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Ethical considerations in synthesising research

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Abstract

Research syntheses play a powerful role in shaping further research, practice, policy and public perceptions. Accordingly, the ethical issues associated with how perspectives of different groups are included or censored in a research synthesis report must be paid adequate attention. Any research synthesis is inherently influenced by subjectivities associated with multiple layers of interpretation, selection and representation. In framing a research synthesis, it is vital that synthesists take into account: multiple interests and influences of different stakeholders; potential impact of the synthesis on different stakeholders; synthesists’ own multiple and shifting identities within the synthesis; synthesists’ methodological positioning within the synthesis; status accorded to authors and participants of the primary research studies included in the synthesis; influences of funding agencies; politics of who/what gets published; and biases introduced through common strategies for retrieving primary research studies. I have raised strategic questions and issues to structure and inform critical decision-making throughout a synthesis process. I hope this article will stimulate debate and discussion on various ethical considerations associated with the process of synthesising research.

Introduction

This article is premised on the observation that analysis and synthesis of evidence in three modes can contribute to knowledge construction. These three modes are: primary analysis, secondary analysis and research synthesis. Primary research involves going into the field or an experimental situation to collect raw evidence or data to pursue one’s own research questions. This raw evidence may be qualitative, quantitative or a combination of both. The analysis and interpretation of this raw data is referred to as ‘primary analysis’ and the individuals conducting such research are called ‘primary researchers’. At times, these studies are referred to as ‘original studies’ or ‘individual studies’ in the literature on research synthesis methods. Secondary research involves re-analysing and re-interpreting raw evidence or data collected by other primary researchers for their own primary research. This re-analysis or re-interpretation could be pursued to address the same, or different, questions using different analytic tools or interpretive positions. Research synthesists are different from primary researchers and secondary researchers in the sense that they analyse or interpret the analyses or interpretations reported by primary researchers rather than collecting, analysing or interpreting any raw data or evidence.

Ethical issues in synthesising research is a topic that is frequently overlooked in the literature (Dixon-Woods, Agarwal, Young, Jones, & Sutton, 2004). Unlike primary research, a research synthesist does not have to worry about the ethical dilemmas associated with accessing deeply personal information as often the evidence for a research synthesis comes from publicly available
documents. However, research syntheses play a powerful role in shaping further research, practice, policy and public perceptions (Franklin, 1999; Hammersley, 2003; Harlen & Crick, 2004; Popkewitz, 1999). They tend to be read and cited frequently (Garfield, 1987). Accordingly, the ethical issues associated with how perspectives of different groups are included or censored in a report become more imperative in a research synthesis than in a primary research report. Furthermore, given ‘the complexities, the multiplicities, and the divergence that give different meaning to voice, identity and representation’, an equally important question becomes ‘How do we know who is speaking?’ in a primary research report as well as in a synthesis (Baker, 1999, p. 365). ‘Exploring the problematics embedded in the ethics of textualizing and voicing both Self [and] the Other’ (Segall, 2001) is a complex task that does not yield simple solutions. While recognising this complexity, I suggest some strategic questions that can facilitate a critical awareness about some of these issues among research synthesists.

Recognising multiple interests and influences of different stakeholders

Several groups can knowingly or unknowingly influence a research synthesis in certain directions. Likewise, the findings of a synthesis may intentionally or inadvertently affect or inform different groups. Stakeholders in a synthesis are often anticipatory rather than retrospective. They include: participants of primary research studies included in the synthesis; primary researchers in the substantive area; policymakers whose policies might be evaluated; the wider community; commercial publishers of primary research and research syntheses; political decision-makers; funding agencies; editorial boards and academic communities; and professional synthesists. A synthesist must ask:

- Who are the various groups whose interests might be affected by a potential research synthesis?
- How might these groups influence the synthesis?
- What implications might the synthesis have on these groups?

Every research synthesis inherently involves three layers of interpretation, selection and representation. First, the participants in primary research studies selectively interpret and represent their perceptions, attitudes, aptitudes, experiences and/or abilities. This layer of interpretation might not be explicitly acknowledged in non-constructivist epistemologies. Second, this evidence is selectively interpreted and represented, after it has been refracted through the interpretive frameworks of the authors, in the primary research reports. Finally, the research synthesist selects, interprets and represents evidence presented in primary research reports. The synthesist has an obligation to state clearly and optimally the caveats, subjectivities and assumptions associated with the synthesis findings such that anyone who uses them beyond their intended domain is clearly seen to be doing so. When synthesising a wide spectrum of layered representations, it is crucial to identify any dominance of certain representations and/or absences of the relevant representations that have been missing from the published literature.
The synthesist’s contextual positioning

The synthesist must examine what is his or her own stake in a synthesis and how that may influence the synthesis. The synthesist must also think of ways in which the synthesis process may be invoking changes in his or her own thinking and positioning.

