flexible, emotionally supportive, and technologically integrated. Ultimately, the pandemic has provided not only a crisis but also a catalyst, an opportunity to rethink how learning can be designed, supported, and sustained in an increasingly digital world.

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