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Origins, methods, and advances in qualitative meta-synthesis

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Abstract

Qualitative research is a broad term encompassing many methods (Dixon‐Woods, Fitzpatrick, & Roberts, 2001; Evans, 2002). Critiques of the field of qualitative research argue that while individual studies provide rich descriptions and insights, the absence of connections drawn between studies limits their usefulness. In response, qualitative meta-synthesis serves as a design to interpret and synthesise qualitative findings across individual studies. More than a broad summary, meta-syntheses do not aim merely to summarise all available data; rather, qualitative meta-syntheses present new perspectives on topics through interpreting findings from different qualitative studies to create 'third-level' findings for the advancement of both knowledge (Jensen & Allen, 1996; Sandelowski, 1993) and theory (Atkins et al., 2008; Glaser & Strauss, 1967). The diversity of opinion on qualitative meta-synthesis is mirrored in its practice. Several different approaches to qualitative meta-synthesis have emerged, with most connected to the meta-ethnographic procedures originally outlined by educationalists Noblit and Hare (1988). This paper: (1) discusses the key philosophical and methodological issues in the

literature on qualitative meta-synthesis, (2) highlights key methods that are used in qualitative meta-synthesis, and (3) offers an overview of where the field is going. Recent examples of qualitative meta-syntheses highlight some of this design's current contributions and future usefulness for research in the field of education.

Keywords: qualitative meta-synthesis, meta-ethnography, reciprocal translation, lines-of-argument synthesis

Introduction

This paper addresses qualitative meta-synthesis as it has been applied in the field of education. Broadly speaking, qualitative meta-synthesis is the systematic review and additional level of interpretation of primary qualitative research studies. While much of the recent methodological development of meta-synthesis has occurred in the field of public health, this line of research originates with educationalists Noblit and Hare (1988) and their germinal book on meta-ethnography. Meta-ethnography—or, the translation of concepts and metaphors across studies—has thus formed the basis for subsequent iterations and adaptations of qualitative meta-synthesis, and we will examine meta-ethnography in the context of the historical impetus for qualitative meta-synthesis. Then, we will discuss the key philosophical and methodological issues in the literature on qualitative meta-synthesis, highlight key methods that are used in qualitative meta-synthesis, and offer an overview of where the field is going. Throughout this paper we highlight recent examples of qualitative meta-syntheses in education to demonstrate some of this design's current contributions and its usefulness for future research in the field of education.

A brief description of qualitative methodologies

Entrenched in an interpretive paradigm that perceives multiple, socially constructed realities (Jensen & Allen, 1996; Sandelowski, 1993), qualitative research is the line of inquiry into how people interact with and interpret the world (Atkins et al., 2008; Barroso et al., 2003). Giddens (1984) describes this as a double hermeneutic, which highlights the multiple layers and bidirectionality of people interpreting their everyday world and social scientists' interpretations of those interpretations. Indeed, qualitative research is

'the exploration of meanings of social phenomena as experienced by individuals themselves, in their natural context' (Malterud, 2001, p. 483). Qualitative research is a broad term encompassing a variety of approaches, such as ethnography, and methods, including focus groups, interviewing, and observation (Dixon‐Woods et al., 2001; Evans, 2002). As a whole, qualitative methods aim to understand meaning rather than quantify the effects or distributions of parameters (Green & Thorogood, 2009). Therefore, qualitative research deals with non-numerical data analysis, focusing instead on narrative data analysis through themes and concepts (Dixon‐Woods et al., 2001; Evans, 2002).

