# 5. "What works"? Power and politics in studies of evidence use in policy

**Moira V. Faul, Anna Numa Hopkins and Bart Sebastiaan Gabriel**

The value of evidence-informed policies and practices is frequently evoked in policy, practice, and research. While many decision-makers and researchers present evidence as a technical process for identifying "what works", others argue that policymaking is run through with politics and power. As organisations and individuals that invest in knowledge brokerage engage (at least rhetorically) with these ideas, and as knowledge brokerage comes to characterise education governance, this chapter raises questions about how "evidence" and "evidence use" relate to and interact with forms of knowledge inequity and injustice in development (Drèze, 2020; Rao, 2020; Springer, 2021). Our analyses undermine claims of rationality and context-free "what works" agendas in evidence use in development, revealing that researchers overwhelmingly fail to cite works from the very geographies and epistemologies that are most affected by their evidence-informed recommendations.

The stated goal of knowledge brokerage is to improve the use of evidence in policy, planning, and implementation. In this chapter, we present an exploration of evidence use as an object of academic study in education and public health. While many decision-makers and researchers present evidence use as a rational process for identifying "what works", others highlight that policymaking is not simply a technical matter but rather is imbued with politics and power. We subject these claims to bibliometric analyses to map the structure of academic research communities on evidence use for two sustainable development goals (SDGs), comparing relevant systematic reviews in public health and education research. We examine the extent to which evidence use can be considered a technical and/or political matter by analysing the similarities and differences of



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research into evidence use in these two intellectual communities. The research questions motivating this inquiry are:

- What are the similarities and differences between evidence-informed research in education and public health?
- What do these reveal about the technical or political nature of evidence-use research?

## EVIDENCE USE: INFRASTRUCTURES, PROCESSES, TOOLS, AND HIERARCHIES

Evidence use does not happen by itself and therefore needs to be researched. Existing literature indicates that improving the use of evidence in policy requires infrastructure, goes through specific processes using particular tools, and is contested, as we now discuss.

### International Infrastructures and Paradigms of Evidence Use

As the "what works" agendas gained visibility, so did investment in evidence synthesis and effectiveness research in North America and Europe (Oakley et al., 2005; Révai, 2022). However, the integration of research on improving evidence use in education is considered to have been far less impactful and more uneven than for healthcare (Burnett, 2019; Mundy, 2021).

In healthcare, evidence-based medicine (EBM) demands the use of clinical evidence in the treatment of patients to minimise risks and maximise benefits for patients, and clinical trials have improved medical practice and policy enormously. However, even within medicine, criticisms have arisen about an overzealous application of this approach, to the extent that EBM sidelines doctors' expertise and ethics, fails to take into account individual variability among patients and social determinants of health, and reinforces inequalities and corruption in clinical trials (Greenhalgh & Russell, 2009; Perez, 2019; Tonelli, 1998). The dominance of medical perspectives at the expense of wider health concerns has not gone unchallenged (e.g., Ehrenstein & Neyland, 2018; Harman, 2016). Public health, which addresses the social determinants of health and is interested in the general health of populations rather than individuals, has been particularly prominent in articulating some of

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these critiques and promoting broader ideas about evidence and its role in decision-making.

The hegemony of EBM has until recently dominated the debate on the quality and appropriateness of evidence for all areas of policy. While it is now less dominant, its underlying principles continue to influence both research and policy, particularly with regard to notions of rigid hierarchies of types of evidence, which commonly place randomised control trials (RCTs) and systematic reviews at the top and individual case reports at the bottom. Criticisms include the importance attributed to internal validity over external validity, the inability to select methods appropriate to research questions, and failure to include relevance to policy or practice as an evaluation metric (Parkhurst & Abeysinghe, 2016) while ignoring the social determinants of health (Tonelli, 1998). Specific critique is aimed at the pyramid's overestimation of the universal applicability and scalability of RCTs, which has contributed to the injudicious use of RCTs beyond the questions and contexts this methodology was designed to inform (Baele, 2013; Cartwright, 2007; de Souza Leão & Eyal, 2019; Deaton & Cartwright, 2018; Ravallion, 2018; Stewart et al., 2019). Despite these inherent limitations, this hierarchy of evidence is considered a key underlying principle that informs the structural characteristics of academic knowledge production in the field of evidence use.

## Paradigms of Evidence Use: From Linear and Hierarchical to Systemic and Appropriate

Questions have been raised regarding the applicability of this static EBM hierarchy of evidence generation and use beyond medicine. Multiple new frameworks seek to organise evidence not on the basis of immutable quality but rather on its appropriateness, relevance, and utility. The "horses for courses" approach, for instance, emphasises appropriateness when selecting methods that can answer context-sensitive research questions, providing a typology or matrix to guide evidence use for policy, practice, and planning (Moberg et al., 2018; Petticrew & Roberts, 2003).

In addition, Lancaster et al. (2020) detailed the multiplicity of decision-making processes undertaken by numerous and diverse actors (such as governments, institutions, organisations, and service providers) that are entangled with diverse policy environments (local, regional, national, and global), configurations (rules, regulations, guidelines, laws, and strategies), and stakeholders, to argue that these necessary, complex interdependencies generate the "messy" character of evidence-informed

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policymaking. Lorenc et al. (2014) further demonstrated the differences between evidence use, cultures, and capacities in diverse sectoral, political, and geo-cultural contexts. Masood et al. (2020) also emphasised the crucial importance of context sensitivity, identifying key factors intermediating the use of evidence, including decision-makers' knowledgeability, availability, and convictions, arguing that evidence use is as much a political project as it is a technical question of provisioning relevant research outcomes at such times as they are needed. The review by Liverani et al. (2013) of empirical studies identified a multitude of political and institutional factors that influence evidence use. However, they also highlighted "piecemeal understanding" of these factors in existing research, arguing that researchers, knowledge brokers, and others interested in improving evidence use need to include or consider political or institutional theory and ask "more specific and explicit questions… about the effects of different political factors impacting on evidence use in policy making and their interdependencies" (Liverani et al., 2013, p. 6).

