Synthesising research for diverse purposes: Moving beyond "What Works?"

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The purpose of a research synthesis is to construct new knowledge by making explicit connections and relations between individual primary research reports that were not visible before. With the current thrust on evidence-based policy and practice, large scale funding has become available to some organisations which are primarily committed to support systematic reviews. Examples of such organisations include the "Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)", "The Campbell Collaboration" and "What Works Clearinghouse?". These systematic reviews tend to be implicitly oriented along positivism and are geared at measuring the overall effectiveness of various educational decisions. In this paper, I assert that the variety and complexity evident in contemporary educational research must also be accommodated, encapsulated and celebrated at the level of synthesising educational research. I propose a Methodologically Inclusive Research Synthesis (MIRS) framework which is a coherent conceptualisation of research synthesis methods expressed through the identification of critical decisions and thorough discussion of varied options associated with each decision in the process of a rigorous research synthesis. I discuss a variety of considerations that can guide the process of identifying diverse, equally worthwhile, purposes for a research synthesis.

I begin this paper by briefly discussing the contemporary movement of systematic reviews and evidence-based or evidence-informed policy and practice. Then I assert that the variety and complexity evident in contemporary educational research must also be accommodated, encapsulated and celebrated at the level of synthesising educational research. I propose a Methodologically Inclusive Research Synthesis (MIRS) framework which is a coherent conceptualisation of research synthesis methods expressed through the identification of critical decisions and thorough discussion of varied options associated with each decision in the process of a rigorous research synthesis. I discuss a variety of considerations that can guide the process of identifying diverse, equally worthwhile, purposes for a research synthesis.

Systematic Reviews and Evidence-Based Policy and Practice

Following the popularity of evidence-based policy and practice among health care professionals in several countries such as Australia, UK and USA, some educationists
in prominent political positions in the UK have stressed the need for evidence-based or evidence-informed policy and practice in education (Evans & Benefield, 2001). A similar political push for evidence-based policy and practice is also gaining momentum in Australia and the USA. With the current thrust on evidence-based policy and practice, governments have begun to provide large scale funding to some departments which are primarily committed to support systematic reviews (Davies, 2000). One example of such an initiative funded by “several government departments and charities” is the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) in London (EPPI-Centre, 2002). Another organisation supporting systematic reviews in education is the Campbell Collaboration which was established in February 2000 as a sibling organisation of Cochrane Collaboration (The Campbell Collaboration, 2002). Yet another such initiative by the U.S. Department of Education’s Institute of Education Sciences was to establish What Works Clearinghouse “to provide educators, policymakers, and the public with a central, independent, and trusted source of scientific evidence of what works in education”(WWC, 2003).

Systematic reviews tend to be embedded in the positivist tradition and are very similar in methodology to meta-analyses or best-evidence syntheses in most respects. Their key features are:

- clearly specified synthesis question examining the effectiveness of an intervention;
- a priori synthesis protocol;
- explicit inclusion-exclusion criteria;
- exhaustive searches for all relevant studies;
- explicit criteria for evaluating methodological quality of individual studies with randomised control trials as the gold standard;
- statistical techniques for integrating individual quantitative findings; and
- transparency of process

(Badger, Nursten, Williams, & Woodward, 2000; Boruch, Cooper, Herman, & Fleischman, 2003; EPPI-Centre, 2002; Evans & Benefield, 2001; Petrosino, Boruch, Rounding, McDonald, & Chalmers, 2000; Selai & Oliver, 2001; The Campbell Collaboration, 2001; WWC, 2003).

Supporters of systematic reviews try to take into account the needs and perspectives of different users of educational research in their focus to inform policy and practice. Also noteworthy is the intention to regularly update these systematic reviews with the new relevant studies in the field. Through explicit international collaborations, efforts are being made to reduce duplication. Groups interested in conducting systematic reviews are being supported with detailed methodological support and guidelines. Useful databases of intervention studies and systematic reviews are also being developed to facilitate their dissemination and access (EPPI-Centre, 2001; The Campbell Collaboration, 2002).

This recent movement for evidence-based policy and practice and systematic reviews has refuelled a particular interest in meta-analytic methods and a general interest in issues related to rigour in research synthesis. However, these methods tend to be implicitly oriented along positivism and overlook potential incommensurabilities between quantitative and qualitative research. Qualitative research, if at all used in systematic reviews, is utilised to supplement the statistical integration of quantitative
findings. Also, these methodological advances do not take into consideration opportunities that might exist by conducting research syntheses oriented along different methodologies situated outside positivism.

**Growing diversity in primary research: Rationale for moving beyond systematic reviews**

Within contemporary principles and practices of education, there are diverse views as to what should be the desirable outcomes of an ideal learning situation (National Research Council, 2002). Educators draw on a large number of concepts and theories to inform their practice and research. Varied conceptions of what constitutes good principles and practices are prevalent among educators. The effectiveness of the same educational phenomenon tends to be reported in terms of varied processes, constructs and outcome variables. The simplistic assumption that researchers and policy-makers can find universal principles of best practices and transmit these principles to the teachers is being questioned. A model of teacher professional development through reflective practice and/or participatory research is gaining popularity (see e.g. Kemmis, 1999; Schon, 1995). There are numerous philosophical issues on which educational researchers hold different viewpoints. Recognising the multi-dimensional variety in purposes, foci and approaches to change in contemporary educational principles and practices, many researchers are opting for more holistic contextual analyses in preference to controlled experimental or quasi-experimental designs. Systematic reviews cannot encapsulate such diversity and complexity of purposes and foci inherent in contemporary principles and practices of education.

Primary research studies in education are increasingly employing qualitative methods (Creswell, 2002; Kelly & Lesh, 2000). Qualitative research reports are being increasingly accepted in educational research journals and conferences. Within the umbrella of qualitative research, educational research is no longer restricted to traditional qualitative methods and has become open to poststructuralist, postmodernist and/or critical viewpoints. A growing acceptance of narrative inquiry blurs the boundaries between anecdotal reports and research. Encouraging recognition of the contribution of practitioners’ tales in professional development, one may contest the prevalent boundaries that mark a piece of academic research. What may have been discarded as an anecdotal report according to the criteria of traditional qualitative research, may be recognised as a classic piece of inquiry employing narrative or biographical research methods (Denzin, 1999). Systematic reviews fail to draw adequately from the growing acceptance and diversity of qualitative research in education.

Contemporary primary research methods in education are marked by multi-dimensional variations (Blaxter, Hughes, & Tight, 1996). Some of these dimensions of variations include:

- contexts of the study such as research site, geographical location, content matter being learnt by students or demographic details of the participants;
- intended purposes, audience and forms of reporting;
- tools and techniques employed for collecting, analysing and synthesising evidence;
- criteria for trustworthiness; and
philosophical or theoretical underpinnings.

Such multi-dimensional variations within contemporary primary research methods are at odds with the levels of methodological homogeneity assumed in systematic reviews. Thus far in this section, I have highlighted variations. However, these variations are often not compartmentalised and distinct. Frequently there are several overlaps and no clear boundaries between individual methods. Educational researchers tend to be eclectic in employing a combination of methods to pursue their investigation rather than adhering to a single method in its pure form (Miles & Huberman, 1994). This is an era of methodological pluralism and eclecticism. Given all this complexity and diversity in principles, practices and primary research methods within education, we have a case for a research synthesis framework which is inclusive of diversity at multiple levels. It is essential that the educational research community finds strategies to accommodate high quality, rigorous research from a wide range of current methodological persuasions. Most importantly the educational research community must explore multiple ways of “justifying evidence-based claims”.

**Methodologically Inclusive Research Synthesis (MIRS) Framework**

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. The purpose of a research synthesis is to construct new knowledge by making explicit connections and relations between individual primary research reports that were not visible before.

The work that I have undertaken in my doctoral project is directed towards developing a framework for synthesising research from the full range of current methodological persuasions. I propose a set of guidelines to facilitate informed decision making in the process of every rigorous research synthesis process. These guidelines are presented in the form of various considerations associated with varied decisions throughout the synthesis process. I refer to these guidelines collectively as the “Methodologically Inclusive Research Synthesis” (MIRS) framework or perspective. The MIRS framework is a coherent conceptualisation of research synthesis methods expressed through the identification of critical decisions and thorough discussion of varied options associated with each decision in the process of a rigorous research synthesis.

While developing the MIRS framework, I have been methodologically inclusive at four levels. First, I explored the possibilities of including a range of methodologically diverse primary research reports into research synthesises. Second, I explored the opportunities offered by adapting the techniques and perspectives from a variety of primary research methodologies to the process of a research synthesis. Third, I drew on ideas from several formally proposed methods of research synthesis as well as from published exemplary research synthesises. Fourth, I took into account the varied interests of different stakeholders in educational research and practice.
My conceptualisation of the MIRS framework has been informed primarily by my reading of published literature on methods of primary research and research synthesis. Also I learnt by engaging in formal and informal discussions with experts from diverse methodological backgrounds. I began by brainstorming a wide range of questions and decisions relevant to the processes of diverse forms of research synthesis. From this pool of questions and decisions, I selected those considerations which were particularly useful for a methodologically inclusive context and grouped them into six broad clusters of tasks. Then, I conceptualised these six clusters of considerations into the following six phases of the MIRS framework:

- Drawing from pertinent philosophical and theoretical discussions;
- Identifying appropriate purposes;
- Searching for relevant evidence;
- Evaluating, interpreting and distilling evidence;
- Constructing connected understandings; and
- Sharing with an audience.