Qualitative research is hardly monolithic in its intersecting and overlapping approaches to data collection and analysis. Overall, a common thread is an interpretive epistemology—a theory of knowledge that aims to understand, for example, how people interpret a phenomenon, perceive a particular issue or problem, or account for a certain behaviour (Green & Thorogood, 2009). This interpretive epistemology has been called 'hermeneutic', or understanding the object of study as both parts and whole through experiences and understandings contained in collected data (Zimmer, 2006). For example, social realists believe that collected data represents a concrete, commonly shared reality—a perspective arguably more positivistic than interpretive (Fine, 1993). Critical realism modifies social realism to note that phenomena exist at different 'levels', including the level at which they concretely occur and the level at which people experience them, with qualitative data focusing on accounts of these phenomena (Houston, 2001). Social constructionism dispenses with the idea of commonly experienced reality and instead studies how people construct this reality (Green &

Thorogood, 2009; Riegler, 2005). A 'strong' version of social constructionism holds that all in the world is socially constructed, while a 'weak' version of this epistemology addresses the construction of social structures and phenomena (Houston, 2001). Phenomenology addresses the specific 'lifeworlds' of interview subjects by understanding how they relate to and understand specific phenomena, often through presentation of substantial detail and examination of how subjects process their own understandings (Schutz, 1962; Suddaby, 2006). Symbolic interactionism examines how the 'situated self' understands the different dimensions of the lived world as a set of interactions through which meaning is produced and ascribed, with these ascribed meanings called 'symbols' (Fine, 1993). These meanings produce interactions, themselves altering the meanings informing them (Blumer, 1992).

Grounded theory—one of the most widely used approaches to qualitative data analysis—was developed by the symbolic interactionists Barney Glaser and Anselm Strauss. Research oriented by a symbolic interactionist framework takes as the object of analysis the meanings embedded in the interactions between actors, and how these intersect to produce a social process (Corbin & Strauss, 2008). Because symbolic interactionism is a framework rather than an epistemology, researchers have used various interpretive epistemologies in grounded theory research. While Glaser (2002) posits that grounded theory can be used across epistemologies, Charmaz (2006) argues that grounded theory must be oriented in a social constructionist epistemology to remain true to its original conception. On the other hand, several major grounded theory exponents, while preserving a symbolic interactionist framework, have moved towards an essentially positivist approach (Annells, 1997; Corbin & Strauss, 2008).

Grounded theory analysis begins with open coding, a close reading of small parts of the data to identify common concepts in different sources, and to understand data in depth (Green & Thorogood, 2009). From this, a starting set of codes—or labels attached to the data that identify an idea the data expresses—is systematically assigned to all the data fragment-by-fragment. This coding scheme is continuously updated through constant comparison with newly analysed data during 'axial coding', in which the data are examined to see how codes relate to each other and point to underlying, higher-order 'concepts', into which codes are collapsed (Corbin & Strauss, 2008). Corbin and Strauss then describe the process of generating 'categories', an even higher-order set of abstractions that are theoretically saturated collections of concepts. These categories have 'properties'—concepts representing different aspects of the category—and 'dimensions', concepts representing how the properties of the category might vary across different respondents. Throughout analysis, the process should be methodologically auditable, both through generation of frequent memos recorded by the analyst and through records of decisions from open coding to the final theory (Corbin & Strauss, 2008; Finfgeld‐Connett, 2010; Kearney, 2001). Introduced in the 1960s, grounded theory became a dominant force in Western qualitative research (Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004).

Three other approaches to qualitative data analysis deserve brief mention here. The first is thematic analysis, which is a method for the identification of themes within the data. This method proceeds systematically through interviewing; examination of data; clustering into themes that are relevant, auditable, and reliable; and presentation of these themes (Saldana, 2009). The second method, which is closely related to thematic

analysis, is framework analysis, originally developed for rapid analysis and policy relevance (Green & Thorogood, 2009). Framework analysis proceeds similarly, but accommodates large amounts of data through mapping of identified themes. Themes may be defined inductively or deductively, depending on the research team's needs (Pope, Ziebland, & Mays, 2000). Finally, Miles and Huberman present a method of cross-case analysis that proceeds through the steps of 'data reduction', 'data display', and formulation of conclusions (Miles & Huberman, 1984, 1994). This method is helpful for comparing and contrasting data both within and across cases. While all three methods are relevant for elaboration of recurring patterns in the data, they do not invite consideration of underlying themes, perceptions, and processes in the way grounded theory does. The inductive and deductive processes of searching for latent concepts and categories through open coding and axial coding, the imperative to theoretical saturation, and the symbolic interactionist framework orienting grounded theory towards an explicit examination of social structures invites a depth and focus of analysis other methods might lack. Yet in practice a great deal of qualitative research described as informed by grounded theory falls short of this standard.