Thus, in addition to conventional technical accounts, recent scholarship has identified a range of political and institutional factors that impact evidence use. What processes and tools are useful under this more complex, and realistic, formulation of evidence use?

## Studies on Evidence Use

Studies of education policy provide sophisticated, multidisciplinary analyses of how policy is formulated and its effects on society (Ball et al., 2011; Rizvi & Lingard, 2010; Steiner-Khamsi & Waldow, 2012). In addition to these analyses of policies, other studies have specifically focused on evidence use in policy. The latter is the focus of this section and chapter.

Related to, but distinct from, policy studies, a multidisciplinary body of research has been developed that specifically studies how evidence comes to be used in policy (Greenhalgh et al., 2009; McWilliam et al., 2009; Oliver & Faul, 2018; Oliver et al., 2022). Oliver and Boaz (2019) defined evidence-use studies as a multidisciplinary field focused on the production, mobilisation, and use of evidence in policy and practice, which includes studies of the outputs and outcomes, processes, actors, and systems involved in the production and use of evidence (that is, the study of how evidence moves into policy, in contrast to the more widespread study of what evidence works). In different sectoral and disciplinary

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sub-domains, scholars have identified, studied, and described a plethora of detailed models of evidence use (Graham et al., 2006; Ward, 2017). While different domains bring different insights, perspectives, and methods, the result is often a confusing array of overlapping concepts. Several concepts are used when discussing how and through what means evidence is brought into decision-making, including knowledge transfer, knowledge translation, implementation research, and research utilisation, diffusion, and dissemination (Graham et al., 2006). In a research field that has been described as a Tower of Babel (McKibbon et al., 2010), it is useful, but challenging, to define key terms used in this literature that describe studies on the use of evidence in policy.

First, research utilisation, a strand of work built on Carol Weiss' (1979) study, has focused on how to improve the use and usefulness of research focused on building theory and evidence on the use of evidence in policy, primarily in the United States (Tseng & Nutley, 2014). Knowledge mediation refers to work that aims to connect evidence producers and users, as well as evidence production and use (Gough et al., 2011). After decades of research showing that well-designed policies may not be technically implemented as expected (Lipsky, 1980), implementation research was developed to study, and improve, how evidence-informed policies are put into practice and carried out in real-world settings (Sabatier, 1986). Implementation research seeks to ensure that policies are understood and executed as designed, offering quality management guidance on implementation processes (Grol & Jones, 2000; Matland, 1995). Often, implementation fidelity is prioritised over context specificity, and managerial skills are prioritised over leading in complexity. And yet, the impact of implementation goes beyond rational and knowledge-based approaches alone to being constructed as sociopolitical and systemic challenges that are contextually specific (Faul & Savage, 2023; Jha-Thakur et al., 2009; Partidario, 2009; Runhaar & Driessen, 2007).

The literature on innovation diffusion focuses on how to spread new technologies or practices through social systems by devising strategies that encourage widespread adoption (Greenhalgh et al., 2004). The majority of innovation diffusion research has focused on South–North flows of scientific and technological innovations (Rogers, 2003). Nevertheless, a minority of the literature includes participatory methods (McWilliam et al., 2009) and knowledge co-production between knowledge producers and users (Baumbusch et al., 2008), as well as stakeholder inclusion (Johnson & Lyons, 2012) or co-creation between experts and affected communities (Campbell, 2010; Kitson et al., 2013).

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In evidence-use research (not what evidence works but rather how evidence moves into policy), there has been a movement away from more passive conceptualisations of moving evidence into policy and towards those that emphasise the active work involved. The term knowledge transfer was replaced with knowledge translation to emphasise the work required to translate (not just transfer as is) scientific knowledge into actionable information in practical contexts (Latour, 2009). Translated products should be accessible, relevant, engaging, and tailored while they support implementation, evaluation, and continuous learning and avoid getting stuck in the translation process (Szulanski, 2000). Knowledge translation emerged as a key term in both health and public health, and is defined by the World Health Organization (2005) as "The synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health" (p. 2). Later definitions of knowledge translation reflected some growing awareness of the contextual embeddedness of evidence, defining it as a "dynamic and iterative process that includes synthesis, dissemination, exchange, and ethically sound application of knowledge" (Canadian Institutes of Health Research, n.d.). Recently, some research in knowledge translation has also acknowledged the importance of collaboration between researchers in the Global North and researchers and relevant actors in target populations, especially in the Global South (Murunga et al., 2020; Patino-Lugo et al., 2022).

The concept of research uptake—widely used in development studies—focuses on the capacity of decision-makers and institutions in developing country contexts to adopt research findings, develop policy solutions, and/or create change. In contrast, concepts such as knowledge exchange directly address the power imbalances perceived in evidence use in development, reflecting an awareness of the value of collaboration and the two-way sharing of ideas, information, and expertise between those who produce and those who use research (Kouri, 2009). Knowledge mobilisation was coined to articulate the relational, context-dependent, boundary-crossing, and iterative work involved in knowledge translation (Ward, 2017). The concept of knowledge mobilisation has been elaborated by scholars influenced by social science traditions and has "moved towards multi-directional and complexity-attuned approaches where knowledge is produced and becomes meaningful through social processes" (Haynes et al., 2020, p. 2). Knowledge mobilisation has gained currency as a set of practices or activities to address,

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for example, "research-policy-practice gaps" (Cooper, 2014, p. 29), as a means for researchers to reach their target communities and audiences (Moss, 2016), and as a way to advance social responsibility and inclusivity in research (Sales et al., 2024).

Within all of these terms and models of evidence use, debate continues in the literature as to the extent to which evidence use can be conceptualised as merely a technical issue in which knowledge is mobilised to design and implement development solutions, or conversely, the extent to which researchers should also take into account politics and power, recognising the need to engage with contextually specific sociopolitical and systemic challenges in complex knowledge and policy processes (Biesta, 2010; Cairney, 2013, 2022; Drèze, 2020; Faul & Savage, 2023).

