Great Teaching Toolkit

School Environment & Leadership: Evidence Review

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Methodology underpinning the Evidence Review

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IGNIO

Innovation by design

Contents

Introduction

This paper is part of a series of four that together comprise the *Great Teaching Toolkit School Environment and Leadership Evidence Review*. In order to cater for different audiences, we have split the findings from our evidence review into four separate, but inter-related, documents, of which this is the fourth.

The first, written primarily for practitioners, and intended to have a constructive, action focus, sets out our *Model for School Environment and Leadership*–the school-level factors that can inhibit or enhance the classroom interactions that promote effective learning. The second explains in technical detail the key methodological problems faced by research in school leadership, and hence why we are sceptical of many of its claims. The third identifies a selection of studies that we believe contain the most defensible claims and the strongest evidence about the factors we have included in the *Model for School Environment and Leadership*. The fourth (this document) provides technical details of the literature search and synthesis process that underpins the other three.

You can find links to download all four papers **here**.

Methodology underpinning the evidence review

This review provides an overview of key research evidence about the relationships between a range of features of a school's environment (for example, school 'culture', leadership behaviours, styles and dispositions) and student attainment. Given constraints of time and resource, the review cannot claim to be fully systematic, but it hopes to be comprehensive in the sense that it summarises the evidence from important and high-quality studies, and presents a full range of current interpretations. Initially, a wider range of educational outcomes was considered (including: student equity, attitudes and wellbeing; teacher wellbeing, job satisfaction and retention) but the scale of this literature was considerably wider, and was beyond the capacity of this review.

How we developed the Model for School Environment and Leadership

Our work on the review began by identifying and summarising the available evidence in the field of school leadership, with a focus on characteristics of working environment that may influence students' learning. Our research questions, search strategy and a list of the studies identified through that process can be found below.

In reviewing these studies, we adopted the following process to generate a list of these characteristics:

- In reading all the relevant studies, list any characteristic of school environment, leadership practice or behaviour for which there is convincing evidence that it could be a cause or moderator of student attainment. Specifically, the criteria for inclusion were:
  - o There is evidence of an association between the characteristic and student attainment;
  - o There seem to be plausible mechanisms that account for the characteristic as part of the causal chain in the impact of schools and teachers on student attainment; and
  - o The characteristic seems important in its own right as something that school leaders should monitor.
- If possible, record details of any instruments used (e.g., questionnaire items) to operationalise that characteristic in that study.

- As the list grows, look for overlap and similarity in the meanings of the characteristics and the likely mechanisms through which they might operate.

- If in doubt, keep them separate, but where characteristics seem to be functionally the same, combine them.

- Test out these decisions in focus groups of school leaders (we conducted four groups with a total of eleven school leaders)

Among the problems we face in drawing up a list of characteristics are:

- Inferring causation: almost all the available evidence is essentially correlational; most of it is cross-sectional (i.e., measures are collected at the same time); much of it lacks adequate control or robustness checks to rule out alternative explanations.

- Jingle-jangle: different studies use the same words to mean different things and different words to mean the same things.

- Lumping vs. splitting: is it more helpful to group related characteristics together, emphasising their commonality and keeping a small number of headings in the model, or separate them so that each element is conceptually purer, simpler and more coherent?

The following is a list of the characteristics that were identified through this process as potentially important determinants of student attainment (there is no particular order to this list, nor conceptual structure that helps to make sense of it):

1. **Order**, safety and discipline. High standards of student behaviour which are consistently applied.

2. Professional **support**. Teachers feel supported and that their concerns are addressed.

3. Leadership **trust**. Staff trust leaders as benevolent, competent, honest, caring.

4. Teacher **wellbeing**. Job satisfaction, morale, organisational commitment, stress management.

5. Organisational **management** and administration. Budget, facilities, cover, HR, etc.

6. **Shared values**. Consensus around values, purpose/mission, goals, priorities and methods.

7. **Collaboration**. Effective teamwork, with trust and mutual support.

8. **Community relationships**. Trust, respect, understanding, engagement of parents and students.

9. **Distributed leadership**. Teachers have autonomy and influence over decisions.

10. **Instructional focus**. Prioritisation of quality around curriculum, pedagogy and assessment.

