

Systematic review of learning environments and student learning outcomes

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What evidence exists that different learning environments (blended, innovative, open-plan and traditional) have an impact on student learning outcomes)?

What were we looking for?

To test the propositions made that there is currently a lack of substantive, empirical data on the purported claims that different spatial layouts affect student learning outcomes.

What did we find out?

The initial search yielded 5,521 articles that were reduced to a final set of 21 after the application of selection criteria, removal of duplicates and comparative review. The 21 studies ranged from single-site comparative through to quasi-experimental randomised designs at multiple sites. Their samples ranged from 17 to 22,679 students from both primary to secondary schools.

Often studies utilised assessment regimes that favoured the prevailing view on student academic progression (measures of literacy and numeracy). There were few robust and valid instruments able to discern how different spatial layouts aided, students to be problem solvers, creative engage in critical thinking and work in collaboration with peers.

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The review addressed the perceived lack of empirical evidence available to ascertain the impact of different learning environments on student academic or learning outcomes. The comprehensive process identified a small number of quantitative studies with adequate quality, sampling and statistical process to discern the potential impact of different learning environments on academic achievement.. The identified studies present initial evidence that correlates the influence of the physical learning environment on student academic achievement. That said, there must be greater emphasis placed in future studies the longitudinal implications of different learning environments on teacher behaviour and pedagogies and how this affects student learning experiences and academic outcomes.

What does this mean for the project?

This systematic review identified that different learning environments can impact (positively/negatively) student academic achievement. It found recent trends that ILEs can have a positive impact on student achievement in literacy and numeracy. However, while optimistic, it cautions over-stating this trend at this time. Importantly, the narrative that different learning environments influence the 21st century competencies (collaboration, problem solving, critical thinking and communication) has not been rigorously evaluated. Furthermore, future research must place greater emphasis on unpacking the role of teachers (their behavior/beliefs/practice) their use of learning environments for pedagogical gain.



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