## Methods

Thus, this study aims to examine both the technical and political structuring of research on evidence use for policy, planning, and practice as revealed in bibliometric analyses of academic publications in two SDGs. We selected education and public health as our comparator cases for four reasons. As in education, public health policymaking is complex, a system in which "poor health and health inequalities [are] outcomes of a multitude of interdependent elements within a connected whole" (Rutter et al., 2017, p. 2602). Both public health and education policy require knowledge production that is diverse and multidisciplinary and addresses inherently intersectoral issues (Cairney, 2016, 2021). Public health and education both confront a global environment in which diverse and competing claims are made regarding what counts as evidence, who produces research worthy of consideration, which disciplinary contributions matter, and how research is funded, produced, and used globally (Steiner-Khamsi et al., 2023). In both sectors, evidence use in policymaking is contested, complex, and highly varied, structured by multiple political, social, economic, institutional, and cultural factors (Cairney, 2016, 2021). The value of this comparison lies in: (a) the interrelation of education and public health concerns (UNESCO, 2020; Khorram-Manesh et al., 2021); (b) the nature and variety of interventions that have aimed to strengthen the use of evidence in policy (Armstrong et al., 2013); and (c) the diverse perspectives offered by scholars on the nature, role, and use of research and evidence in policy, planning, and practice (Alla et al., 2017). The key question in these studies remains the extent to which evidence use – and research into evidence use – is simply a technical choice, or is political and structured in unequal ways.

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**Bibliometric analysis**

Our selected method, bibliometrics, allows researchers to assess the structuring of one or multiple academic fields, which then allows for the assessment of technical and political aspects that may contribute to that structuring. Bibliometrics is defined as the quantitative study of scientific production (Broadus, 1987), primarily using statistical analysis (McBurney & Novak, 2002) and network mapping (Kajikawa et al., 2007). For this inquiry, we collected data on publications in academic journals indexed by Clarivate Analytics' Web of Science, the largest digital database for academic publications and metadata (Figure 5.1). The sample was analysed using Aria and Cuccurullo's (2017) Bibliometrix package for R and its proprietary extension BiblioShiny.

The sampling frame was designed to: (a) include systematic reviews pertaining to evidence use in public health and education; (b) exclude nominally similar yet irrelevant other source materials, such as clinical trial data or material loosely corresponding to a minority of relevant search terms; and (c) isolate highly relevant sources by constraining the search to the Web of Science subject categories (SU) "Health" and "Education" (Web of Science did not allow "Public Health" as an SU, only the broader domain of "Health"). In addition to "systematic review" and the issues (public health and education), we chose four search terms to explore the field of studies of evidence use (not which evidence works, but rather how evidence moves into policy) across different areas of research, policy, and practice based on their prevalence and diversity: "evidence", "knowledge translation" (a foundational concept in evidence use), "research uptake" (used in development studies and relevant to our study's focus on two SDGs), and "knowledge mobilisation" (reflecting recent trends and informed by social and relational ideas in the field, in both education and public health). Including the search term "evidence" returned approximately 100,000 publications, which would make detailed analysis unfeasible. Therefore, this term was excluded from the search terms in the topic (TS) category: Title, Abstract, Keywords: TS=("systematic review" AND "public health policy" AND "research" OR "knowledge translation" OR "research uptake" OR "knowledge mobilization") AND SU=("Health") TS=("systematic review" AND "education" AND "research" OR "knowledge translation" OR "research uptake" OR "knowledge mobilisation') AND SU=("Education").

These search terms returned a sample of 1,863 publications in health and 1,796 in education. Bibliometric analyses were conducted on each sample individually and then the two were compared as follows.

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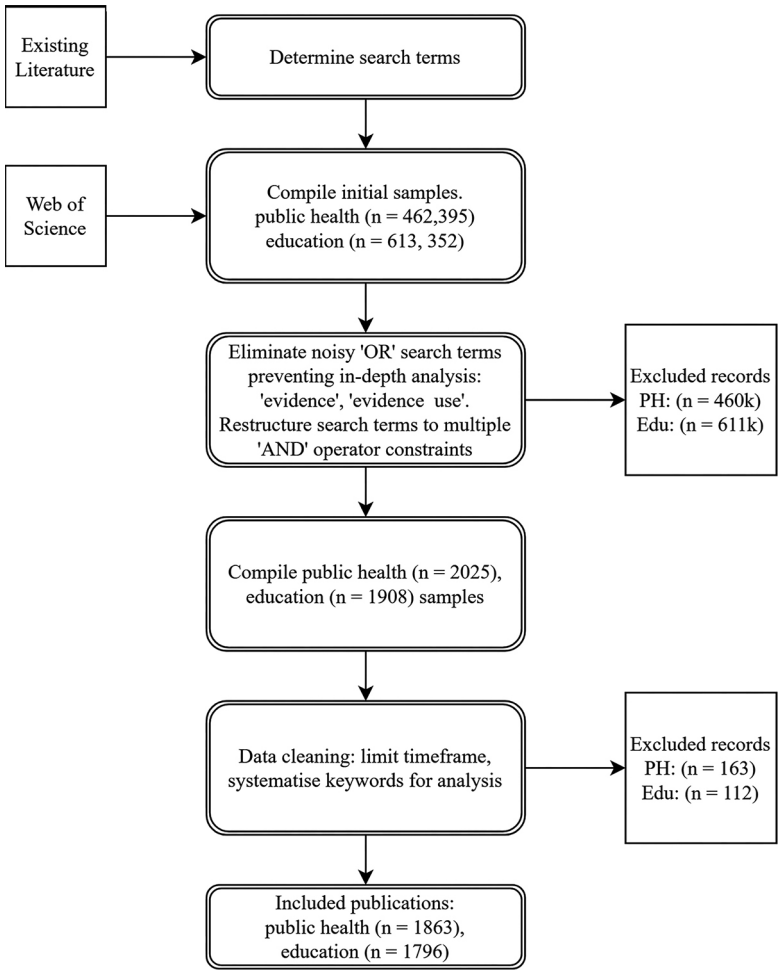


*Figure 5.1 Flow diagram showing results of search and screening process*

1. Descriptive statistics such as growth, citation impact, and collaboration incidence were used to identify key trends in both domains.
2. Author-assigned keyword co-occurrence of the 50 most commonly occurring author-assigned keywords were analysed to identify

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nominal association and field homogenisation/fractionalisation dynamics. For both samples, in the interest of this inquiry, we merged "systematic", "review", and "systematic review" keywords, as well as "knowledge", "translation", and "knowledge translation" for visual and analytical clarity.