Multiple and shifting identities
A research synthesist can have multiple and/or shifting identities within the same synthesis. In the context of a particular synthesis, a synthesist may have one or more overlapping and/or conflicting stakes. For instance, consider a synthesis in the substantive domain of online learning where the synthesist may commence with multiple identities by simultaneously engaging in more than one of the following activities: being enrolled in an online course; teaching in another online course; and conducting primary research in the area of online learning. The synthesist may commence the synthesis with all these multiple frames of reference, any of which may be relinquished during the synthesis. As the synthesis progresses, the synthesist may gain more expertise in the area of online learning and actively engage in policymaking by becoming a member of several decision-making bodies at the institutional level. Thus, the synthesist may have shifting identities within the course of the same synthesis.

The synthesist must situate him or herself within the context of the inquiry and reflect upon the possible influence of these preferences on the synthesis. Also, the synthesist must reflect on how the synthesis is influencing his or her own thinking about the field. Such reflexivity makes one more conscious of potential biases. Sharing the gist of such reflections makes the synthesis process more transparent and provides an opportunity for readers to make informed decisions about the extent to which the findings can be adapted to their own contexts.

Synthesists must reflect on their relative identities with respect to the various groups participating in the study of the phenomenon of interest. For instance, in their award-winning synthesis, Wideen, Mayer-Smith and Moon (1998) recognise that a white Anglo-Saxon male is likely to have a different identity from that of a coloured female in the context of a synthesis on multicultural education. Accordingly, they describe their gender and ethnicity at the outset of the synthesis. This self-awareness and perhaps self-disclosure is an inherent responsibility that any synthesist ought to consider. Trying to untangle the aspect of our own positioning that may influence our choice in a synthesis is not an easy task. Questions a synthesist might ask him or herself include the following:

• Does who I am, and what my experiences have been interact with this topic? How? Why?
• Does my sex, race, language background, socioeconomic context, heritage, culture, sexuality, educational or life experiences provide me with insights, or conversely restrictive vision, in this area?
• In what ways might my perspective be partial because of my personal subjectivities?
• What personal values do I hold that interact with this synthesis topic or domain?
• How much should I disclose of my self-interest or personal experiences in this area?

Methodological positioning
Ethical considerations in a research synthesis tend to be refracted through the overarching philosophical and theoretical orientation of the synthesist. For example:
• positivist synthesists would prioritise reducing any potential biases
• interpretive synthesists would prioritise honouring representations of the participants of primary research studies
• participatory synthesists would prioritise rich learning experiences for those participating in the synthesis process
• critical synthesists would prioritise paying attention to issues of power.

Research syntheses inherently involve evaluation of information presented in different primary research reports. In a methodologically inclusive research synthesis, the synthesist must be well informed about a variety of primary research methods as well as the specific methodological issues associated with a research synthesis. A synthesist must be cautious about the skewing of perspective that could prejudice a synthesis if the synthesist comes from one or more particular traditions of primary research. The synthesist must have some comprehensive knowledge of a variety of primary research methodologies. Questions that potential synthesists might ask themselves include:

• Do we have expertise in relation to a variety of methodological issues specific to a research synthesis?
• Can we identify inherent assumptions that are built into primary research coming from a range of methodologies?
• Do we have expertise in the several types of methodologies that are likely to be employed in the primary studies conducted in this field?
• Do we have expertise to recognise the aspects of the phenomenon that have not been understood because few primary research studies have employed the particular methodologies that are likely to shed light on those aspects of the phenomenon?
• How might our own methodological positioning influence the synthesis findings?

Authors of included studies: how representative?

Synthesists should be wary of ‘othering’ (Fine, 1994, p. 72) the ‘researched’ by implying an ‘invisibility of the researcher’ which creates a ‘conceptual distance between the observer and the observed, as well as the reader and the observed’, where the ‘reader and the researcher stand together’ (Meacham, 1998, pp. 402–403). Recognising that ‘concrete language is an oxymoron’ since ‘language is always an abstraction of experience’ (Popkewitz, 1999, p. 403, emphasis in original), synthesists should contest the naive assumption of an absolute congruence between the interpretations represented in the primary research reports with those of the participants of the original studies (Elmore, 1991). For example, Wideen et al. (1998) problematise the notion of the neutral representation of the authors of reported research and speculate on how their role of teacher educators could have influenced their interpretations and findings. Another illustration of this comes from some meta-analyses on gender issues that find systematic moderation of the primary research findings by the author’s gender.

