Guiding questions to support planning, revising, and refining a literature review

1. What is the focus and aim of your review? Who is your audience?

The review critically evaluates how e-learning was implemented in primary education following the COVID-19 pandemic, with a specific focus on mathematics instruction. It analyses global practices and provides a detailed case study of Qatar. The audience includes education policymakers, researchers in educational technology, and practitioners interested in digital pedagogy for young learners.

2. Why is there a need for your review? Why is it significant?

Given the accelerated adoption of e-learning during the pandemic, there is an urgent need to assess the effectiveness, equity, and pedagogical impact of these changes especially in primary education where learners have unique developmental needs. Your review highlights the significance of aligning digital tools with child-centric pedagogies and cultural contexts.

3. What is the context of the topic or issue? What perspective do you take? What framework do you use to synthesise the literature?

The context is the global educational disruption caused by COVID-19. The review adopts a critical comparative perspective, focusing on Qatar as a national case study. It uses Constructivist Learning Theory (Piaget, 1952) and Vygotsky's Socio-cultural Theory (1978) as theoretical frameworks to assess the suitability of digital platforms for primary mathematics instruction.

4. How did you locate and select sources for inclusion in the review?

Sources were retrieved through Google Scholar, ERIC, and ResearchGate, focusing on peer-reviewed articles, grey literature, and policy documents published between 2015 and 2025. Key terms included “e-learning,” “COVID-19,” “primary education,” “mathematics,” and “Qatar.” Inclusion was limited to English-language materials relevant to the post-pandemic educational landscape.

5. How is your review structured?

The review is structured into five main sections: Introduction, Research Methodology and Framework, Global and Qatari E-learning Responses, Subject-Specific Gaps in Mathematics Instruction, and Conclusion. This structure enables thematic synthesis of literature while maintaining a consistent national and subject-specific lens.

6. What are the main findings in the literature on this topic?

Globally, digital learning often exacerbated educational inequalities and failed to meet the developmental needs of primary learners. Qatar’s rapid rollout was technologically successful but pedagogically mixed. Across contexts, digital tools were often under-integrated into meaningful mathematics instruction, leading to superficial engagement rather than conceptual understanding.

7. What are the main strengths and limitations of this literature?

Strengths include a growing body of empirical evidence on platform usage and short-term learning continuity. Limitations include a lack of longitudinal studies,

minimal inclusion of student voice, and poor adaptation of pedagogical tools to age-specific and cultural needs.

8. Are there any discrepancies in this literature?

Yes. There is a tension between infrastructure-led strategies and actual pedagogical efficacy. Many studies assume that access equals learning, which your review critiques by showing the disconnect between digital delivery and meaningful student engagement in mathematics.

9. What conclusions do you draw from the review? What do you argue needs to be done?

The review concludes that e-learning in primary contexts must prioritise pedagogy over technology. Future strategies should centre on developmentally aligned content, professional teacher training, and curriculum-sensitive tool design. It calls for more learner-centred, culturally grounded, and long-term impact research to inform sustainable digital education models.

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