3. Co-citation, or commonalities in publications' bibliographies, reveals the structuring of publications and their authors into clusters of intellectual communities. The initial co-citation network plots produced were altered for clarity as follows: (1) all isolates (non-connected nodes) were removed; (2) labels were assigned to as few nodes as possible; (3) only nodes that were connected with at least six other nodes were considered eligible for this visualisation; and (4) clusters of fewer than three nodes were omitted from the visualisation.
4. Productivity of different countries in terms of publications and total citations, as well as international collaboration frequency, were analysed. Collaboration mapping reveals the dominant flows of expertise across borders. The two samples' respective representations of Global South scholarship was analysed using OECD membership as a (necessarily imperfect) working indicator of country income status.

**Results**

We report the results of the four analytical steps above based on first the differences and then the similarities that we found in the computational analyses of education and public health. This section first addresses the substantive differences between education and public health literature in their key concepts (keyword co-occurrence) and the structuring of the intellectual community (co-citation), before attending to the similarities: there is increasing academic attention on these areas worldwide (growth), but inequalities of power concentrate citations and collaborations in the Global North.

## SUBSTANTIVE DIFFERENCES BETWEEN EDUCATION AND PUBLIC HEALTH LITERATURE

Despite using the same search terms for both samples, the analysis showed that these terms and others occur and structure the two domains we study (education and public health) in different ways.

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## Conceptual Differences in Keyword Frequency and Co-occurrence

The keyword frequency table (Table 5.1) reveals key concepts used in these research communities and how they can be compared across the two fields. There are four terms shared between the two samples: the generic terms "research" and "systematic review" alongside two specific terms relevant to our inquiry, "knowledge translation" and "evidence-based practice" (Table 5.1). In the public health sample, 2 of the top 10 keywords refer to domain-specific concepts (public health, ranked #4, health #7), in comparison to 4 of the top 10 keywords in education (education, ranked #2, higher education #4, learning #5, teaching #8) (shown in italics in Table 5.1).

*Table 5.1 Keyword occurrence frequency table*

| Keywords (public health) | Frequency | Rank | Keywords (education) | Frequency |
|---|---|---|---|---|
| **knowledge translation** | 945 | 1 | **systematic review** | 496 |
| implementation | 149 | 2 | *education* | 203 |
| **research** | 100 | 3 | **knowledge translation** | 172 |
| *public health* | 81 | 4 | *higher education* | 115 |
| implementation science | 79 | 5 | *learning* | 82 |
| **evidence-based practice** | 75 | 6 | literature review | 70 |
| *health* | 74 | 7 | meta-analysis | 50 |
| integrated knowledge translation | 72 | 8 | *teaching* | 35 |
| **systematic review** | 68 | 9 | **research** | 34 |
| evaluation | 57 | 10 | **evidence-based practice** | 33 |

*Note:* Domain-specific terms are shown in italics (e.g., education and public health) and shared terms are shown in bold (knowledge translation, research, evidence-based practice and systematic review).

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Analysing the connections between, or co-occurrence of, the keywords in each literature sample provides valuable insights into the structuring of knowledge in a particular field. The clustering of associated concepts differed between the education and public health literature samples. In public health (Figure 5.2a), the most central cluster showed terms related to evidence use (research utilisation, decision-making, guidelines, and implementation science) anchored by the keyword "knowledge translation". There were two other significant clusters of concepts in the public health sample: domain-specific research and research. In the education sample (Figure 5.2b), systematic review was the most central concept and anchored a cluster of other domain-specific research terms (higher education, teacher education, critical thinking, and more) related to science, technology, and mathematics as well as other research terms. We also found a cluster of terms related to evidence use, mainly in health education and professional development. In the public health literature, the term "knowledge translation" co-occurred with 100 per cent of the 50 most co-occurring keywords in the sample. In the education sample's co-occurrence network, the central term "systematic review" co-occurred with 94 per cent of the 50 most co-occurring keywords.

The conceptual structuring of each community was anchored by different terms; however, each of these was central to each domain in similar ways and relevant to the other clusters of concepts in their domain. In education, terms pertaining to research and domain-specific concerns dominated, whereas the public health community in this sample was anchored by terms related to the study of evidence use. This indicates

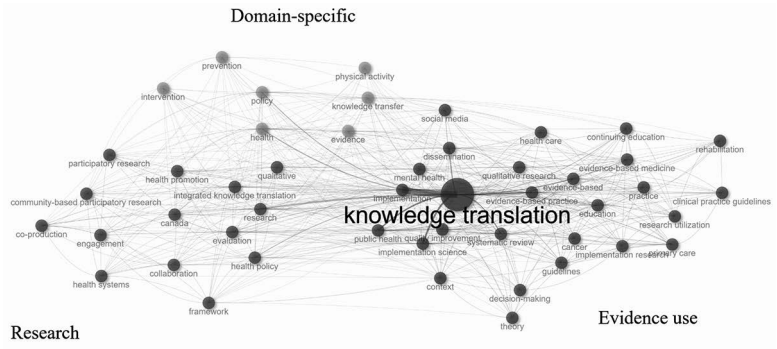


*Figure 5.2a* *Mapping the connections between each sample's frequently co-occurring keywords for public health*