Across approaches, qualitative research focuses on descriptive, rather than statistical, power. Qualitative studies often eschew large sample sizes for samples capturing a diversity of thought and approaches. Studies frequently stop data collection when data no longer generates substantively new insights (Bowling, 2009). Glaser and Strauss (1967) labelled this aspect of qualitative research 'theoretical saturation'. Qualitative researchers often seek to capture a broad range of experiences in an effort to find the unifying themes and concepts that tie a variety of experiences together, or that

separate some participants from others. Indeed, this is a key distinction between qualitative research and quantitative research, which seeks a sample size that is both large enough to test hypotheses and representative enough to have a defined external validity. Instead, qualitative research aims for 'analytic generalisability', wherein the study results are analysed in light their conceptual and descriptive power, and whether they describe hypotheses consistent with other studies (Mills, Durepos, & Wiebe, 2010). This prioritisation of conceptual richness over statistical generalisability poses a problem for those seeking to comprehend and simultaneously understand the findings of several qualitative studies that point to the same object of study.

Foundations and logic of qualitative meta-synthesis

The field of qualitative research currently lacks a collective outlook spanning various qualitative findings, despite an increasing amount of published studies (Britten et al., 2002). Critiques directed towards the field of qualitative research argue that while individual studies provide rich descriptions and insights of their selective group of focus, the absence of connections drawn between studies limits their usefulness in understanding a phenomenon (Jensen & Allen, 1996), informing practice (Zimmer, 2006), advising policy (Harden et al., 2004), and developing theory (Estabrooks, Field, & Morse, 1994). Indeed the current situation of qualitative studies operating as stand-alone pieces of evidence has led to the terms 'cottage industry' (Sandelowski, Docherty, & Emden, 1997, p. 366), 'one-shot research' (Estabrooks et al., 1994, p. 510), and 'little islands of knowledge' (Glaser & Strauss, 1971, p. 181).

In response to these criticisms, qualitative meta-synthesis serves as a method of interpreting and synthesising qualitative findings across individual studies. More than

simply a broad summary of previous findings, meta-syntheses of qualitative research are not meant to 'sum' all available data; rather, meta-syntheses present new perspectives on topics through interpreting findings from different qualitative studies to create 'third-level' findings for the advancement of both knowledge (Jensen & Allen, 1996; Sandelowski, 1993) and theory (Atkins et al., 2008; Glaser & Strauss, 1967).

A commonly cited rationale (Kearney, 2001; Sandelowski et al., 1997; Walsh & Downe, 2005) for qualitative meta-synthesis arises from 'analytic interruptus'. These meta-synthesists find 'interruptus' in the lack of horizontal relationships between qualitative studies to aid in transferring concepts between different studies' accounts. However, Lofland (1970) initially coined 'analytic interruptus' not to describe relationships between study-level understandings, but how qualitative research does not carry through to broader 'middle-range' theories. Lofland described qualitative research as 'conceptually impoverished', highlighting the vast gap in theoretical range between large-scale grand theories and the small, context-specific descriptions popular in accounts of qualitative research. The 'interruptus', as discussed by Lofland, occurs in the failure to 'follow through to the implied, logical, or entailed conclusion', the higher-order understandings that characterise 'middle-range' theory. Elsewhere, Strauss (1970) describes the process of 'discovering new theory from previous theory', or the building of theory from initial accounts by adding data and developing increasingly nuanced understandings. Strauss was more concerned with horizontal links between studies, and between accounts within studies. Yet his comment applies to qualitative meta-synthesis, in that the existing theory developed by individual studies can be used to develop new theories.