11. Support for effective **professional development**. Culture of and support for professional learning.

12. **Strategic staffing**. Recruitment and retention of high-quality staff.

13. Effective **evaluation**, monitoring and quality assurance. Fair and constructive performance management.

14. Teacher **responsibility**. The perception among teachers that they are responsible for student outcomes.

15. **High expectations**. Belief that high student outcomes for all are possible and necessary.

Clearly, it would be more helpful to provide a more conceptually organised framework, driven by a credible theory of change. Our starting point for attempting this was the model presented in Bryk et al. that begins with the 'classroom instructional triangle' of teacher, student and subject matter, and connects it to the supports required at different levels to optimise academic and other outcomes. Bryk et al. see learning time as a 'multiplier', which has echoes of Carroll's model of learning. Putting the classroom at the heart of the model—with a focus on the quality of the interactions between teachers, students and curriculum and the amount of time given to them—also fits well with the model for Great Teaching that we set out in the **Great Teaching Toolkit: Evidence Review**. Each pair of such interactions (teacher-student, teacher-curriculum, student-curriculum) corresponds with a dimension in the Model for Great Teaching (D2, D1, D4, respectively), and the remaining dimension (D3) represents the time and opportunity for learning that is under direct control of the teacher. In addition, some important determinants of the time students spend in useful learning activities may be less under the control of individual teachers, including time spent on homework, timetabling (and the extent to which timetabled lessons are delivered as planned), and students' attendance at school (and being ready to learn, not just physically present).

The notion of learning supports—features that transcend individual classrooms but are required for those classrooms to operate effectively—seemed really powerful, and again draws on the work of Bryk and colleagues. Moreover, these learning support factors could each be fitted nicely under one of the three classroom agents (student, teacher, curriculum). Once those direct supports had been incorporated, the remaining factors from the literature all seemed to concern generic features of organisational management: characteristics of good management that would apply to any organisation, such as a hospital, factory or government department. How they are manifested, and the kinds of expertise that underpin them, may of course be quite school-specific, though they are also in many ways general.

Research questions

RQ1: What are the relevant constructs?

    a.   What constructs, that relate to a school's environment, climate or culture, or that capture characteristics of school leaders, have been proposed as important for explaining school performance?

    b.   What measures have been developed?

    c.   What validity evidence exists to support the interpretation of these measures?

RQ2: How are these constructs related to school performance?

    a.   What empirical associations have been found between these environment/leadership measures and student attainment?

    b.   What evidence is there that these environment/leadership measures can predict subsequent school growth on attainment or other performance measures?

RQ3: Is there evidence of any causal levers for improvement?

    a.   What evidence exists that these school or leadership factors may be causal mechanisms in driving student attainment?

    b.   What evidence is there that these environment/leadership factors can be deliberately changed?

    c.   What evidence is there that either leadership interventions or the deliberate choices and actions of school and system leaders have a causal impact on student attainment?

Literature search strategy

There are three strands to the search approach employed:

1. Known sources and references cited in them
2. Systematic search using Boolean text in key databases
3. Citations in and of relevant studies

Having identified potentially relevant articles, we then screen on title and abstract for relevance.

1. Known sources

From previous reading and research in this area, we are already familiar with certain key studies. Starting with these, and relevant studies cited in them, ensures these studies are included and allows us to develop a comprehensive and efficient search string.

2. Systematic search

Databases to search:

- Web of Science
- ERIC
- Google Scholar

Search terms:

(("school*" OR "teacher" OR "principal*" OR "student*") AND ("environment" OR "climate" OR "working conditions" OR "leader*") AND ("learning" OR "attainment" OR "achievement" OR "improve*" OR "outcome*" OR "success*" OR "performance"))

Then, screening on title and abstract. [for Google Scholar sort by relevance]

To maintain manageability, we limit to studies published in English since 1990 with empirical data from schools (age 4 to 18).

3. Citations and related studies

Once we have a manageable list of relevant studies, we can then widen the search using the following strategies:

- Search for any citations of these studies ('cited by' in Google Scholar)
- Search for 'related articles' in Google Scholar (articles whose references overlap with the target study)
- Identify studies cited in the target study that seem relevant

Studies identified

A full list of all the studies identified through all these approaches:

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Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social–emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. Journal of Educational Psychology, 104(4), 1189–1204. https://doi.org/10.1037/a0029356

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