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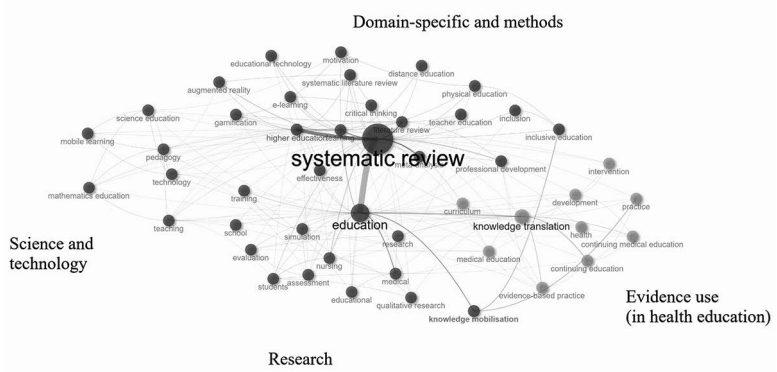


*Figure 5.2b* *Mapping the connections between each sample's frequently co-occurring keywords for education*

that researchers in each community consistently employ different terms and that core concepts differ between these respective intellectual domains. Thus, it appears that systematic reviews are produced inside the education field that provide evidence of specific education concerns alongside a secondary cluster related to evidence use in health education. In contrast, evidence-use concepts in the public health literature sample are highly interconnected, and the research community in the public health sample shares a technical vocabulary regarding the study of evidence use.

## Different Intellectual Community Structures

To identify what are considered important contributions by researchers in each of the fields studied, we undertook a co-citation analysis, a form of citation analysis that connects two cited references when they are both cited in one of the papers in the sample. We used the Louvain community detection method, a clustering algorithm that groups papers that cite the same highly co-cited paper and displays them as interconnected nodes. The most highly cited references are shown as the most interconnected nodes in the co-citation network. We labelled the most central node in each cluster and removed smaller clusters and isolated nodes to maintain focus on the most significant papers and clusters. Graham et al. (2006) was the only publication that appeared in both education and

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public health samples. This seminal paper reviews key terminology in evidence use, addressing the continuing education of healthcare professionals, and would therefore be returned as a result of searches for both education and public health communities.

While the public health sample contained five large, comprehensively interconnected communities composed of 512 nodes (Figure 5.3a), applying the same parameters to the education sample resulted in a very different network (Figure 5.3b). The education co-citation network was fractured into seven components, with the largest component comprising two weakly connected communities. In public health, 1.2 per cent (512 of 53,478) of all cited references satisfied modelling constraints, while this was the case for 0.008 per cent (73 of 97,444) references in the education sample.

These observations suggest that, compared with the citation network on evidence use in public health scholarship, education is: (1) fractionalised as a field, sporting multiple communities that do not cite each other intensely, and (2) intellectually diverse, as several communities have commensurate and/or overlapping research agendas that operate in relative isolation with respect to each other. These are notable differences in comparison with the intellectual dynamics of the health network, where the network's strong interconnectedness (or transitivity) suggests a more homogeneous sense of shared reference literature.

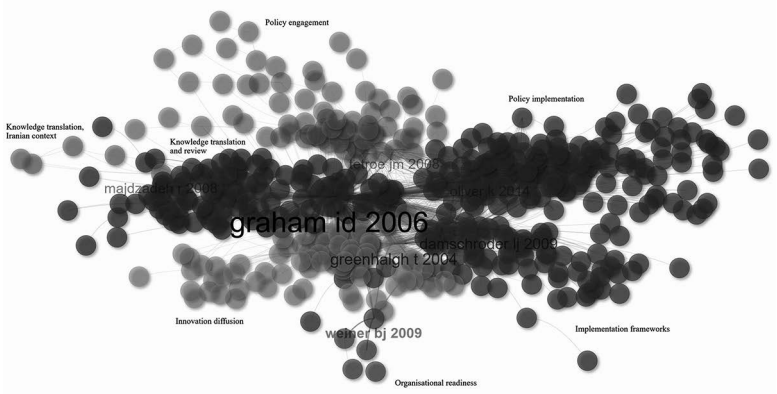


*Figure 5.3a* *Mapping the co-citation network for the public health sample*

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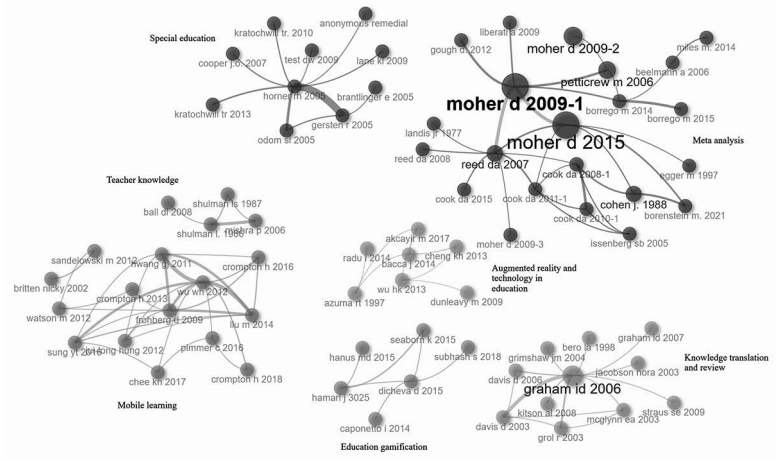


*Figure 5.3b* *Mapping the co-citation network for the education sample*

Overall, the community structure identified through our analyses, alongside the shared vocabulary and citations specific to research on evidence use, suggests that, in public health, there is a more developed research agenda and a more cohesive community that examines how evidence moves into policy, whereas in the education sample, research tends to focus on the evidence that may be relevant for policy. Thus, research into evidence use, or the study of how evidence comes to be used in policy and how that could be done differently, appears to be less developed in education than in public health.

## SIMILARITIES THAT REVEAL THE OPERATION OF POWER

While studies of evidence use are increasing in both education and public health, researchers from the Global North continue to dominate citations and research collaborations.