Qualitative meta-synthesis first came to prominence with educationalists Noblit and Hare's (1988) *Meta-Ethnography: Synthesizing Qualitative Studies*. Though Noblit and Hare were not the first to write on this issue, their approach to synthesis of qualitative evidence began a new and major methodological line of inquiry (Thorne et al., 2004). While qualitative meta-synthesis methods have grown and developed in various directions, there are several common elements. The most basic is that qualitative meta-synthesis is both 'hermeneutic' and 'dialectical'—or engaged in extracting and reporting constructs within studies, but also in comparing and contrasting between studies to understand variation and commonality (Jensen & Allen, 1996; Zimmer, 2006). Relatedly, qualitative meta-synthesis, like the qualitative research underlying it, is 'interpretive' rather than 'aggregative'—that is, offering new interpretations and insights instead of combining studies, as in quantitative meta-analysis (Jensen & Allen, 1996; Thorne et al., 2004; Walsh & Downe, 2005). Sandelowski refers to the type of study that would vote-count or otherwise quantify qualitative research as 'metastudy' rather than true qualitative meta-synthesis (Thorne et al., 2004).

Another common element is the 'reciprocal translation', which, conceptually, is the understanding of one study's findings in terms of other studies' findings in an effort to develop syntheses that are consistent across included studies (Jensen & Allen, 1996; Walsh & Downe, 2005). A related idea, described in Noblit and Hare's (1988) approach, is the 'third-order construction'. This is the meta-ethnographic equivalent to the second-order construction that is a finding in primary qualitative research. These third-order constructions are the outcome of the qualitative meta-synthesis, in the way that second-order constructions are the outcome of the original qualitative report, and first-order

constructions are interpretations that the original study informants provide of their experiences (Malpass et al., 2009).

In developing syntheses of qualitative studies, Noblit and Hare (1988) described three main outcomes growing from an initial reciprocal translation. The first is 'reciprocal synthesis', which aims to understand larger constructs expressed by the studies in the inclusion set. A reciprocal synthesis arises when the second-order constructions expressed in studies broadly agree, and can be understood in terms of each other to form third-order constructions. In contrast, a 'refutational synthesis', which exposes and develops heterogeneity in the included studies, arises when inconsistencies between metaphors expressed in different studies contradict insurmountably and cannot be reciprocally translated. Finally, 'lines-of-argument synthesis' constructs a new, mid-range theory from the findings expressed in the included studies, and is used when studies report 'parts of the whole' phenomenon under investigation. Of these three approaches to meta-ethnography, Noblit reports that the first is most common, while refutational synthesis remains underutilised (Thorne et al., 2004).

Key philosophical and practical debates

Much of the resistance against collating qualitative research stems from paradigmatic differences, although there are both epistemological and practical reasons complicating the accumulation of qualitative findings (Britten et al., 2002). It is recognised that there are multiple and varying philosophies within the interpretivist paradigm, which impact qualitative studies to a larger degree than quantitative studies rooted nearer the positivist end of the paradigm spectrum (Dixon-Woods, Agarwal, Young, Jones, & Sutton, 2004).

Thus, the critical question arises of *if* it is appropriate to synthesise across qualitative findings and if so, *how* (Atkins et al., 2008).

Those who would argue against the appropriateness of meta-synthesising qualitative research have pointed to the highly contextualised nature of qualitative findings and concern of watering down individual insights in favour of a generic summary (Sandelowski et al., 1997). Reducing qualitative studies into a summary would indeed be rejected by those who are firmly situated in the interpretivist paradigm on the basis that there is no one underlying truth (Thorne et al., 2004) and that searching for such a universal reality breaches core interpretivist tenets of qualitative research (Zimmer, 2006). Another question arising from this field asks whether qualitative meta-synthesis should synthesise across approaches, such as phenomenology or grounded theory (Jensen & Allen, 1996)? One possible approach is to carry out simultaneous syntheses across studies grouped by framework and then 'triangulate' to validate findings (Finfgeld‐Connett, 2010). Other methods, such as meta-study and meta-narrative, take these differences in methods as foci for analysis in their own right (Greenhalgh et al., 2005; Paterson, Thorne, Canam, & Jillings, 2001). Finally, Zimmer (2006) advances that with due attention to the epistemological differences underlying qualitative methodologies, synthesis across qualitative traditions is acceptable and appropriate.