In practice, these phases are likely to overlap with tasks involved in more than one phase being carried out simultaneously. I have used the term phases in lieu of stages to emphasise that these phases are not stages with discreet boundaries where each stage serially follows the previous stage. Considerations within each phase may inform and refine the process of other phases. Various tasks within different phases may be sometimes carried out simultaneously. Such flexibility leaves scope for an inductive design rather than requiring that every synthesis has an apriori deductive design.

Figure 1: Interactive Phases of a Research Synthesis

The interactive nature of these six phases is diagrammatically illustrated in Figure 1. I have used double arrowed lines between consecutive phases to stress that decisions
within an individual phase are likely to inform and be informed by decisions within adjacent phases. Within the MIRS framework, I stress the virtue of purposefully informed selective inclusivity throughout the process of a research synthesis. The principle of purposefully informed selective inclusivity requires that the synthesist actively reflects upon the key considerations and relative merits of various available options and then makes choices which are most suited for the synthesis purpose. In accordance with this principle, each phase in Figure 1 is connected with a double arrowed line with the phase of identifying an appropriate purpose. This phase is positioned in the centre to highlight that decisions about the purpose of a synthesis act as critical filters for decisions within different phases and vice-versa. The sequential nature of these phases is preferably conceptualised as an interactively iterative process where each phase tends to be revisited and refined several times rather than being linear, spiral or cyclical.

Considerations within each phase are best conceptualised as components of an interactive network, where each consideration must be seen in the light of the others. The relative emphasis given to various considerations will be guided by the particular context of the synthesis. Not all of the issues discussed within each phase will be equally relevant to all forms of synthesis. While some considerations are essential in every synthesis, the rest will apply only to some situations but not all.

In this paper I will elaborate on the teleological considerations within the first two phases, i.e., drawing from relevant philosophical and theoretical discussions and identifying an appropriate purpose.

**Determining an Appropriate Purpose for a Research Synthesis**

Research syntheses can serve diverse purposes. Often a research synthesist begins with an interest in a topic of research. It is useful to understand various interests that different stakeholders may have in a potential synthesis. As illustrated in Error! Reference source not found., in addition to recognising potential stakes and collaborations with different stakeholders, a synthesist must reflect upon the following factors when framing and refining the intended purpose(s) for a synthesis: nature of substantive area, intended audience and utility, pragmatic constraints and ethical considerations. Each of these factors affects the synthesist’s contextual positioning with respect to the synthesis. At the same time, each factor ought to be considered within the environment of the synthesist’s contextual positioning.

In Figure 1/Figure 2, I emphasise that considerations associated with each of the five factors which inform the process of framing and refining the synthesis purpose are refracted through the philosophical positioning of the synthesis. In other words, the theoretical positioning of the synthesis influences:

- what potential stakes and collaborations are recognised;
- the perceived nature of the substantive area;
- intended audience and utility;
- pragmatic constraints identified; and
- ethical considerations taken into account.
Figure 2: Determining an appropriate purpose for a research synthesis

All these considerations interact within the environment of the synthesist’s contextual positioning. A synthesist has a notion of the synthesis question and purpose. The philosophical and theoretical positioning must be aligned with this purpose. Nonetheless, each theoretical positioning may afford the answering of a different set of questions from the other theoretical positions. Hence, a synthesist might explore what are the range of questions that are afforded by a variety of theoretical positioning about the substantive topic of interest. From this pool of questions, the synthesist might identify and refine key questions and then identify what theoretical positions are commensurable with the synthesis question.

Drawing from Pertinent Philosophical and Theoretical Discussions

A synthesist can adapt several philosophical and theoretical ideas from the literature on primary research methods to the process of a research synthesis. The overarching orientations of the synthesis ought to be guided by the anticipated utility of the synthesis, nature of primary research in the field and the synthesist’s methodological expertise. There is a dialectical relationship between the purpose and the paradigmatic orientation of a synthesis. In general, a synthesist is likely to pursue a purpose that is in harmony with his/her own preferred theoretical position. Nevertheless, it is also possible that the synthesist finds his/her initial theoretical position being expanded to encompass another orientation for the particular purpose. For instance, say an interpretivist synthesist finds that the funding agency is a government body which
would like positivistic factual generalisable findings. The synthesist in such a situation can either write a selectively eclectic report drawing from both the interpretivist and positivist traditions, or write multiple reports by tailoring each report for a specific audience.

**Recognising Diversity: An Illustrative Framework**

Several primary researchers emphasise that the research orientation ought to be guided by the question at hand (Bogdan & Biklen, 1998; Creswell, 2002; Guba & Lincoln, 1999). This is also applicable to a research synthesis. In this section, I illustrate how research syntheses with different orientations might serve different purposes. To facilitate easy comparisons, at times I have compared and contrasted alternative orientations. This might wrongly communicate that I am emphasising dichotomies and compartmentalisation of perspectives. I do not believe there are rigid boundaries between various orientations. However, to enhance informed decisions I believe it is crucial to understand the differences between various options. The explicit recognition of diversity directly addresses concerns regarding the possible unintended rejection by omission of positions less discussed in the published literature. On this basis, rigid adherence to a single perspective is not prescribed or even recommended. Rather, synthesists should be critically aware of the implications of the choices they make where some of these choices are likely to involve drawing from more than one paradigm.

![Figure 3: Drawing from Pertinent Philosophical and Theoretical Frameworks](image_url)

In this section, I do not intend to identify the most appropriate paradigmatic and theoretical classification of educational research. Rather, I intend to problematise an exclusive identification of research syntheses with positivism or any other paradigm. As illustrated in Figure 3, I use the following four different paradigmatic orientations to demonstrate how syntheses with varied theoretical orientations can serve varied, albeit equally useful, purposes: positivist, interpretivist, participatory and critical. At the end of each of the following four subsections, to facilitate easy comparisons, I have listed examples of suitable questions that a synthesist might ask when synthesising international comparative studies in mathematics education.
**Syntheses with Positivist Orientations**

Meta-analysis, best-evidence synthesis and systematic reviews are examples of synthesis methods drawing from positivism. Positivist synthesists believe that there is an objective world out there which is knowable objectively with minimal researcher bias. Positivist synthesises are typically conducted to inform policy-makers and they assume a top-down approach to educational change. These synthesises tend to explain, predict or describe the world in terms of generalisable laws, facts or probabilistic relations between behavioural constructs and contextual variables. Purposes of such positivist synthesises are often to: estimate the overall effectiveness of an educational strategy; estimate prevalence of various measurable attitudes, preferences, perceptions, conceptions or misconceptions among certain populations; estimate the degree of variation across studies examining a similar hypothesis; and/or identify potential moderators of the cumulative findings. Examples of questions that a positivist synthesist might ask when synthesising international comparative studies in mathematics education include: How do students’ mathematics achievement scores vary across countries represented in this body of research literature? What variables potentially moderate these achievement scores?

**Syntheses with Interpretivist Orientations**

“Meta-ethnography” (Noblit & Hare, 1988), “exploratory case-study oriented review of multivocal literatures” (Ogawa & Malen, 1991), “cross-case analysis” (Miles & Huberman, 1994), “aggregated analysis” (Eastabrooks, Field, & Morse, 1994), “qualitative meta-synthesis” (Sandelowski, Docherty, & Emden, 1997), “meta-analysis of qualitative research” (Jensen & Allen, 1994), “interpretivist-oriented reviews” (Eisenhart, 1998) and “meta-study” (Paterson, Thorne, Canam, & Jillings, 2001) are examples of formally proposed methods of research synthesis with interpretivist orientations. Interpretivists (e.g. Noblit & Hare, 1988; Paterson et al., 2001) as well as constructivists (e.g. Paterson et al., 2001; Wideen, Mayer-Smith, & Moon, 1998) contest an objective reality which is out there and stress that reality is socially constructed. Interpretivist synthesists hold that the world is constructed in terms of the meanings we attribute to events. Their goal is to better understand a phenomenon by interpreting the subjective experiences of different stakeholders. They do not seek a “singular objective reality” and accept that “multiple, coexisting, and even sometimes incongruous realities related to the phenomenon will be found” (Paterson et al., 2001, p. 7).