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## Studies of Evidence Use are Increasing

Articles in the literature sample were published between 1999 and 2021 in outlets indexed by the Web of Science (Figure 5.4). Both samples provided a sense of a burgeoning literature, with education publications growing faster from the mid-2010s onwards, while the number of publications in public health has been increasing since 2005. More recently, education scholarship in this area has been growing, while public health may be declining slightly.

## Who is Cited?

Both the public health and education literature samples analysed comprised mainly English-language indexed publications, predominantly produced in high-income countries that comprise what is often called the Global North (Table 5.2); 93 per cent of the publications in the education sample and 99.9 per cent in public health were published in English.

We compared the core of both samples' publication outlets using Bradford's law plot (Bradford, 1934) to identify which outlets published one-third of the fields' research outputs. In public health, this core section contains four journals, whereas the education section comprises 17, revealing a more fractured and diverse intellectual community. Therefore, the academic core of public health evidence-use scholarship is shown to be more centralised in fewer outlets than in education, but in both issue areas, all publications are produced in the Global North.

## Who Collaborates?

Research in public health and education is highly collaborative, as 94 per cent and 90 per cent of sample publications, respectively, are authored by multiple researchers (Table 5.3). The structuring of international research collaborations is shown in the number of co-authored documents, as well as the number of publications for each type of partnership (between or within groups of researchers from low-, middle-, and high-income countries).

Both the public health and education samples included some authors from Global South countries; this was computed using OECD membership as an indicator of "Global North". In the public health sample (Table 5.4a), there were no low- or lower middle-income country authors among the 10 most cited contributors, despite two countries appearing in the top

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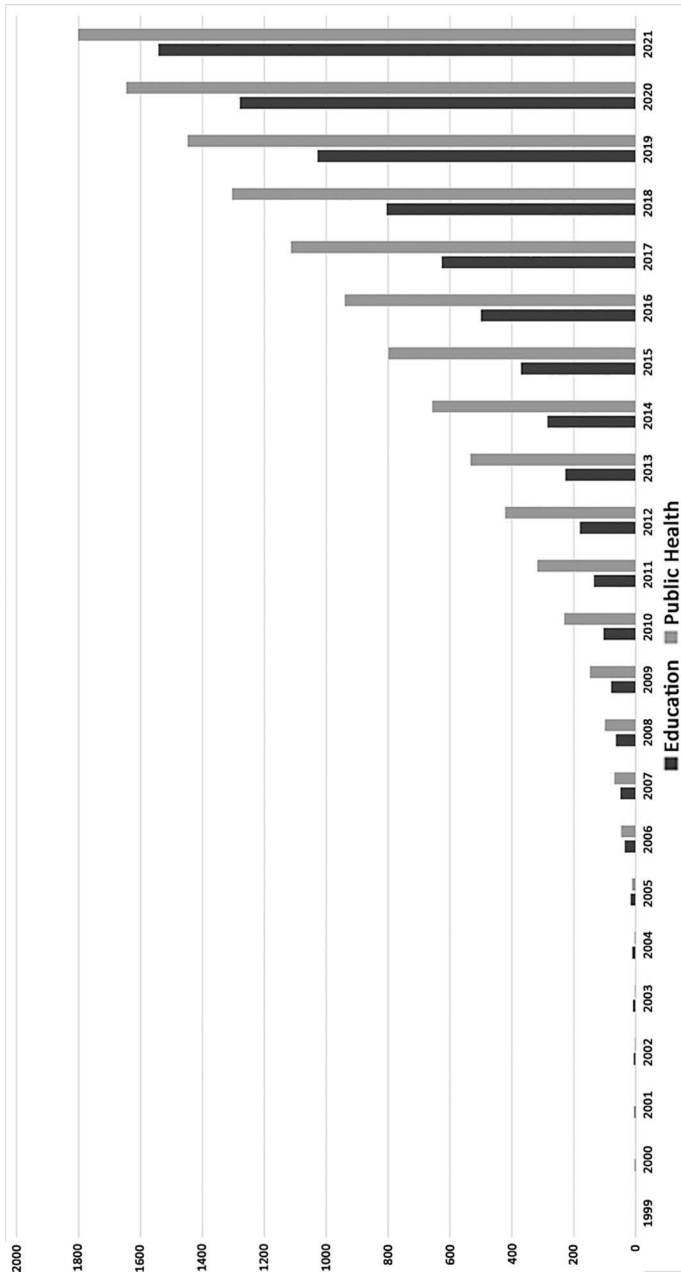


*Figure 5.4 Annual growth in publications in the public health sample (26 per cent annual growth rate) and education sample (31 per cent)*

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*Table 5.2 Sample publications by language*

| Language and frequency | Public health | Education |
|---|---|---|
| English | 1877 | 1779 |
| Spanish | 5 | 71 |
| Portuguese | 4 | 47 |
| German | 6 | 4 |
| Dutch | 0 | 2 |
| Russian | 0 | 2 |
| Arabic | 0 | 1 |
| Mandarin | 0 | 1 |
| French | 1 | 0 |

*Table 5.3 Descriptive statistics of publications and authorship*

| Descriptor | Public health | Education |
|---|---|---|
| Timespan | 1999–2021 | 1999–2021 |
| Number of sources (journals, books, etc.) | 281 | 517 |
| Number of publications | 1863 | 1796 |
| Percentage annual growth rate | 25.8 | 30.93 |
| Document average age (years) | 7.44 | 5.66 |
| Mean citations per publication | 23.76 | 37.11 |
| Number of references in publications in sample | 52 016 | 91 301 |
| Number of authors | 6952 | 5351 |
| Number of authors of single-authored docs | 97 | 176 |
| Number of single-authored publications | 107 | 186 |
| Mean co-authors per publications | 5.24 | 3.42 |
| Percentage international co-authorship | 31.23 | 20.21 |