A major issue on which Sandelowski and Barroso (2007) take a clear position is whether qualitative meta-syntheses should be based on purposive or comprehensive samples of studies. Though Thomas and Harden (2008) clearly assert the value of systematic search and retrieval in generating a qualitative meta-synthesis, Sandelowski and colleagues (Sandelowski, 2012; Sandelowski & Barroso, 2007; Sandelowski et al.,

1997) state that a purposive sample is appropriate, as this is the same logic that guides primary qualitative research. However, because qualitative reports are themselves partly interpretations and partly summaries, it is an open question whether a purposive sample could truly lead to theoretical saturation, especially when nuances between themes and the relationships between themes expressed in different studies could continue to inform analysis in ways not otherwise detected through purposive sampling.

Moreover, application of primary qualitative data sampling principles such as 'saturation' does not quite translate to a meta-synthesis context, because the nature of published studies is to add something new to the literature base, suggesting that the data (i.e., each study) should diverge rather than converge (Dixon-Woods et al., 2006). The question remains, then, of how much data is sufficient when conducting a qualitative meta-synthesis (Jensen & Allen, 1996). Practically speaking, sampling primary studies is different from sampling empirical cases. There are a finite number of the former but not the latter, and there may be more pronounced heterogeneity between the former (e.g. between the foci of different studies) than the latter (e.g. between different study participants unified by a common set of characteristics). Even in some qualitative meta-syntheses where studies do largely 'converge' rather than 'diverge', it might not be possible to achieve saturation due to small numbers of included studies.

Furthermore, consideration of the quality of individual qualitative studies raises additional questions, as the practice of critically appraising qualitative research has reached no consensus on how it should be accomplished (Britten et al., 2002; Chapple & Rogers, 1998). Should qualitative studies be excluded based on quality, and how is quality appraised (Walsh & Downe, 2005)? One argument posits that the inability to

define a ‘unified’ qualitative research paradigm means that each study should be judged on its own merits, rather than on one set of guidelines (Rolfe, 2006). Conversely, Dixon-Woods, Shaw, Agarwal, and Smith (2004) posit that certain characteristics of qualitative research reporting and conduct are constant, regardless of methodology. Sandelowski and Barroso (2007) recommend appraisal, while advising against excluding studies based on perceived quality. Thus, including or excluding studies on the basis of quality is understandably contentious, although assessment of quality can become a focus for analysis. In a quantitative meta-analysis, researchers utilise sensitivity analyses to test for any influence of studies deemed to be of lesser quality on those meeting the criteria for high quality research. However, the process by which researchers might conduct sensitivity analyses on qualitative data is less certain (Dixon-Woods et al., 2006). Another approach is to rely on a study’s peer-review-status as indication of quality control (see Boxes C and D). While the peer-review and revision process serves to check quality, including only peer-reviewed studies does not address findings from non-peer-reviewed reports, which might be of similar quality.

Along a more practical vein, empirical studies testing the use of thesaurus terms versus free-text terms versus broad-based terms when applying the same computerised search strategies commonly used in quantitative reviews to a qualitative context demonstrate such searches are not similarly productive (Shaw et al., 2004). It is the case that often qualitative studies are published outside of peer-reviewed journals registered with electronic databases, and that when they are in such journals they are not easily retrieved due to how they are abstracted (Green & Thorogood, 2014). All of this indicates that conducting a systematic search for qualitative studies is not as

straightforward compared to similar searches for quantitative trial studies. However, it is important to remember that when searching electronic databases, search strategies can be tailored to favour sensitivity or precision, and electronic databases will vary in the sensitivity and precision of the articles they retrieve for any given search strategy (Taylor, Wylie, Dempster, & Donnelly, 2007). Furthermore, search strategies are continuously evolving and a recent systematic review on text mining for identifying relevant studies suggests that there are benefits to applying this technique to prioritise or reduce the number of studies considered for a review, which could allow researchers to favour a broader search strategy without losing valuable time or requiring additional individuals to screen potential studies (O'Mara-Eves, Thomas, McNaught, Miwa, & Ananiadou, 2015).