Synthesists must attempt to identify the groups that are not well represented among the authors of the relevant primary research reports. For instance, consider a synthesis on indigenous issues in the Western education system where the synthesist finds that there are few indigenous authors whose primary research has been published in the field. The synthesist must identify and speculate about the impact of such missing voices on the current state of the relevant research area. Scrutinising the relationship of the authors of the primary research reports with the substantive topic of research, a synthesist can shed some light on how some themes may have become dominant in the field as against some others that have been relatively silenced. Sometimes synthesists can strategically highlight the voices of the relatively silenced groups from among the authors of primary research. For example, the editorial team of Mathematical Thinking and Learning, an international journal in mathematics education, tries to support researchers from developing nations to get published (personal communication, 2001, 3 July, with the editor Lyn English at the annual meeting of MERGA held in Sydney). A similar approach may be adapted in a research synthesis where the synthesist deliberately highlights research reported by authors from groups who have a small likelihood of being published in high-status international journals.
A synthesist must ask the following questions:

- Who are the authors of the relevant primary research reports?
- What are their theoretical and disciplinary orientations?
- What are the relationships between the primary researchers and the participants in their studies? How may this have influenced the interpretations represented in the primary research reports?
- How do the interests of the authors of the primary research reports relate to the diverse interests of different stakeholders?

These questions can help a synthesist in seeing patterns of influence introduced by the subjectivities of authors of the primary research reports (Paterson, Thorne, Canam, & Jillings, 2001). However, these subjectivities should not essentially be perceived as undesirable sources of error (Patton, 1991). Often the authors of primary research reports have a more holistic view of the phenomenon as compared to the view of any single group included in the primary research study.

Participants of the primary research reports: Whose viewpoints?

In a rigorous research synthesis, potential misrepresentation of practice should be avoided by empathetically and critically attending to the viewpoints of the participants of the primary research studies to the extent that this is possible through the filtering of the primary researcher. It is worth considering the option of getting on the team a key stakeholder who belongs to the group who has predominantly participated in the primary research studies. Such a team member can act as a rich informant and refine the connected understanding constructed within the synthesis by validating through a process like member checking. Consider a synthesis that identifies the concerns of indigenous teachers in teaching mathematics. The trustworthiness of such a synthesis can be enhanced by soliciting feedback from an indigenous mathematics teacher on the synthesist’s interpretations.

The synthesist must closely scrutinise the primary research reports to examine if the primary researchers have inadvertently imposed their own viewpoints on the participants. Eastabrooks, Field and Morse (1994) stress that synthesists ‘must examine each theme or category carefully to determine if they have been well rooted in the original data’ (p.508). Unfortunately, often such grounding is not possible considering the frequently imposed limits on the length of journal articles that restrict primary researchers from presenting details of their raw data.

Research synthesists must scrutinise primary research reports to identify the stakeholders whose viewpoints are missing from the primary research literature (Paterson et al., 2001). The synthesist must look beyond the obvious to protect the interests of the populations represented by the participants of the original studies. The synthesist must not only represent those who participated in the primary research, but also identify those who are not represented in the relevant body of primary research. The synthesist could also speculate on the potential concerns of those who are less represented. For example, in a synthesis of the utility of online learning in higher education, primary research studies could have drawn only from those populations that had good
Funded synthesis: Whose agenda?

Issues associated with intellectual autonomy and research funding can be complex and problematic (Hustler, Edwards, & Stronach, 1998). A rigorous research synthesis makes much more demands on time and resources when compared with ad hoc reviews. Many research synthesists apply for funding to sustain the financial viability of a synthesis. However, research grants that allow the synthesist high degrees of control are often highly competitive and are restricted to high-profile scholars in the field. Even though research synthesists ‘can provide profound and insightful interpretations to help us better understand what we sometimes take for granted’ (Gordon, 1999, p. 409), their status in academia is often marginalised in terms of their probability of attracting research funding and in their contribution to the university’s overall research quantum (Apple, 1999).

Another source of funding that synthesists can tap into are the funds available for commissioned syntheses. Several decision-making bodies commission syntheses to inform their decisions. At times, professional research synthesists may submit tenders for conducting commissioned syntheses. Alternatively, a professional synthesist interested in a particular substantive domain of research may also apply for funding to do so. Sometimes there may not be a perfect match between the initial purpose of the synthesist with that of the funding agencies and the synthesist may have to modify the orientation of the synthesis to match the purpose of the funding agency. It is crucial that the synthesist reflects on the implications of such influences. A synthesist must take into consideration any real or perceived biases that might compromise the trustworthiness of the synthesis due to any potentially vested interests of a funding agency. The issue of conflict of interest is taken so seriously by the Campbell Collaboration that it is their policy to reject any review that received ‘direct funding from a single source with a vested interest in the results of the review’ (Campbell Collaboration, 2001, II/8).