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*Table 5.4a Countries ranked by total citations and productivity for public health*

| Country | Number of citations | Rank | Country | Number of publications |
|---|---|---|---|---|
| Canada | 32 795 | 1 | Canada | 866 |
| USA | 7273 | 2 | **Australia** | 232 |
| United Kingdom | 6772 | 3 | USA | 198 |
| **Australia** | 4946 | 4 | United Kingdom | 131 |
| Sweden | 2224 | 5 | Sweden | 32 |
| Germany | 591 | 6 | Germany | 25 |
| Switzerland | 585 | 7 | **Netherlands** | 25 |
| **Netherlands** | 566 | 8 | **South Africa** | 25 |
| Norway | 488 | 9 | Norway | 22 |
| Mexico | 327 | 10 | **Iran** | 21 |

*Table 5.4b Countries ranked by total citations and productivity for education*

| Country | Number of citations | Rank | Country | Number of publications |
|---|---|---|---|---|
| USA | 17 777 | 1 | USA | 434 |
| United Kingdom | 11 283 | 2 | United Kingdom | 211 |
| Canada | 10 198 | 3 | Canada | 197 |
| Australia | 5860 | 4 | Australia | 163 |
| Belgium | 2168 | 5 | **Spain** | 107 |
| **Spain** | 2030 | 6 | **Brazil** | 74 |
| Netherlands | 1898 | 7 | **China** | 60 |
| Germany | 1875 | 8 | Netherlands | 46 |
| Turkey | 1797 | 9 | Germany | 42 |
| **China** | 1758 | 10 | Turkey | 37 |

*Note:* All cases where country productivity is higher than country citations are in bold.

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10 ranking of publications produced: South Africa (25) and Iran (21). In the education sample (Table 5.4b), Brazil (74) and China (60) were ranked in the top 10 of the number of publications produced; however, only China (ranked 10th) entered the top 10 ranking of citations (1,758 citations). Even the most highly cited authors from Global South countries (from Lebanon (323), South Africa (292), Iran (277), Uganda (203), and Nigeria (151)) together accounted for no more than 2.1 per cent of the total citations in the public health sample. Outside of this top 10 list, works from the Global South comprised just 5.5 per cent of cited authors (from Brazil (769), United Arab Emirates (460), Malaysia (341), and South Africa (315)). Comparing the rankings of publications produced with citations, Global North countries produced much more and were cited more, whereas even authors from Global South countries that were productive were not cited as frequently. Not only does knowledge produced in the Global South represent a small percentage of the sample, it is also among the least recognised scholarship, as indicated in the citation counts.

Regarding collaboration, a high number and percentage of high-income country researchers work with each other and not with authors from the Global South (Figure 5.5). Thus, while collaboration features

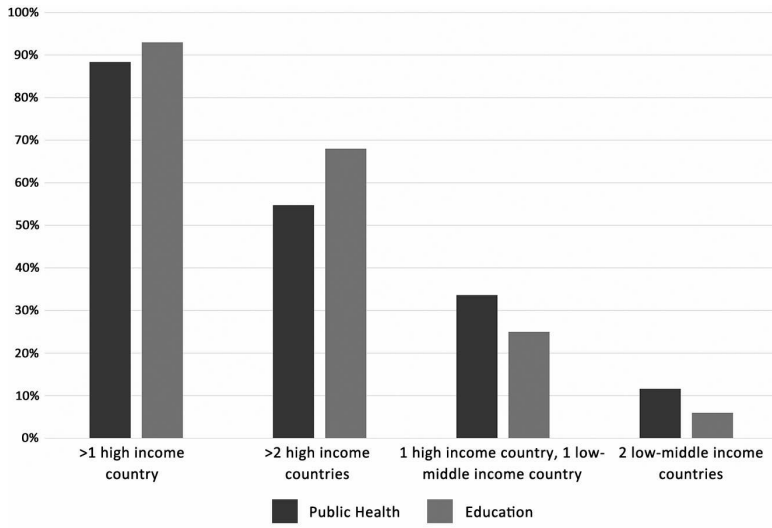


*Figure 5.5 Frequency of international collaboration*

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prominently in both samples (shown by the high number of multiauthored contributions), researchers in the Global North primarily collaborate with others affiliated with Global North institutions.

Thus, in both samples, Global North scholarly production and recognition are overrepresented and reflect the countries, languages, and paradigms that govern knowledge production more generally.

## DISCUSSION

This chapter contributes analyses revealing that while there are substantive differences between the intellectual communities in academic research in public health and education, the similarities between the two reveal the operation of power and politics in academic research into evidence use, particularly regarding epistemology and geography.

### Substantive Differences

We detected a specialist "evidence-use" research community in public health that builds evidence about evidence use itself. It carries out specialised research into knowledge brokerage processes and shares a vocabulary and core citation norms and practices. In contrast, in the academic education literature sample, building evidence about evidence use appears less significant. Nevertheless, the grey literature in education, particularly focused on practice, does address studies of evidence use in education (Farley-Ripple et al., 2020), including a UNESCO-commissioned study on improving the use of evidence in education globally (Steiner-Khamsi et al., 2023). As certain individuals and organisations undertake more knowledge brokerage functions in education, more diverse tools, goals, audiences, and methods are mobilised (Burns & Schuller, 2022). This chapter thus underlines the timely intervention of this pioneering book in initiating and strengthening a research community focused on the study of evidence use in education.

### Geographical

The analyses of authors, collaborations, languages, and indexed publication venues we present in this chapter are not easily explained as a technical issue alone. In both education and public health, concepts, frameworks, and tools elaborated in centres of power in the Global North are extended through extractive research practices (Mughogho et al.,

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2023), uneven policy influence (Steiner-Khamsi et al., 2023), and unequal research funding and partnerships (Gaillard, 1994; Gewin, 2023) in ways that subsume, replace, or delegitimise existing ways of knowing, understanding, and shaping the future contexts of development in various contexts within the Global South, as well as within the peripheries of the North (Mahler, 2018). Our analyses show that high-income countries are disproportionately cited; to redress this, authors in high-income countries need to rewire their co-authorship networks (Faul, 2016) and citation practices for researchers from the South to gain recognition.