Finally, is qualitative meta-synthesis intended to be a practice-relevant endeavour, particularly given Noblit's later reservations regarding its use in the clinical paradigms of evidence-based practice (Thorne et al., 2004)? Given the subjectivity and reflexivity inherent in all qualitative research enterprises, it is an open, inadequately addressed question in the application of meta-synthetic knowledge to clinical practice how the positivist and interpretive paradigms meet, if not reconcile, to allow knowledge transfer from one to the other (Paterson et al., 2001; Zimmer, 2006).

Methodological issues in practice

The diversity of opinion on qualitative meta-synthesis design is mirrored in its practice. Even in those papers embracing Noblit and Hare (1988), many approaches exist. Researchers have found the idea of reciprocal translation difficult to put into practice (Atkins et al., 2008). For example, Tondeur et al. (2012) conducted a reciprocal translation of qualitative studies describing strategies for integrating technology into the

classroom (see Box A). They arranged studies chronologically, with the first paper identified as their 'index paper', or starting point. Then, they synthesised the first two papers by 'comparing the themes from paper one with paper two' (Tondeur et al., 2012, p. 136). This synthesis was used to study the third paper, with each subsequent paper being included in the synthesis one-by-one. The outcome was a set of third-order constructions that described a larger interpretive framework (Noblit & Hare, 1988). However, the authors describe the difficulties of simplifying and reducing the complexity found in the primary qualitative studies during translation (Tondeur et al., 2012).

[Box A near here.]

Jamal et al. (2013) describe a clearer translation process (see Box B). After rating each study for its conceptual richness and grouping the studies according to specific health topics, they identified high quality papers as 'index papers' under each topic grouping, and spiralled the reciprocal translation out from these points. For each of the two syntheses, the reciprocal translation was then developed by checking how papers' second-order constructions mapped onto the other papers in the set, and then taking those second-order constructions with the most explanatory power—that is, those second-order constructions that best mapped across included studies—to develop the reciprocal translation. Jamal et al. (2013) then extend their analysis to create a lines-of-argument synthesis arising from these reciprocal translations.

[Box B near here.]

In sum, even those studies taking a meta-ethnographic approach Noblit and Hare (1988) demonstrate various approaches to reciprocal translation and meta-synthesis. These critiques of both the concept and processes of systematically reviewing and meta-

synthesising qualitative research must be weighed against those directed towards the current field of qualitative research existing in isolation without a cumulative knowledge base. Green and Thorogood (2014) explain two strengths of systematically reviewing qualitative research to include: (1) identifying common themes across contexts providing the opportunity to discuss the generalisability of some findings (typically not a goal of primary qualitative research) and (2) assessing how individual qualitative methods impact the amount and type of data generated in primary qualitative studies.

Other researchers in favour of advancing meta-synthesis methods have argued that to 'claim that generalisation is not possible is to deny the transferability of any shared meanings or generative mechanisms' (Britten et al., 2002, p. p. 214), and that the findings from qualitative meta-syntheses offer new insights, which are greater than the sum of their parts (Campbell et al., 2003). Indeed, proponents of meta-synthesis maintain that systematically reviewing and meta-synthesising qualitative findings advances both the qualitative and quantitative research fields in a number of relevant ways, including: generating mid-range theory (Estabrooks et al., 1994), developing concepts (Campbell et al., 2003), and adding range and complexity to effectiveness studies (Atkins et al., 2008). Furthermore, Brown and Lan (2015) utilise qualitative meta-synthesis to examine how national educational policies may have influenced educators' perspectives of 'school readiness', and their conclusions have policy-relevant implications (see Box C).