Interpretivists seek explanations that are “grounded and comparative” (Noblit & Hare, 1988, p. 23). This involves “revealing similarities and differences … making judgements about the conclusions of other researchers and extrapolating relationships among concepts, research decisions, and policy implications” (Paterson et al., 2001, p. 9). Interpretivists “bring to light an underlying coherence of sense” (Taylor, 1982, p. 153) to construct “deep, authentic understanding”(Denzin, 1989, p. 33) by “(1) making the obvious obvious, (2) making the obvious dubious, and (3) making the hidden obvious” (Noblit & Hare, 1988, p. 17).

Typical questions addressed by an interpretivist synthesis might include: How is a particular phenomenon experienced by different stakeholders in different contexts? How do the contextual particularities interact with the perceptions of different groups and individuals? What are the plausible patterns of influence on individual findings?
across studies? How do individual primary research reports on a topic connect and interact? Examples of questions that interpretivist synthesists might ask when synthesising international comparative studies in mathematics education include: What are the similarities and differences in forms and functions of assessment as practiced in mathematics classrooms internationally? What are some strategies employed by mathematics teachers to foster in students positive attitudes towards errors?

**Syntheses with Participatory Orientations**

I have used the term ‘participatory orientations’ broadly to include traditions variously known as “participatory research” (Kemmis & McTaggart, 2000, p. 568), “participative worldview” (Heron & Reason, 1997, p. 275), “participatory action research” (Kemmis & McTaggart, 2000, p. 567), “cooperative inquiry”(Heron & Reason, 1997, p. 275), “collaborative action research” (Kemmis & McTaggart, 2000, p. 275), “teachers as researchers” (Hollingsworth, 1999, p. 57) or “action research” (Kemmis, 1999, p. 150). A participatory school of thought holds that individuals and communities construct their own worldviews through critical engagement and participation. We construct, understand and change ourselves and our local world experientially. “To experience anything is to participate in it, and to participate is both to mold and to encounter; hence, experiential reality is always subjective-objective” (Heron & Reason, 1997, p. 278). Participatory synthesists would contest the dominant top-down approach to knowledge construction and policy-making (Heron & Reason, 1997; Kemmis, 1999; Kemmis & McTaggart, 2000; Lincoln & Guba, 2000).

Synthesists may draw from the notion of participatory research and explore the pros and cons of a wide range of collaborations between members of different groups whose interests may be associated with a potential synthesis. Such diverse collaborations can:

- encourage syntheses that address concerns of a wide range of stakeholders;
- facilitate syntheses informed by the perspectives of different groups;
- empower members of different groups by facilitating their participation in syntheses that may be of interest to them;
- enhance the impact of a synthesis by promoting participation of the agents of change who are crucial in implementing the recommendations made by the synthesis;
- contribute to wider dissemination of research syntheses; and
- deepen academic synthesists’ understandings of the collaborating stakeholders’ concerns and understandings.

With the current thrust towards evidence-based practice, many prominent political figures in Australia, UK and US are stressing the need to strengthen links between research and practice in education. Implementation of evidence-based practice in education is possible only if teachers are allowed “extended contact with research” and if the “research community can develop better procedures whereby the concerns of teachers are taken into account when funding is allocated” (Everton, Galton, & Pell, 2000, p. 181). By engaging teachers in every phase of a synthesis process, participatory syntheses can support evidence-based education in both these ways. The purpose of a participatory synthesis would be guided by the concerns, uncertainties, and dilemmas that arise in the minds of the practitioners while reflecting on their own
practice and beliefs. Preliminary findings of the synthesis product could be tested by the practitioners in their own work contexts, which in turn, would raise further questions. These emerging questions could guide the next stage of the synthesis process. Such a participatory synthesis process could dialectically improve the local practice and the prevalent academic discourse.

Participatory synthesists would value practical experience, local knowledge and serendipitous leaps of intuitive understanding. The participants in participatory syntheses could be the authors of the primary research being synthesised and/or the stakeholders who participated in those studies. Academic synthesists could collaborate with these participants in order to co-synthesise the relevant body of research through a reciprocal learning process of co-construction of connected understandings. Examples of participatory syntheses on international comparative studies in mathematics education could involve a co-synthesis of research with those engaged in improving their own practice. The academic synthesist could act as a sensitive database of substantive information as well as methodological information about these international comparative studies and co-identify studies with similar contexts and transferable findings. One purpose could be to co-synthesise research with participants to critically evaluate various models of mathematics lessons in relation to their suitability to the practitioner synthesist’s own contexts. This could be done not only with practitioners from those countries which are represented in the primary research, but also with countries that may not have been able to participate in such primary research because of various financial, political, cultural, social or other pragmatic constraints.

**Syntheses with Critical Orientations**


Critical scholars hold that the prevalent conception of the world tends to be constructed through the dominant discourse and power structures which privilege those in power. Many contemporary critical theorists tend to draw on postmodern schools of thought and hold a radically relativist and transitional worldview which is marked by contradictions and multiple realities. Critical synthesists would pay attention to not only what is said, but also what is not said. They would engage in constructing self-doubting and reflexive understandings of not only the perspectives represented in the primary research literature but also those missing from the published primary research. They would highlight the gaps in the primary research domain with particular attention to how some groups have become invisible in the field with little representation. Critical synthesists could also collaborate with the groups who have been relatively silenced in the primary research in order to identify how the body of primary research has failed to adequately represent their interests.
Rather than deferring to the authority of author, postmodernist critical synthesists would recognise an author as someone who is in the process of making sense, a sense which is partial and temporal (Lather, 1999; Richardson, 2001).

Critical synthesists would review a research domain using critical theory, feminist theory, queer theory or other varied standpoint theories. Contesting the innocence of text and celebrating inter-textuality, postmodernist critical synthesists would iteratively deconstruct the primary research texts to highlight the discontinuities and fractures in the prevalent research domain. Critical synthesists would review research in a field with a critical lens to reveal oppressive structures within discussions of policy, practice and research in a field. Postmodernist critical synthesists would disrupt and problematise the metanarratives in a research domain in order to enhance multiple discourses that celebrate diversity and inclusivity. Critical synthesists would shake our complacency about the state-of-knowledge in a field. Examples of questions addressed by critical syntheses would include the following. What phenomena are likely and/or unlikely to be studied by primary researchers? Which populations are likely and/or unlikely to interest primary researchers? In the published literature, whose questions are prioritised? Whose questions have received little attention from primary researchers? Critical syntheses of international comparative studies in mathematics education could involve deconstruction of prevalent metanarratives constructed from these studies to address questions such as the following. Whose questions are addressed and whose interests are served by these international comparative studies? How are these studies advantaging some nations and disadvantaging others?

Selective Eclecticism
Schwandt cautions us against the “tendency to categorize and label complicated theoretical perspectives as either this or that. Such labeling is dangerous; for it blinds us to enduring issues; shared concerns; and points of tension that cut across the landscape of the movement” (Schwandt, 2000, p. 205). In a research synthesis, it is not essential to adhere to a single paradigm. Multiple overlaps, blurred genres, hybrid approaches, crossing boundaries and interbreeding of paradigms are prevalent not only in primary research, but also in research syntheses. Synthesists often draw on ideas from more than one paradigm to enhance the rigour and impact of their syntheses. Such selective eclecticism can often enhance the depth, richness and utility of a synthesis. For instance, systematic reviewers are increasingly trying to engage those who are intended to benefit from the synthesis in the synthesis process. Such an interbreeding of the positivist and participatory orientations can enhance the impact of the synthesis product. Similarly, many research synthesis methodologists assert that a synthesis that draws on both positivist and interpretivist traditions is richer than a synthesis that is either positivist or interpretivist (see e.g. Light & Pillemner, 1984).

Research synthesists are divided on the issues of commensurability between different paradigmatic positions. Selective eclecticism in a research synthesis requires sophisticated understanding of subtle nuances associated with individual theoretical positions. When drawing from more than one paradigm, a synthesis must critically reflect on the issues of commensurability and incommensurability at every phase of the synthesis. Depending on the purpose and the context of the synthesis, some differences will become important while some differences will become trivial. The
mixing of paradigms in a synthesis ought to be guided by the purpose and the context of the synthesis. Selective eclecticism in research syntheses is particularly useful to encapsulate the diversity in contemporary educational research. In practice, often research synthesists would be selectively eclectic and draw ideas from more than one paradigm to inform their own synthesis.

**Recognising Potential Stakes and Collaborations**

A research synthesis may be associated with the interests of several stakeholders (see Table 1). Several groups can knowingly or unknowingly influence a synthesis in certain directions. Likewise, the findings of a synthesis may intentionally or inadvertently affect or inform different groups. Reflecting upon the potential consequences of the synthesist’s own contextual positionings and those of potential collaborators can improve the synthesist’s sensitivity towards potential biases. Recognising the two-way nature of the influence between potential stakeholders and the synthesis promotes self-reflexivity. Further, sharing such reflections with the audience enhances transparency and rigour of the synthesis process.

**Potential stakeholders**

- 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?