**Epistemological**

The epistemological and axiological roots of evidence use in policy and practice are diverse (Oliver & Boaz, 2019). However, the majority of evidence-use research has overwhelmingly followed the modernist traditions of the Global North, in which there is a tendency to assume that the values and preferences embedded in Enlightenment science are universal or natural. Other epistemologies and axiologies exist, and their lack of representation in this sample raises questions of epistemic justice and equality in academic research about evidence use (Bhargava, 2013; Connell, 2007; Ndlovu-Gatsheni, 2018; Odora Hoppers, 2002). Critical researchers have outlined several consequences of the epistemological assumptions reflected in much evidence-use literature and methods and have outlined responses. First, an assumption that academic knowledge can provide better access to truth than "lay" knowledge has resulted in the marginalisation of the knowledge and expertise of stakeholders, communities, and publics impacted by research (Hall & Tandon, 2017; Thom et al., 2022). Second, the exclusion of diverse and non-Western evidence bases requires redress through, for example, participatory and co-productive methodologies that explicitly address power relations (Faul & Welply, 2021; Stewart, 2021; Stewart et al., 2019). Finally, it is critical to attend meaningfully and consistently to the ways in which evidence is implicated in and produced by power and politics (Cairney, 2016; Jasanoff, 2004; Waruru, 2022). Our analyses confirm that these aspects of knowledge inequity are very much alive within both public health and education research. For education scholars motivated by justice, this demands greater attention, as well as resourcing, to address and redress the inequities in the literature that structure the field.

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## CONCLUSION

By attending to conceptual differences and similarities between the two fields, our analyses demonstrate how knowledge and evidence are addressed in changing ways and the potential for education spheres to learn from evidence-use studies on comparable issues. Second, our analyses reveal similar trends towards theoretical, methodological, and epistemological homogenisation in evidence-use studies, where conceptual development, specification, and standardisation signal a comparative lack of diversity. This homogenisation indicates that the current focus on the use of evidence produced in the Global North comes at the expense of multiple valuable perspectives that become marginalised, particularly on what counts as "evidence" and who gets to produce it. Finally, and most importantly, we draw attention to the uneven distribution of knowledge production, publication, citation, and dissemination, and their role in the perpetuation of knowledge inequity in the transmission of ideas about the relationship between evidence and policy and the evidence that may be considered legitimate and usable, and therefore used. We argue that the comparison between the two sectors that we contribute to with this chapter is instructive in understanding the dimensions of knowledge inequalities internationally and the opportunities and risks involved in the rise of knowledge brokerage centred on Global North producers and users to the detriment of those in the Global South. Systemic and durable inequities govern knowledge production and use. These inequities are reproduced by evolving academic communities that address the relationship between knowledge and decision-making, and by current investments in knowledge brokerage research. Building a community of evidence-use researchers in education is critical if we are to understand the current state of the field and improve it, particularly regarding epistemic and geographical inequalities. In addition to funding products that synthesise research and evidence for policy, funders should also invest in research communities for studies in evidence use in education, as has been done in other disciplines, particularly in and with the Global South.

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# APPENDIX: REFERENCES FOR THE MOST HIGHLY CITED PAPERS IN EACH CLUSTER OF THE CO-CITATION NETWORKS

*Table 5A.1 Most highly cited references within each cluster for the public health sample*

| Authors | Title | Year | Number of citations (WoS) | Centrality (degree) | Cluster |
|---|---|---|---|---|---|
| Graham et al. | Lost in knowledge translation: time for a map? | 2006 | 2588 | 1 | Knowledge Translation and Review |
| Damschroder et al. | Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science | 2009 | 6392 | 0.382 | Implementation Frameworks |
| Greenhalgh et al. | Diffusion of innovations in service organizations: systematic review and recommendations | 2004 | 4163 | 0.402 | Innovation Diffusion |
| Oliver et al. | A systematic review of barriers to and facilitators of the use of evidence by policymakers | 2014 | 700 | 0.312 | Policy Implementation |
| Tetroe et al. | Health research funding agencies' support and promotion of knowledge translation: an international study | 2008 | 199 | 0.224 | Policy Engagement |

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| Authors | Title | Year | Number of citations (WoS) | Centrality (degree) | Cluster |
|---|---|---|---|---|---|
| Majdzadeh | Knowledge translation for research utilisation: design of a knowledge translation model at Tehran University of Medical Sciences | 2008 | 48 | 0.079 | Knowledge Translation, Iranian Context |
| Weiner | A theory of organisational readiness for change | 2009 | 931 | 0.071 | Organisational Reading |

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*Table 5A.2 Most cited references in each cluster for the education sample*

| Authors | Title | Year | Number of citations (WoS) | Centrality (degree) | Cluster |
|---|---|---|---|---|---|
| Moher et al. | Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement | 2015 | 20 896 | 1 | Meta-analysis |
| Moher et al. | Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement | 2009 | 34 149 | 0.975 | Meta-analysis Scholarship |
| Graham et al. | Lost in knowledge translation: time for a map? | 2006 | 2588 | 0.658 | Knowledge Translation and Review Scholarship |
| Horner | The use of single-subject research to identify evidence-based practice in special education | 2005 | 1893 | 0.359 | Special Education |
| Frohberg | Mobile learning projects: a critical analysis of the state of the art | 2009 | 205 | 0.265 | Mobile Learning |
| Bacca | Augmented reality trends in education: a systematic review of research and applications | 2014 | 720 | 0.24 | Augmented Reality and Technology in Education |
| Shulman | Those who understand: knowledge growth in teaching | 1986 | 1 | 0.167 | Teacher Knowledge |

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| Authors | Title | Year | Number of citations (WoS) | Centrality (degree) | Cluster |
|---|---|---|---|---|---|
| Dicheva et al. | Gamification in education: a systematic mapping study | 2015 | 738 | 0.151 | Education Gamification |

*Note:* The search was constrained to systematic reviews on how evidence moves into policy (not what evidence works) in Web of Science subject category (SU) "education" (not comparative and international education); thus, the authors that work in several domains of education research are included alongside knowledge translation researchers.

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