

Academic Performance and Learning Gaps During Distance Education

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Abstract

Academic performance during distance education cannot be interpreted responsibly from grades alone. Changes in task access, adult assistance, assessment conditions, curriculum coverage, and grading policy can alter reported performance even when underlying learning moves differently. This conceptual review separates four questions: whether learners encountered the intended content, whether they could demonstrate knowledge independently, which prerequisite skills are missing, and whether gaps are widening across groups. Evidence through 2021 is organized into a Learning-Gap Diagnostic Map linking curriculum opportunity, common assessment, error pattern, and recovery priority. The framework discourages deficit labels based on one score and recommends a small set of low-stakes anchor tasks, item-level diagnosis, evidence of assistance, and repeated checks after intervention. It distinguishes a missed opportunity to learn from a persistent misconception and treats learner strengths as part of recovery planning. The article does not estimate national or local learning loss. Its contribution is a method for converting uncertain performance evidence into defensible instructional decisions without confusing emergency grades with comparable achievement measures.

Keywords: academic performance; learning gaps; distance education; diagnostic assessment; recovery

Introduction

During distance education, the meaning of a grade changed with access to devices, module delivery, household assistance, deadline flexibility, and the kinds of tasks teachers could verify. A high mark could reflect genuine mastery, intensive support, generous completion rules, or a mixture of all three. A low mark could reflect an access failure rather than an academic deficit.

Learning gaps also have more than one reference point. A learner may be behind the intended curriculum, behind peers, below a prerequisite threshold, or progressing more slowly than before. These comparisons lead to different decisions and should not be combined under one label.

Purpose of the Article

This article asks what evidence is needed to locate a gap, how schools can avoid false precision, and how diagnosis can lead to a manageable recovery sequence.

Conceptual Approach

Design and Source Base

The review integrates studies of school-closure learning effects, formative assessment, and education-recovery guidance available through 2021. Reported learning-loss estimates are interpreted within their assessment design and setting rather than transferred directly to another population.

A gap is defined here as a difference that matters for a next learning decision. Diagnosis should identify the knowledge involved, the opportunity the learner had, the conditions of demonstration, and the smallest useful response.

The Learning-Gap Diagnostic Map

Establish Opportunity to Learn

Before interpreting performance, schools should verify whether the learner received the relevant content, could understand the directions, had required materials, and had a realistic time to engage. Attendance online or packet receipt does not establish instructional exposure.

An opportunity record can be brief: content reached, mode, interruptions, support, and feedback received. This context prevents an inaccessible lesson from being recorded as inability.

Use Common Anchor Tasks

A small number of low-stakes tasks aligned with essential competencies can provide a common reference across classes and delivery modes. Tasks should sample explanation and application, not only recognition or copied procedures.

Administration conditions should be documented. The aim is not surveillance but interpretability: teachers need to know whether an answer was independent, prompted, open-resource, interrupted, or not attempted because access failed.

Diagnose the Error Pattern

Total scores conceal instructional information. Item-level work can reveal a missing prerequisite, vocabulary problem, procedural error, misconception, or inability to transfer. Two learners with the same score may require different responses.

Diagnosis should also record what the learner can already do. Recovery built from secure knowledge is more efficient and less stigmatizing than restarting an entire grade-level curriculum.

Prioritize the Bottleneck

Not every unfinished competency has equal leverage. Schools should prioritize knowledge that unlocks later learning, recurs across subjects, or is necessary for participation. This requires curriculum judgment rather than simply accelerating every missed lesson.

Learners may need different intensity: a short review, small-group reteaching, individual support, or an access intervention. The response should match the cause identified in the evidence.

Recheck Growth and Equity

A recovery plan is incomplete without a scheduled recheck using a comparable task. Improvement, persistence, or a new error pattern determines the next step. Repeated testing without changed instruction only documents the same problem.

Results should be reviewed by access, language, disability, geography, and other relevant conditions without exposing individuals. The central equity question is whether recovery closes gaps or merely raises averages while leaving the most

constrained learners behind.

Table 1

Learning-gap diagnostic map

Evidence layer	Diagnostic question	Decision
Opportunity	Was the intended learning reachable?	Restore access before judging mastery
Anchor task	What can be shown under known conditions?	Establish a common reference
Error pattern	Which knowledge breaks down?	Select the instructional target
Priority	Which gap blocks later learning?	Sequence recovery
Growth	Did the response change performance?	Continue, intensify, or revise

Note. The table is an analytic tool proposed in this article; it does not report field measurements.

Discussion

The map separates evidence quality from learner ability. It helps schools move from broad claims about loss toward specific decisions about opportunity, prerequisite knowledge, intervention, and growth.

Scope and Research Agenda

This article does not quantify learning gaps or establish causal effects of distance education. Baseline measures may be missing, emergency assessments may not be comparable, and disengaged learners may be absent from available data. Future studies should retain administration conditions, include hard-to-reach learners, use linked measures over time, and report both average recovery and distributional change.

Conclusion

Academic recovery begins with honest interpretation. Schools should verify opportunity, use common low-stakes evidence, locate the bottleneck, respond at the appropriate intensity, and check whether learning and equity improve. Grades alone cannot carry that diagnostic burden.

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