A synthesist must critically address a number of questions both at the outset and in the reporting of a commissioned synthesis, including:

- What are the interests of the commissioning agency that are relevant to the synthesis?
- What is the relative match between the intended purpose of the synthesis and that of the funding agency?
- What are the constraints introduced by a degree of mismatch between the interests of the synthesis and the funding agency?
- Who controls the nature of the synthesis?
- How much control will the synthesist have?
- What is the potential for negotiating any differences of agenda?
- How much control will other stakeholders have?
- How will the interests of other stakeholders be represented?

Politics of publishing: Who/what gets published?

Several biases can influence funding and publishing of certain types of primary research reports as well as research syntheses. Examples include bias against insignificant difference, confirmatory bias, funding bias and methodological bias. As discussed below in this section, these biases can systematically skew the synthesis findings in certain directions. Hence, it is crucial that synthesists...
consider reflexively how these biases influence their synthesis and how their synthesis may contribute towards reinforcing these biases.

**Outcome bias.** Research that does not report marked differences between individual groups or subgroups examined within a study is less likely to be published (Atkinson, Furlong, & Wampold, 1982; Coursol & Wagner, 1986; Greenwald, 1975). Also, studies reporting successful innovations are more likely to be published. Implementation of most innovative approaches requires more resources and professional development for practitioners. With an expectation that innovations must be successful to be published, at times researchers consciously or inadvertently invest extra resources in the sites of primary research. It is possible that policy decisions are made based on a synthesis of this published research. However, in real life often these policy decisions are not supplemented with a provision of adequate funding required for effective implementation of these policies (Schoenfeld, 2006).

**Confirmatory bias.** Research that is at odds with the current prevailing beliefs or theories is less likely to be conducted or published (Miller & Pollock, 1994). Clandinin and Connelly (1996) describe tensions between teachers’ ‘secret, sacred, and cover stories’ (p. 24). An analogous tension also exists between researchers’ secret, sacred and cover stories. The secret stories include the tensions, struggles, dilemmas, ambiguities, complexities and uncertainties experienced by researchers and are shared in secret places. The sacred stories are the texts on research methods and theories that dominate the prevalent conception of what ought to be goodness criteria for educational research and practice. The cover stories are the stories that get reported in the form of published reports, which are heavily influenced by the subtext of the sacred stories. The evidence of a research synthesis is often the primary researchers’ cover stories of the research participants’ cover stories. Another layer is added to this evidence as the readers of a research synthesis get access to the cover stories of the research synthesist. At each layer of representation, certain biases are inherent. However, what is worrying is that all these biases are likely to be in the direction of the prevalent sacred stories.

**Funding bias.** Often researchers have to seek external funding to make their research financially viable. Thus, a bias may be introduced at this stage if some types of primary research are more likely to be funded than others. Many funding agencies, especially in the USA, are favouring quantitative studies with randomised controlled trials as gold standard (Howe, 2005; Lincoln & Cannella, 2004; Maxwell, 2004; Moss, 2005). Such a prejudice among funding agencies can increase the likelihood of studies with certain methodological features of getting funded, being conducted and getting published. Funding agencies in education sometimes also prioritise research that examines innovative approaches to teaching and learning. Embracing innovative approaches iteratively could lead to continual change in policies. Sometimes this can lead to dissatisfaction among practitioners for always having to catch up with the latest changes. Reflecting on the ‘history of research on teaching’, Clandinin and Connelly (1996) note that ‘practical expectations have dramatically exceeded practical reality’ (p. 29). It is worth speculating whether research that examines ways of maximising the use of available resources has as much likelihood of attracting funding as research that investigates innovations.

**Methodological bias.** Studies with certain methodological designs, especially with large samples, are more likely to get published (Easterbrook, Berlin, Gopalan, & Mathews, 1991). Also, studies with certain theoretical orientations are more likely to be published (Dickersin, Min, & Meinert, 1992). Sometimes restrictions on length of the articles can influence primary researchers’ decisions to publish in different outlets. Studies with different research designs have different probabilities of being published in different journals. There is an obligation on the synthesist to investigate the
spectrum of appropriate journals and databases that are likely to include primary research relevant to the synthesis.