These are the questions that can help in understanding the relationships between any potential stakeholder and the potential synthesis. As illustrated in Table 1, several groups have a stake, at times overlapping stakes, in a research synthesis. Each row in the table lists a particular group and its potentially reflexive relationship with a research synthesis. The last two columns in the table highlight the potential reflexivity of such relationships. Not only can these stakeholders be affected by the synthesis, but also they have the potential to influence the synthesis through their direct or indirect input at different stages in the process of a research synthesis.

The ordering of the rows in the table is not associated with any hierarchy. Further, members belonging to one group may also belong to other groups. Some individuals and groups may have multiple stakes or identities within the same synthesis. For example, policy makers are often well positioned to commission research syntheses, thus putting on the hat of funding agencies as well. Student bodies may also act as funding agencies by commissioning syntheses to look into issues that are particularly relevant to the welfare of student communities.

In Table 1, the first five rows (A-E) list groups who influence the synthesis indirectly through their representation in the relevant primary research reports that serve as the evidence for a research synthesis. These stakeholders, whose views may be represented in the relevant substantive domain of primary research, include: students; their parents; teachers / institutions; policy makers whose policies may be evaluated; and authors of the relevant primary research reports. Not all members of these groups have their voices equally represented in research reports. For instance, it is a
Table 1: Potential stakeholders in a research synthesis in education

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>How could they shape / influence the synthesis?</th>
<th>The synthesis may affect them by influencing / informing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A students / learners</td>
<td>- whose learning experiences are being understood / discussed</td>
<td>- how their learning experiences are represented in the literature</td>
</tr>
<tr>
<td>B parents / families of learners</td>
<td>- whose children’s / family member’s learning experiences are being understood / discussed</td>
<td>- some of their decisions related to their learning experiences</td>
</tr>
<tr>
<td>C teachers / institutions (schools / universities)</td>
<td>- whose teaching experiences are being understood / discussed</td>
<td>- how they learn / are taught</td>
</tr>
<tr>
<td>D primary researchers in the substantive area</td>
<td>- whose research is being synthesised</td>
<td>- how these experiences are represented in the literature</td>
</tr>
<tr>
<td>E policy makers</td>
<td>- whose policies may be evaluated</td>
<td>- some of their decisions related to their children’s learning experiences</td>
</tr>
<tr>
<td>F wider community</td>
<td>- their perceptions influence what is considered important / desirable / right</td>
<td>- how they family members learn / are taught</td>
</tr>
<tr>
<td>G commercial and political</td>
<td>- they may provide differential support to different types of syntheses to the extent of commissioning some</td>
<td>- how these experiences are represented in the literature</td>
</tr>
<tr>
<td>H Funding agencies</td>
<td>- they may fund particular types of research / research syntheses</td>
<td>- some of their decisions related to their teaching experiences</td>
</tr>
<tr>
<td>I editorial boards and academic communities</td>
<td>- they collectively regulate the dissemination of primary research and research syntheses</td>
<td>- how they teach</td>
</tr>
<tr>
<td>J professional syntheses</td>
<td>- they validate / legitimise methodology of research syntheses</td>
<td>- further directions for funding and practice</td>
</tr>
</tbody>
</table>

- further policies / global decisions
- the broad thinking of citizenry and wider community
- the direction of further developments in education as often projects are directly / indirectly funded by tax-payers’ money
- political / commercial implications of interest to them
- their money / political power that may be put at risk
- how primary research / innovations funded by them are perceived
- current and future academic conventions by providing methodological and substantive critique on the current status of research
- the direction of further syntheses
The widespread belief that working class parents are frequently silenced stakeholders when compared with middle class parents who are relatively more assertive and more inclined to participate in research studies. In a similar vein, different members of these groups may be influenced differentially by a synthesis. The way a synthesis represents interests and issues of various groups could influence people’s perceptions of these groups. A research synthesis can inform further practice, research and policy. This, in turn, may influence teaching, learning, research or policy-making experiences of these groups.

The wider community (row F), through its collective and/or public voice, can sometimes indirectly influence the perceived relative importance of various educational issues. At the same time, a synthesis can influence the thinking of wider community. Often educational projects are funded directly or indirectly from public funds. A synthesis can inform the wider community about state-of-the-art of various domains of educational research.

Reflecting on the potential for varied influences on a synthesis could make synthesists wary of some obvious sources of biases. Likewise, recognising the varied stake of different groups in a potential synthesis could sensitise the synthesist to anticipate diverse needs of different groups. The needs of individual groups may be overlapping, complementary and/or competing with those of others. Further, a synthesist may carefully articulate boundaries to the claims made in the synthesis to reduce the chances of misuse of the synthesis findings by any unjustified extrapolation. For instance, if all the primary research in an area such as online learning has been conducted in technology rich schools from high socio-economic regions, then synthesists have an obligation to highlight that the synthesis findings may not be applicable to environments that are relatively poor in technological resources.

While most of the groups in Table 1 are metaphorical stakeholders with their intellectual capital at stake, the commercial / political group (row G) is a literal stakeholder with their money and/or political power at stake. It is crucial that a synthesist is sensitive to the varied implications the synthesis may have for these literal stakeholders and the potential influence of these groups on the synthesis. Commercial stakeholders, like book companies, are likely to be interested in publishing and supporting syntheses that address relatively hot or controversial topics. At times, politicians may use the synthesis findings to justify budget cuts. For instance, a synthesis may conclude that there is not a significant correlation between class size and average student achievement. Therefore, schools and school districts may invest their resources in other areas rather than in class size reduction. However, some politicians may use the findings of such a synthesis to justify budget cuts in the school sector that result in larger class sizes. Synthesists need to take such consequences into account by anticipating how may different stakeholders use the synthesis.

The groups represented in the last three rows (H-J) are: funding agencies; editorial boards and academic communities; and professional synthesists. These groups play an important role in legitimising and modifying the methodology of research syntheses as well as identifying substantive areas of research that are appropriate for particular types of
syntheses. A synthesis may influence these groups by providing a critique on a range of methodological and substantive issues related to educational research and practice.

**Nature of potential collaborations**

Several experts recommend that the complexity of a research synthesis process requires collaborative efforts to ensure a certain level of trustworthiness (see also Table 2). Meta-analysts often report the reliability of their coding processes in terms of inter-rater reliability factors. Systematic reviewers also tend to employ more than one coder for each paper to measure and reduce the levels of subjective judgements. Qualitative research synthesists who are interested in mid-range substantive theory generation, such as proponents of meta-study or aggregated analysis, recommend synthesists to work in teams as a form of triangulation to improve rigour (Eastabrooks et al., 1994; Paterson et al., 2001; Thorne, 2001). Research synthesists drawing from a critical theory framework may collaborate to enhance reflexivity by bringing together team members “for multiple sessions of extended reflexive discourse and writing” with the purpose of “discussing and negotiating” their “collective interpretations” (Wideen et al., 1998, p. 135).

**Table 2: Enhancing Trustworthiness through Collaboration**

<table>
<thead>
<tr>
<th>Research synthesis form</th>
<th>Trustworthiness criteria enhanced by collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meta-analysis</td>
<td>Reliability through inter-rater reliability</td>
</tr>
<tr>
<td>Systematic Review</td>
<td>Comparison and resolution of differences (Evans &amp; Benfield, 2001)</td>
</tr>
<tr>
<td>Critical analysis of research</td>
<td>Reflexivity through critical dialogue (Wideen et al., 1998)</td>
</tr>
<tr>
<td>Qualitative synthesis for mid-range substantive theory generation</td>
<td>Triangulation, cross-validation of interpretations, comprehensiveness (Eastabrooks et al., 1994)</td>
</tr>
</tbody>
</table>

As evident from Table 1, members from several groups have their stakes in a research synthesis and have the potential to influence a synthesis. Building on this concept of reflexive relationships between any particular stakeholder and a research synthesis, one can imagine a variety of potentially useful collaborations between the members of different groups. The nature of collaboration must be guided by the purpose of the synthesis. Nevertheless, the collaborative team also has the potential to influence the purpose. For instance, a synthesist may collaborate with practitioners if the purpose of the synthesis is to inform practice. Such a collaboration can help in focussing the synthesis to address questions that will be of interest to practitioners. Such a collaboration can also facilitate a form of member checking in the interpretive process of the synthesis by providing a practitioner’s perspective on, or validation of, the professional synthesist’s interpretations. In another synthesis, a synthesist may collaborate with policy-makers if the purpose of the synthesis is to inform policy. Such a collaboration can focus the synthesis questions in such a way that the synthesis has useful implications for policy formulation. Also, such a team effort can foster evidence-based policy by increasing the chances of implementation of the recommendations made in the synthesis. In yet another synthesis, a collaborative team of synthesists may consist of a professional synthesist,
practitioner and a policy maker. Such a collaboration can strengthen the links between policy, practice and research.

Different collaborators have the potential to enrich the synthesis by bringing in their own particular expertise. Nonetheless, each form of collaboration also introduces issues of power and varied interests that can add complexity to the synthesis process. The following list contains some questions that a collaborative team of synthesists should address at the outset of a synthesis process.