[Box C near here.]

Methods for qualitative meta-synthesis

This discussion now turns its attention to demonstrating the large diversity in meta-synthetic approaches manifest in the literature. Rather than cataloguing different

approaches which can be found elsewhere (Barnett-Page & Thomas, 2009; Dixon-Woods, Agarwal, et al., 2004), this discussion demonstrates the need for an assessment of current metasynthetic practice.

Several different approaches to qualitative meta-synthesis have emerged, with most connected to the procedures Noblit and Hare (1988) outlined originally. Atkins and colleagues (2008) interpreted the steps Noblit and Hare laid down as beginning with a research question; locating, filtering, and appraising reports of qualitative studies; 'reading the studies'; understanding interrelations between studies; developing 'reciprocal translations' between studies; and then 'synthesizing' the studies and 'expressing' this synthesis.

Of note is that Noblit and Hare (1988) demonstrate the development of reciprocal translations and the synthesis of these translations, but they offer little guidance as to how to accomplish these steps. At an early point in the methodological development of meta-ethnographic methods, it appeared that the different approaches, like Noblit and Hare's method, tended to remain vague in the details of their execution (Sandelowski et al., 1997). However, Sandelowski and colleagues (1997) laid down what they believed to be several principles, including purposive sampling of studies, meta-synthesis only of studies rooted in the same qualitative epistemology, and a target sample of about 10 studies (see Box D).

[Box D near here.]

An important variant of the Noblit and Hare (1988) approach is 'critical interpretive synthesis' (Dixon-Woods et al., 2006). Dixon-Woods and colleagues begin by rejecting the reciprocal translation as adequate for capturing the complexity inherent

in collections of qualitative research. Instead, they adopt the lines-of-argument synthesis, arguing that qualitative meta-synthesis should go beyond reciprocal translation to be both critical—engaged in how researchers construct the interpretations of the phenomenon—and interpretive, or engaged in how the interpretations offered by researchers compare and contribute to higher order understandings. They describe the output of their meta-synthesis as the 'synthetic argument', a term clearly connected with the conceptual heritage of the 'lines-of-argument synthesis' (Barnett-Page & Thomas, 2009; Dixon-Woods et al., 2006; Noblit & Hare, 1988).

Another major approach to qualitative meta-synthesis called the 'meta-study' describes a process simultaneously meta-synthesising and reciprocally translating methods, results, and discussion to understand how these three sections interact and form mid-range theory relating to the object of study (Paterson et al., 2001). It is noted that this version of 'meta-study' is different from the 'meta-study' which Sandelowski describes elsewhere as primarily a vote-counting summary (Thorne et al., 2004). The 'meta-methods' analysis elaborates the different methods, data, and epistemologies used to examine the phenomenon of interest (Barnett-Page & Thomas, 2009). Unlike Dixon-Woods and colleagues' (2006) critical interpretive synthesis, the meta-study's 'meta-methods' and 'meta-discussion' form distinct parts of the final analysis, where the parts are then integrated to view how each informs the other. Paterson and colleagues' meta-synthetic method shares much in common with 'meta-narrative', an emergent approach to research synthesis that concerns itself as well with how these different epistemologies shape results and understandings of a phenomenon. In particular, meta-narrative is used

in mixed-methods reviews, in which quantitative and qualitative evidence are examined together (Greenhalgh et al., 2005).

Finally, one of the most recent approaches to qualitative meta-synthesis is Thomas and Harden's (2008) 'thematic analysis' approach, which marshals qualitative evidence for practice-based relevance and for intervention development and evaluation (see Box E). This method involves line-by-line coding of the findings of a study to develop specific hypotheses to inform systematic reviews and intervention development and without the articulated underpinnings of grounded theory.

[Box E near here.]