Analogous biases may also be possible at the level of publishing research syntheses. All these issues arising from who/what is more likely to get published must be taken into account when reflecting on the ethical appropriateness of a synthesis.

**Search Biases**

Synthesists should also examine carefully their search strategies to take into account any biases introduced by their search techniques such as the following.

**Database bias.** Reports included in popular databases are more likely to be retrieved. Strategies to minimise a database bias include: searching in several databases; and complementing database searches with other search channels.

**Citation bias or reference bias.** Studies that are frequently cited are more likely to be retrieved. Even from the retrieved studies, synthesists are more likely to draw on views that are similar to their own (Rothstein, College, Turner, & Lavenberg, 2004). This further reinforces confirmatory bias.

**Availability bias.** Synthesists often include reports that are easily accessible at relatively low costs (Matt & Cook, 1994). Open access to more and more research journals will hopefully reduce this bias in the future (Willinsky, 2005).

**Language and country biases.** Often synthesists include reports published in international, English language journals, which may not be representative of all the studies conducted on the topic. Several eminent researchers have expressed a concern over the dominance of North American researchers in several international research journals and academic conferences. The synthesist must duly recognise that a phenomenon portrayed in North American research reports is not necessarily representative of the phenomenon as it is perceived and experienced across the world. If much of the published primary research in a field has been reported by North American researchers, the synthesist must speculate how this factor may have influenced the prevalent understanding within the field? To reduce this bias, synthesists can contact international scholars, especially from non-English speaking nations, working in the area as they are more likely to know of research reported in their own language (Petrosino, Boruch, Rounding, McDonald, & Chalmers, 2000).

**Familiarity bias.** Often synthesists are more likely to include studies from their own disciplines with which they are familiar (Rothstein et al., 2004). Seeking feedback from interdisciplinary scholars working in the field can be helpful.

**Multiple publication bias.** With the current environment of ‘publish or perish’, it is not always clear when multiple reports have been published based on the same study, which can give more weight to certain studies in the analysis. When synthesists are unsure about the independence of studies reported by the same group of authors in multiple reports, they could contact the authors of the original reports (Petticrew & Roberts, 2006, p. 234).
Conclusion

In this article, I have identified multiple forms of subjectivities inherent in any process of synthesising research. I conclude this article by emphasising the need to engage in ongoing discussions about various ethical considerations associated with complex issues of whose views are being represented in (or omitted from) a research synthesis. Rather than prescribing how a research synthesis ought to be conducted or evaluated, my goal has been to support critical reflection among producers and users of research syntheses. I have attempted to do this by raising questions to structure and inform critical decision-making throughout a synthesis process. I hope this article will stimulate debate and discussion on various ethical considerations associated with the process of synthesising research.

Notes

1. This article is based on my PhD thesis in which I have conceptualised a methodologically inclusive research synthesis framework. I would like to thank my PhD supervisors, Professor David Clarke and Dr Gaell Hildebrand, for their constructive support. An earlier draft of this article was presented at the 2007 Biennial Conference of the Association for Qualitative Research. I thank the two anonymous reviewers for their useful feedback to refine this article.

2. This distinction is a methodologically inclusive adaptation of Glass’s distinction between the terms ‘primary analysis’, ‘secondary analysis’ and ‘meta-analysis’ (1976, p. 3).

3. Throughout this article, I have used the terms ‘synthesist’ or ‘research synthesist’ to refer to an individual engaged in a research synthesis endeavour to emphasise that a synthesist focuses on a synthesis similar to the way an analyst focuses on an analysis.

4. An extremely cynical, unfortunately realistic, view is that the ‘peer review system [for funding] mainly guarantees that research will be kept fully under the control of the elite (and older) members of the academic professions’ (Greenwood & Levin, 2000, pp. 88–89).

5. For instance, John Gilbert, in his acceptance speech for a Lifetime Career Award at the 2001 National Association for Research in Science Teaching (NARST) conference (Gilbert, 2001) emphasised that North American researchers should look more broadly. As the returning editor of the International Journal of Science Education (IJSE), Gilbert noted that North American researchers rarely cite the work of researchers outside of North America unlike researchers from Europe, Asia, Australia and some other regions. Such a bias in favour of North American research is evident in many realms of research.

6. Nobel Laureate Amartya Sen illuminates the paradox inherent in the global nature of anti-global lobby groups (Sen, 2001). A similar paradox is evident in my article also. An important characteristic of my article is that I draw primarily on the research literature published in the USA to stress that recognition must be given to the literature published outside the boundaries of the USA.
References


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