- What are the pros and cons of the particular collaboration?
- What are each collaborator’s respective interests and areas of expertise that are relevant to the particular synthesis?
- What are the potential overlaps, tensions or complementarities between the stakes of individual members of the collaborative team?
- Who will own the data? Who will publish? How will the issues of co-authorship or ownership of intellectual property be negotiated?
- How will potential mismatches between the agendas, purpose, interpretations, representations and/or interests of different collaborators be dealt with?

Paterson et al. (2001) elaborate on some of the complexities associated with the collaboration process between a team of research synthesists. Many of these issues find their parallels in primary research. However, as Paterson et al. (2001) emphasise the gravity of some of these issues is compounded by the novelty, fuzziness and long durations of time involved in the process of a research synthesis.

Nature of Substantive Area

Each substantive area of research has its own characteristics that must be taken into consideration. The synthesist’s relationship to, and stake in, the relevant topic must also be taken into account in the synthesis process.

Previous research syntheses in the field

Often research synthesists begin by reading previous syntheses reported in the field. This can help in developing a preliminary understanding of the current state of research syntheses and primary research in the field. Previous research syntheses can serve as “information-rich” (Patton, 1990, p. 169) sources which provide a broad overview of the field. The bibliographic references of the primary research studies included in previous syntheses also provide a glimpse of the general nature of research studies conducted in the field.

Synthesists must read previous research syntheses in the field to seek answers to some crucial questions related to the purpose, orientation and coverage of previous syntheses and primary research. What are the key themes addressed by previous syntheses? What are some of the gaps in understanding the phenomenon? What aspects of the phenomenon are not clearly understood? Who are the key stakeholders whose concerns have been the focus of previous syntheses? Whose concerns have attracted little attention...
from primary researchers and research synthesists? Whose voices have been represented in the previous syntheses and primary research? Whose representations have been missing from the research literature? Who have been the intended audiences of the previous syntheses?

Another set of questions relate to the impact made by previous syntheses. How have the previous syntheses influenced policy, practice, research and public perceptions in the relevant area? Why did the previous syntheses have significant, or little, impact? What are some of the tentative and/or plausible reasons for this noticeable, or little, impact? Informed by an understanding of the impact of previous syntheses in the broader context, the synthesist can speculate on how the proposed synthesis may be perceived by different stakeholders. The synthesist can refine the design of the proposed synthesis in a way that its likelihood of making the desired impact is enhanced. Recognising the strengths and weaknesses of previous syntheses can help the synthesist in making informed decisions in the current synthesis.

The following set of questions are useful for contextualising the current synthesis in the light of the previous syntheses.

- What is the relationship between the findings of previous syntheses?
- What gaps have been left by previous syntheses?
- How will this synthesis build on the connected understandings constructed in previous syntheses?
- How does the purpose of this synthesis differ from those of the earlier syntheses?

A field may require a particular type of synthesis because other types of synthesis have already been conducted. At times one may need to build on or update prior syntheses conducted in the field. For example, a commitment to regularly update their systematic reviews is valued by both the Campbell Collaboration as well as the What Works Clearinghouse (The Campbell Collaboration, 2002; WWC, 2003). Syntheses of prior syntheses may also be required at times. As an example, Sipe and Curlette (1997) integrated 103 meta-analyses related to educational achievement “into a meaningful whole” (p. 592).

**Current state of primary research in the field**

The synthesist ought to reflect upon several aspects of the relevant primary research literature including the:
- nature of predominant paradigms and methodologies employed in the primary research studies;
- general relationship between individual studies; and
- volume and scope of the relevant primary research.

In general the overarching orientation of the synthesis should be compatible with the prevalent methodological orientations of the individual primary research studies. As an illustration, studies that are predominantly interpretive, lend themselves to an interpretive synthesis (Noblit & Hare, 1988; Paterson et al., 2001; Sandelowski et al.,
1997). However, such compatibility between the orientation of a research synthesis and dominant methodologies in primary research studies may not always be desirable if the purpose of the synthesis is to problematise the methods employed in the primary research studies. For instance, a research synthesis may deliberately draw from critical traditions to highlight the relatively less represented groups within a predominantly positivist domain of primary research.

The synthesist ought to take into consideration the general relationship between individual primary research studies in the field. An aggregative synthesis may be applied to a relatively homogenous set of evidence. In a field where there is consensus on the desired outcome of schooling, a meta-analysis or an aggregative synthesis may be useful. However, heterogeneous findings from diverse methodologies and examining different concepts may be more amenable to an interpretive synthesis. In an area like online-learning in higher education, where students and lecturers tend to have diverse conceptions of what constitutes good teaching and learning, an interpretive synthesis may be more suitable. Such a synthesis may be geared at constructing shared spaces of understanding and identifying tensions existing between various conceptions.

Questions related to the volume and scope of the relevant primary research include: How many primary research studies have been conducted in the field? Has the field of research matured sufficiently or is it still at an exploratory stage? In an area that has been researched well, a confirmatory synthesis or a synthesis to systematically examine the commonalities and variations across individual primary research reports may be required. On the other hand, an exploratory synthesis may be useful to identify strands of research worth pursuing if the field has not been researched much. In a field where only a few methodologically sound primary research studies have been conducted, the synthesist might consider an in-depth synthesis of the selected studies.

**Topicality of the field**

A synthesist may take into account the potential topicality of the field. How topical is the relevant substantive area of research? How can the synthesis contribute to enhancing the topicality of the field? How will the field benefit from a synthesis? A synthesist may choose to synthesise a hot topic of research to improve chances of getting appropriate funding for the synthesis. Also, the synthesis is likely to have more impact if the substantive topic has attracted considerable interest from different stakeholders. For instance, debates associated with e-learning in higher education have currently gained substantial political and public interest. In the current environment, a rigorous synthesis of online learning in higher education is likely to attract the attention of several funding agencies. Also, several stakeholders including policy-makers and other agencies of change may be interested in the recommendations of such a synthesis.

There is a reflexive relationship between the topicality of a research topic and a rigorous research synthesis. Often research syntheses are conducted in a topical area. At the same time, a rigorous research synthesis can also contribute to enhancing the topicality of the relevant field. Several research syntheses have attracted broad audience and have entered into the public domain, thus contributing to the topicality of the field.
As an illustration, the Commonwealth report titled *Girls, Schools and Society* (1975) put gender on the agenda for education in the 1970s. This synthesis led to policy funding and practice changes over the following two decades.

**Intended Audience and goal**

Research syntheses may be pursued for diverse intended audiences with varied goals in mind.

**Target audience**

Many research syntheses tend to go into the public domain and inform broader audiences. Nonetheless, in a rigorous synthesis, the synthesist foregrounds the intended audience and utility. This approach emphasises that the synthesis process is a human endeavour for fellow human beings. The synthesist must speculate about the following questions.

- Who is the intended audience for this synthesis?
- Whose questions will this synthesis address?
- Through this synthesis, what impact do I intend to make on this audience? What contribution do I hope to make?
- Who is likely to benefit from this synthesis?

The target audience of educational research syntheses could be broadly classified into four categories: policy makers; researchers focussing on the relevant area; practitioners; and those with peripheral interests in the topic.

“Policymakers, planners, and administrators want generalizations and rules which apply to a wide variety of institutions with children of rather diverse backgrounds. The policymaker and planner is more interested in the collectivity than in the individual child” (Husen, 1999, p. 37). They tend to be interested in syntheses that address questions about the overall effectiveness of educational programs such as the following. What innovations have been effective or ineffective? What are the variables that potentially moderate the efficacy of an innovation? What directions of research and practice should be supported further? What is the overall magnitude of a problem in terms of its prevalence and intensity? (Light & Pillemer, 1984). Examples of syntheses that particularly interest these global decision-making bodies include systematic reviews such as those supported by the *What Works Clearinghouse*? (WWC, 2003).

Academic researchers with a keen interest in the area read syntheses to situate and inform their own research projects. They would be interested in syntheses with varied purposes such as: identifying patterns of correspondence and disjunction in the findings, methods, contexts and theoretical orientations of primary research studies in the field; developing an holistic understanding of the field; identifying gaps in the research domain; re-examining the literature with a fresh perspective; restructuring the literature conceptually; and/or problematising the prevalent concepts and themes in the field.
“Classroom practitioners are not very much helped by generalizations which apply ‘on the whole’ or ‘by and large’ because they are concerned with the timely, the particular child here and now” (Husen, 1999, p. 37). Practitioners or local decision-makers tend to be interested in research relevant to their own context of practice. Under what conditions is a particular educational strategy effective? Is the strategy suited to contexts similar to theirs? How does it work? How can the strategy be implemented in their own contexts? How can its efficacy be improved? Which groups of students benefit most from the strategy? How is the strategy perceived by different groups of students? Practitioners like to know details of the scenarios in which the innovation is likely, or not likely, to work. Such vivid information can help practitioners in making informed decisions about the extent to which the findings of the relevant research are applicable to their own work contexts (Light & Pillemer, 1984). An illustration of a series of reviews geared at teachers and teacher educators is the publication Computing cross the secondary curriculum: A review of research (Clarkson & Toomey, 1996) that intended to “inform planning and delivery of teacher development programs, and also provide a resource for schools and individual teachers seeking to utilize computing and related technologies in their school programs” (Sullivan, 1996, p. v).

Beginning graduate students, undergraduate students and those with peripheral interest in the field tend to be interested in getting an overall picture or essence of the field without getting into all the intricate details. Members of the public would be particularly interested in syntheses that have implications for the wider society.

Goal

The goal of a synthesis is frequently refracted through, though not limited by, its philosophical and theoretical orientation. Research syntheses may be pursued for various goals such as integrative, interpretive, deconstructive, participatory and/or emancipatory.

A common goal for most research syntheses, as identified by positivist synthesists such as Cooper (1988), is some form of integration that could take the form of generalisation, conflict resolution or linguistic bridge building. Several formally proposed methods of research synthesis, such as meta-analysis, aggregative analysis, meta-study or meta-synthesis, are geared towards identifying some transcendental themes that can be generalised across the contexts of several primary research studies. In addition, most research syntheses attempt some form of conflict resolution by exploring patterns of influence that may plausibly explain some variations in research outcomes of individual studies. Research synthesists can also pursue the goal of linguistic bridge building by constructing connections between research examining a similar phenomenon but stemming from diverse disciplines or theoretical orientations. Such bridge building syntheses play an important role in facilitating holistic understandings of various educational phenomena by drawing threads from a variety of disciplines. Also, such syntheses can contribute to wider dissemination of educational research across a range of disciplines.

Syntheses with interpretive goals also facilitate holistic understandings about educational phenomena by making explicit varied interests and experiences of different stakeholders.
and describing how these individual interests and experiences interact. Interpretive syntheses can also uncover the tensions and incommensurabilities between ostensibly similar primary research studies (Eisenhart, 1998; Noblit & Hare, 1988). Syntheses with deconstructive goals would create doubts about the prevalent metanarratives in the field in order to create more chaos and anarchy. Such deconstructive syntheses could shake our comfort zones of thinking about a phenomenon and force us to rethink the phenomenon in unfamiliar ways.

Participatory synthesists can facilitate experiential learning by engaging in the synthesis process those whose practice is intended to be transformed through the synthesis. Such syntheses are also inherently emancipatory as they facilitate practitioners to have a voice in the construction of knowledge about their practice. Emancipatory synthesists would espouse the purpose of transforming the dominant discourse in order to emancipate or liberate the oppressed. Emancipatory syntheses would have a sense of mission. Emancipatory goals may be achieved by constructing openly ideological, value-mediated, understandings that are geared to catalysing changes by re/examining how a domain of research literature has failed to adequately address concerns of a particular group of stakeholders. A research synthesist may also deliberately conduct a meta-analysis to harness the seductive power of big numbers to politicise an issue and highlight the concerns of a particular group of stakeholders.

Research syntheses can influence principles, practice, policy and/or public opinion as well as strengthen the nexus between these four aspects of educational praxis. By generating mid-range theories and principles that are transferable to several contexts, research syntheses can inform policies and practices. By raising public awareness and politicising or problematising certain practices, a research synthesis can influence policy makers’ agendas towards certain directions as well as influence public perceptions. For instance, a meta-analysis with a large collective sample size may demonstrate that there is little support in our current school systems for dyslexic students. Such a synthesis can communicate to various stakeholders the urgent need to formulate policies that support these students. Interpretive syntheses that provide insights into the general dynamics of various intervention programs for dyslexic students can facilitate informed policy and practice decisions. A deconstructive synthesis may problematise some assumptions underlying various intervention programs that ‘otherise’ dyslexic students. A participatory synthesis may engage groups representing interests of dyslexic students to identify programs that may be particularly useful for these students.

Thus we note that a research synthesis may be conducted to serve various useful purposes including one or more of the following:

- to guide policy;
- to inform practice and illuminate how to effectively implement an innovation;
- to suggest useful directions for further research;
- to inform public perceptions on educational issues;
- to deconstruct and shake the prevalent understandings about a phenomenon;
- to facilitate experiential learning through participation; or
- to emancipate or liberate.
Pragmatic Constraints

A rigorous research synthesis makes much more demands on time and resources when compared with ad hoc reviews. Just as the perfect primary research study has never been conducted, neither has the perfect synthesis. Nonetheless, the guidelines for conducting research syntheses can advance the quality of research synthesis by helping synthesists become critically reflective about the choices they make (Cooper, 1998, p. 183). The guidelines presented through the MIRS framework ought not be treated as prescriptive. The issue that confronts a synthesist is often “how to maximise the quality of the synthesis within the available resources” rather than “how to do the most rigorous synthesis”. A synthesist must conduct a cost-benefit analysis of various decisions associated with the synthesis process.

As with primary research, research syntheses are also bound by the “pragmatic constraints” of time, resources and access to information and/or expertise. Unless we take into consideration pragmatic constraints while strategically designing the process of a research synthesis, we may not be able to address concerns of several stakeholders with an interest in educational research. Most research syntheses that attract large funding tend to address questions of politicians or other decision making bodies who can support through adequate funds. These syntheses typically aim for exhaustive sampling and assume sufficient access to financial resources, information and expertise. However, research syntheses may inadvertently contribute to silencing of concerns of certain groups of stakeholders unless syntheses are planned strategically while taking into account varied pragmatic constraints.

Financial Resources

In the current environment of financial cuts to academic research, it is crucial that a synthesist carefully designs the synthesis to ensure its financial viability. One way of improving the financial viability of a synthesis is to apply for funding from a range of sources. Nonetheless it is important to ethically consider the pros and cons of accepting funding from a source that is biased in favour of a particular stakeholder. Major sources of expenditure that must be considered in the budget of a research synthesis include costs associated with: personnel weighted by the total number of hours and the monetary rate appropriate for the desired level of expertise; photocopying; inter-library loans; basic infrastructure such as office space and computer hardware and software; and any costs associated with appropriate access to various databases for abstracts and full reports of research.

Time

Structured and strategic planning of time is just as pertinent in a research synthesis as it is in primary research. There are two types of time factors that must be considered. First, the synthesist must consider the total number of working hours that can be spent on the synthesis. Second time factor is the period over which the synthesis is likely to be spread.
In other words, the duration of time between the date of commencement of the synthesis and the reporting date. The synthesist must allocate the approximate time required for each phase of the synthesis. In a team situation, each member’s domain of expertise and availability of time could usefully be tabulated and tasks allocated strategically. For instance, more seasoned researchers may be allocated tasks that require higher levels of interpretation while allocating less abstract tasks, such as collecting copies of primary research reports, to research assistants. All this information may be tabulated along with the tentative deadlines for each task and a schedule for team meetings. During the planning, appropriate fraction of time ought to be apportioned to different phases of the synthesis in a way that reflects the importance of that phase. At the same time some phases, such as the waiting period for primary research reports to come through inter-library loans, are likely to be slower or less intense than some other phases.

Access to information

Several primary research methods texts, especially qualitative research methods texts, discuss the common difficulties encountered when accessing information. This is commonly referred to as the problem of gate-keeping, where the researcher has to pass through the so-called gate-keepers to access the relevant information. A research synthesist can also experience difficulties analogous to the gate-keeping problems of primary research. In a research synthesis, gate-keeping tends to be indirect and takes the form of insufficient access to information and/or expertise.

Published research literature is the primary source of evidence in a research synthesis. This requires access to libraries with sufficient resources in terms of subscriptions to relevant journals and electronic databases. Limited access to well resourced libraries can be a serious constraint in developing nations or in smaller nations with limited government support for educational resources. I experienced this problem first hand recently when I was trying to write a paper. I needed the information on the most cited papers available in the High Impact Papers that is published by the ISI. After following several leads with a librarian colleague, we realised that it was not available in any Australian library. We concluded that the database would be a very useful resource but could not be afforded by our university because of its high costs. Similarly, many libraries are being bit by rapidly rising costs of journal subscriptions. Being forced to select only high-use journals for continuation may mean that less used, or new, journals may include important papers for a synthesist but they are not available due to library funding constraints. Commercialisation of much research information can raise serious problems for a research synthesist. Building on the notion that information is power, an inequitable dissemination of information raises concerns of equity and access.

When the synthesis involves government policies or areas in which governments (or corporate organisations) have commissioned research, access to reports of that research may be restricted. Say, a synthesist interested in the topic of man-power planning finds that a majority of studies in the area have been commissioned by the government and are confidential. A synthesist may lobby or negotiate to gain an access to such reports. When such reports are inaccessible, the synthesist must clearly mention those primary research reports that could not be included in the synthesis due to limited access. At times, the
A synthesist may even abandon the synthesis if those primary research reports are critical for the comprehensiveness of the synthesis.

Another access issue relates to reports in languages other than English which may not be held in the library collections to which the synthesist has access. With the current internationalisation of educational research, the synthesist must clearly indicate the geographical and cultural parameters of the included primary research.

Access to expertise

In primary research as well as research synthesis, there are some factors that do not commonly appear on research methods texts as they tend to be taken for granted. One such issue that is not sufficiently recognised on public records is the access to expertise. Most researchers and synthesists recognise anecdotally the importance of sufficient access to various forms of expertise. Two forms of expertise are crucial in a research synthesis: methodological expertise and knowledge of the substantive domain.

A synthesis can be enriched by soliciting information and feedback from experts with diverse methodological strengths at different phases of the synthesis. Seasoned research synthesists may be consulted when refining the design of the synthesis. The synthesist may seek advice from experts, in primary research methods and/or research synthesis methods, on methodological issues associated with evaluating and interpreting the information presented in the primary research reports. Primary researchers with an expertise in the topic of synthesis may be consulted to develop an appreciation for the specific methodological issues associated with the field.

A synthesist may consult different stakeholders interested in the synthesis at the stage of brainstorming and focussing the purpose of the synthesis. The synthesist may actively seek feedback from a variety of stakeholders, as a form of member-checking, to validate the connected understandings constructed within the synthesis. For instance, authentic inclusion of studies from another country is best enacted by including an expert who is familiar with the educational context of that country. By creating a team, or drawing on the experts’ knowledge from a range of cultural perspectives, a synthesis is likely to better represent an international view. As another illustration, say a synthesist is interested in finding the common themes of concerns experienced by Principals of primary schools in Australia. The trustworthiness of this synthesis may be enhanced by getting feedback on the synthesist’s interpretations and connected understanding by a primary school Principal. This form of member-checking can enhance the authenticity of the synthesis.

Ethical Considerations: Whose Representations?

Unlike primary research, a research synthesist does not have to worry about the ethical dilemmas associated with accessing deeply personal information as 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. They tend to be read and cited frequently (Garfield, 1987). Accordingly, the ethical issues associated with how different groups are represented in a report become more imperative in a research synthesis than in a primary research report. 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 absences of the relevant/certain representations that have been missing from the published literature. The synthesist must anticipate answers to the following questions.

- Whose questions and/or concerns will be addressed by the synthesis?
- Who is likely to benefit from the synthesis?
- How will the voices of different stakeholders be represented in the synthesis?
- How is the synthesis likely to affect different stakeholders?

As illustrated in the Figure 1, ethical considerations in a research synthesis tend to be refracted through the overarching philosophical and theoretical orientation of the synthesis. For example, while positivist ethics would prioritise reducing any potential biases, interpretivist ethics would prioritise honouring representations of the participants of primary research studies.

**Authors of included studies: what status?**

Naturalistic research is argued to be a double hermeneutic process because it reports the researcher’s interpretation of the participants’ interpretations (Cohen, Manion, & Morrison, 2000). Extending this argument, a research synthesis can be considered a triple hermeneutic process. It reports the synthesist’s interpretation of the researchers’ interpretations of the participants’ interpretations (Noblit & Hare, 1988; Paterson et al., 2001). Every interpretation involves a layer of re/presentation. A rigorous research synthesis problematises the naïve assumption of an absolute congruence between the interpretations represented in the primary research reports with those of the participants of the original studies. As an illustration, Wideen et al. (1998) problematise the notion of the neutral representation of the authors of reported research and speculate 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 found systematic moderation of the primary research findings by the author’s gender.

A synthesist must ask:

- Who are the authors of the relevant primary research reports?
- 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 see patterns of influence introduced by the subjectivities of authors of the primary research reports. However, these subjectivities
should not essentially be perceived as undesirable sources of error. 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.

A rigorous synthesis highlights not only what is said, but also what is unsaid. A synthesist must attempt to identify the groups that are not well represented among the authors of the relevant primary research reports. As an illustration, 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 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.

A similar concern arises over the dominance of North American researchers in several international research journals and academic conferences. 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?

**Participants of the primary research reports: Whose viewpoints?**

In a rigorous research synthesis, potential misrepresentation of practice should be avoided. The synthesist must empathetically and critically listen to the voices 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 that is predominantly represented as the participants of the original 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 and her colleagues (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). However, such grounding is often not possible, considering the frequently imposed limits on the length of journal articles that restrict primary researchers from the presenting details of their raw data.

Meticulous primary researchers should identify sections of the community whose voices they were unable to access. In a similar vein, a research synthesist has an obligation to scrutinise primary research reports to identify the stakeholders whose viewpoints are
missing from the primary research literature. 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 who had good access to home computing facilities. A synthesist would need to speculate on the added difficulties in online learning for students in countries where home computers are less common.

**Funded Syntheses: Whose Agendas?**

Issues associated with “intellectual autonomy and research funding bases” can be complex and problematic (Hustler, Edwards, & Stronach, 1998, p. 501). A rigorous research synthesis makes much more demands on time and resources when compared with ad hoc reviews. Often research synthesists have to apply for funding to sustain the financial viability of a synthesis. As an illustration, most of the reviews reported in the RER tend to be financially supported by some form of research grant. Often these syntheses are supported by funding agencies, such as government or philanthropic agencies, that may have advertised the availability of funds for which the synthesist may have applied. A proposal for a synthesis of research in an area ranked with high priority by an agency has the potential for attracting a research grant. Particularly if the proposal clearly indicates the probable implications of the synthesis on practice, research and/or policy along with the venues for refereed publications, then these funding agencies tend to allow the synthesist a high degree of control over the direction of the synthesis. Frequently, the footnote of a funded synthesis reported in the RER contains an acknowledgement of the funding agency that financially supported the synthesis. Such an acknowledgement tends to be accompanied with a disclaimer stating that the views presented in the synthesis are those of the synthesist and need not essentially be congruent with those of the funding agency. However, research grants that allow the synthesist such high degrees of control tend to be highly competitive and are restricted to high profile scholars in the field.

Another source of funding that synthesists can tap into are the funds available for commissioned syntheses. A wide range of research syntheses may be commissioned by different stakeholders to pursue their respective interests (see Table 3 for illustrations). A synthesist must take into consideration any real or perceived biases which 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 Campbell Collaboration that “it is a matter of Campbell Collaboration policy that direct funding from a single source with a vested interest in the results of the review is not acceptable” (The Campbell Collaboration, 2001, II / 8).

A synthesist must critically address several questions both at the outset and in the reporting of a commissioned synthesis.
• 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 synthesist and that of the funding agency?
• What are the constraints introduced by a degree of mismatch between the interests of the two?
• 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 stake-holders have?
• How will the interests of other stake-holders be represented?

Table 3: Synthesis purposes illustrating interests of different stakeholders

<table>
<thead>
<tr>
<th>Stakeholder (An example)</th>
<th>Illustrative Synthesis Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>A A council of postgraduate associations</td>
<td>Identify ways in which higher degree research students can be supported to bring down their attrition rates.</td>
</tr>
<tr>
<td>B Parent-teacher associations of a group of schools</td>
<td>Explore strategies that can make home environments more conducive for enriching children’s learning experiences.</td>
</tr>
<tr>
<td>C An association of school administrators</td>
<td>Explore &quot;the role of school administrators in responding to the needs of diverse students” (Riehl, 2000).</td>
</tr>
<tr>
<td>D Primary researchers interested in teacher education</td>
<td>“Establish what is currently known about how people learn to teach” (Widen et al., 1998).</td>
</tr>
<tr>
<td>E Department of education</td>
<td>Review “research on multiage classroom organization as an option for high-ability students” (Lloyd, 1999)*.</td>
</tr>
<tr>
<td>F Groups interested in equity and access issues</td>
<td>Examine “employment and postsecondary education outcomes for youth with disabilities leaving secondary schools” (Phelps &amp; Hanley Maxwell, 1997)*.</td>
</tr>
<tr>
<td>G Manufacturers of graphics calculators</td>
<td>Examine ways in which graphics calculators can enhance students’ mathematical thinking.</td>
</tr>
<tr>
<td>H A funding agency</td>
<td>How to enhance the methodological rigour of research being funded by an agency such as the Spencer Foundation?</td>
</tr>
<tr>
<td>I Editorial boards of AERA sponsored journals</td>
<td>What is the methodological state-of-the-art of the research reports published in the AERA sponsored journals?</td>
</tr>
<tr>
<td>J An inter-disciplinary consortium of meta-analysts</td>
<td>What are the common sources of errors or forms of incomplete information in quantitative research reports?</td>
</tr>
</tbody>
</table>

As an illustration, say a synthesis is commissioned by a leading computer manufacturing firm to examine the efficacy of computer supported learning environments. The relevant primary research may have been conducted in a group of elitist private schools that are rich with a variety of resources. The funding agency in this case is a commercial stakeholder that would like the synthesis to establish positive results to increase the demand for their product in the market. This may conflict with the interests of other stakeholders who have tight financial constraints. It is crucial that the synthesist
anticipates and reports the interests of those who may become affected by the synthesis even if it competes with the agenda of the funding agency.

**Politics of Publishing: Who/what gets published?**

Examples of potential biases that can influence the publishing of primary research include: confirmatory bias; bias against small N studies; or bias against insignificant difference. Analogous biases may also be possible at the level of publishing research syntheses. Politics is an inherent part of educational research, practice, praxis and knowledge production. Research syntheses are no exception to it. Research synthesists ought to acknowledge that there is an inevitable politics involved in who or what gets published. Synthesists should reflect on the issues associated with the possible biases introduced by the politics of publishing at the level of primary research as well as research synthesis.

**Synthesist’s Contextual Positioning**

In Error! Reference source not found., I have marked the synthesist’s contextual positioning by the all-pervasive shaded background to emphasise that all key decisions associated with identifying an appropriate purpose for the synthesis will be inevitably influenced by the synthesist’s contextual positioning. Through such representation, I wish to stress how crucial it is for the synthesist to reflect on one’s own contextual positioning. What are the various hats that a synthesist may wear in the context of a particular synthesis? The synthesists must examine what is their own stake in the synthesis and how may that influence the synthesis. The synthesists must also think of ways in which the synthesis process may be invoking changes in their 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 policy-making 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 oneself 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/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.

The origin of purpose is often closely related to some interest of the synthesist because that is what is likely to motivate the synthesist. Frequently the synthesist is a primary researcher interested in the substantive topic of the synthesis. For example, Wideen et al. (1998) conducted a synthesis to address a concern of their professional, i.e. teacher educators, selves. In this synthesis, they took on multiple identities of being: teacher educators; primary researchers interested in teacher education; and research synthesists. At times the synthesist may be a stakeholder in the substantive field. For instance, Bair’s doctoral dissertation was a synthesis of research on doctoral student attrition and persistence (Bair & Haworth, 1999). In this synthesis, Bair is herself a member of the student population that is the focus of the synthesis.

At times professional research synthesists may submit tenders for conducting commissioned syntheses. Several decision making bodies commission syntheses to facilitate informed decisions. For instance, recently the Australian government has started to consider the possibility of commissioning syntheses in specific areas, such as numeracy (private communication, Max Stephens). Similarly, Yelland (2001) was commissioned by the Australian government to synthesise research pertinent to the ways in which information and communication technologies (ICT) impact on teaching and learning contexts in schools. Alternatively, a professional synthesist interested in a particular substantive domain of research may also apply for funding to do so. At times, 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.

Synthesists must reflect on their relative identities with respect to the various groups participating in the study of the phenomenon of interest: students, teaching staff, primary researchers or decision making bodies. For instance, in their award-winning synthesis, Wideen et al. (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 multi-cultural 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

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1 Even leading meta-analysts, such as Cooper (1998), recognise that the synthesist’s own primary research conducted in the field “often has a strong, and perhaps overemphasized, impact on how they interpret the research literature as a whole” (p. 44).
positioning that may influence our choice in a synthesis is not an easy task. Questions a synthesist might ask oneself include:

- Does who I am, and what my experiences have been, interact with this topic? How? Why?
- Does my sex, race, language background, socio-economic 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 expertise**

A transcendental theme underlying most formally proposed methods of research synthesis is that the synthesist’s methodological expertise is crucial in a rigorous research synthesis. Research synthesists require a certain level of methodological expertise to discern not only what is explicitly stated in the primary research reports, but also a variety of implicit assumptions. For instance, a meticulous meta-analyst would scrutinise the appropriateness of various conceptual and statistical assumptions embedded in primary research analyses and their findings. Through techniques like sensitivity analysis, a meta-analyst would inspect the influence of assumed nature of distributions of the synthesis data on the synthesis findings. Likewise, a qualitative research synthesist would carefully examine the reflexive relationship between the methodological positioning of the primary researcher and the reported narrative.

Some qualitative research synthesists, like Thorne (2001) and Eastabrooks et al. (1994), advocate that research syntheses should be undertaken only by seasoned researchers who have conducted several primary research studies. Such qualitative health researchers envision a synthesis for the purpose of building generalisable knowledge in the form of midrange theory (Eastabrooks et al., 1994; Paterson et al., 2001). They justify their assertions by bringing to attention the high levels of methodological sophistication and complexities associated with the process of a research synthesis. Meta-analysts also emphasise the methodological sophistication of a research synthesis process. Organisations such as EPPI centre and Cochrane Collaboration run courses on the methodology of systematic reviews.

I have extrapolated the meta-analysts’ assertion that research synthesis is a methodology in its own right to a broader context within the MIRS approach. I argue that the methodology of research synthesis must be seen as a discipline in its own right which draws techniques and ideas from a wide range of diverse primary research methods. A research synthesist should be trained in the methodology of research synthesis. Exclusive expertise in a single primary research method does not equip anyone to be a good research synthesis. A research synthesist must be well-versed with the
specific issues relevant to a research synthesis as well as methodological assumptions associated with a variety of primary research methods.

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. For examples meta-analysts may be blind to factors in a primary research that others would be seen as glowing flaws. 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.

**Synthesist’s authority: Learner versus learned**

Qualitative research synthesists in nursing, who have proposed meta-study, assert that a research synthesist must have the prior experience of having conducted several primary research projects (e.g. Paterson et al., 2001). Some level of expertise in primary research methods is required for expertise in research synthesis methods. However, as argued in the previous section research synthesis must be regarded as a methodological discipline in its own right. An expertise in primary research methods does not guarantee an expertise in research synthesis methods. Also, not every member of a research synthesis team need have expertise in primary research and research synthesis methods. The expertise required for a rigorous research synthesis takes several forms.

Several forms of expertise, in addition to methodological expertise, are relevant to a research synthesis. For instance, a team-member in a synthesis process may not be a methodological expert. Nevertheless, this member may enrich the synthesis by providing rich information from an insider’s perspective on the views expressed by the participants of the original studies. As an illustration, the Principal of a school may be invited to be a co-synthesist in a project geared at synthesising school Principals’ practices.

The authors of many research methods texts argue that the best way to learn how to do research is by doing it. Novices only develop expertise through practice. Novice researchers often conduct their initial studies, such as their doctoral dissertations, in the
guidance of more experienced researchers. A case can be made in favour of doctoral students undertaking research syntheses as they will have opportunities of encountering complex methodological decisions. This can sensitise novice researchers to the subtle nuances of a range of methodological issues early on in their research careers.

Inevitably all team members undertaking a research synthesis should be considered as learners. The “poststructuralist feminist” standpoint contests the “reviewer’s position as ‘the one who knows,’ the ‘expert in the field,’ versus the more situated, partial, and perspectival knowing that, while not knowing everything, does know something” (Lather, 1999, p. 4). Such a standpoint assumes an epistemology that values the process as well as the product of learning. It may be geared at empowering different stakeholders in an educational phenomenon by encouraging them to conduct syntheses that shed light on aspects of the phenomenon which are of a particular interest to them. Similarly, all team members have an opportunity to learn through the process of a research synthesis by constructing knowledge pertinent to their personal and professional selves.

The boundary between the learner and the learned perspective becomes blurred as more synthesists recognise that regardless of their level of expertise, their perspective will be inevitably situated and partial. Alternatively, one may justify the concept of research synthesis as a learning process by drawing on an enactivist perspective. “Enactivism acknowledges both product and process — reality, truth and self are considered as transformational processes and hence in continual process of ‘becoming’” (Gunn, 2000, p. 1)

Utilising the MIRS framework, a synthesist may view oneself and each collaborator anywhere on the continuum from the status of a novice to an expert in relation to different domains of expertise at different points of the synthesis. The learner as well as the learned, both have the potential to make worthy contributions in a rigorous synthesis and all team members are likely to take on either role at different times. The learned can contribute by sharing their expert insights. The learners can contribute by seeing the field from a novice’s viewpoint that makes explicit several taken-for-granted assumptions in the field. Juxtaposition of the learner and the learned perspective may be achieved in a synthesis by a team of collaborators or by an individual synthesist who draws upon both the perspectives, using each to iteratively refine the other.

Conclusion

To accommodate, encapsulate and celebrate the diversity and complexity prevalent in contemporary primary research, it becomes imperative that we think beyond “what works?” when determining an appropriate purpose for a research synthesis. We must re/examine from multiple perspectives several factors such as the relevant:

- philosophical discussions;
- potential stakes and collaborations;

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Richardson (2001) underscores the situated and partial nature of the researcher’s perspective in any inquiry.
substantive area;
intended audience and goal;
pragmatic constraints;
ethical considerations; and
synthesist’s contextual positioning.

I hope producers and users of research syntheses will use this discussion as a departure point and think of creative ways to expand possibilities within the production and use of research syntheses.

References

http://eppi.ioe.ac.uk/EPPIWebContent/downloads/RG_manual_version_1_1.pdf

EPPI-Centre (2002). *About the EPPI-Centre.* Retrieved 2002, August, 13, from The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre), Institute of Education, University of London Web site: 
http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?page=about_eppi.htm