A grounded theory-inspired approach (see Box F) develops the meta-synthesis by constant comparison through line-by-line coding of study findings and recording analytic memos (Finfgeld‐Connett, 2010). Finfgeld‐Connett (2010) asserts that a well-developed meta-synthesis using these approaches to triangulate across studies with different qualitative methodologies, which she terms *meta-interpretation*, improves generalisability and transferability of the findings of the meta-synthesis, though the author does not further explain these benefits. Another grounded theory-inspired method of qualitative meta-synthesis emphasises the role of metaphors—the building block of qualitative analysis—in developing 'grounded formal theory' from the findings of qualitative studies (Kearney, 2001).

[Box F near here.]

Next steps for qualitative meta-synthesis

As meta-ethnography and qualitative meta-synthesis are relatively new, the development of these analytic approaches and extension of methods to new challenges are relatively

diffuse. Much of the methodological work to advance this design has taken place in the health sciences. However, this presents an opportunity for educationalists to 'reclaim' and develop meta-synthetic methods to meet their specific needs. We identify three key ways in which qualitative meta-synthesis is advancing as a design: in terms of the aspects of systematic review methodology needed to support successful meta-syntheses, in terms of the methods used to analyse qualitative studies and to use the results of that analysis, and in terms of the discursive, methodological and paradigmatic dimensions of qualitative meta-synthesis.

Laying the groundwork for successful meta-syntheses

One key way in which methods for qualitative meta-synthesis are developing is in respect of the systematic review methodology needed to set up meta-syntheses, search for relevant studies and report the outcomes of the meta-synthesis. One important recent contribution in this regard is the SPIDER tool to define key parameters for a qualitative meta-synthesis (Cooke, Smith, & Booth, 2012). Analogous to the population, intervention, comparison and outcome heuristic used to guide systematic reviews of intervention effectiveness, SPIDER stands for sample, phenomenon of interest, design, evaluation, and research type. Cooke and colleagues (2012) suggest that using the SPIDER tool is a more effective way to define the key 'parameters' for a systematic review of qualitative research.

Once the question has been set, the issue of how to search for studies presents itself. Systematic reviewers in the field of education have long acknowledged the challenges inherent in searching for qualitative research, due to the panoply of methods, approaches, and key terms, as well as the highly variable indexing of studies (Thomas &

Harden, 2008). The development of specific guidelines to search for different types of studies to inform systematic reviews is most advanced for randomised trials—for example, the Cochrane highly sensitive search strategies for randomised trials (Higgins & Green, 2008)—but work on best practices in locating qualitative studies continues apace. Reflecting and analysing their experience in searching for qualitative studies to inform four different systematic reviews, Stansfield, Brunton, and Rees (2014) suggest that it is important to 'search wide and dig deep' by using a wide variety of databases and sources, including grey and fugitive literature, and by using sensitive search strategies. In this regard, it may be of utility for educationalists undertaking systematic reviews of qualitative research to consider searching health-oriented databases such as MEDLINE or PubMed and Embase, which are especially broad in their reach and well-indexed. However, qualitative research itself may not be well detected by subject headings corresponding to method (Bradley, 2012). Some meta-synthesists have rejected the idea that a one-stage search is even appropriate for systematic reviews of qualitative research and that search strategies, while auditable, should be considered emergent and documented as such in reports. That is, systematic reviews of qualitative research should be iterative and driven by a 'berry-picking' approach (Finfgeld‐Connett & Johnson, 2013), which mirrors snowballing sampling techniques in primary qualitative research. It should be noted that just as in primary qualitative research, a preliminary synthesis might lead researchers to change inclusion criteria, which would be unusual for quantitative syntheses.

Finally, complete and transparent reporting of qualitative meta-syntheses is important in the interest of both systematic review methodology and strong qualitative

research practice (see Box B). The myriad guidelines for reporting other types of studies—such as PRISMA for systematic reviews of interventions (Liberati et al., 2009) and COREQ for qualitative research (Tong, Sainsbury, & Craig, 2007)—taken together with the unsuitability of other frameworks for reporting qualitative meta-syntheses, suggest that systematic reviews of qualitative research require a bespoke reporting guideline. That guideline has come in the form of enhancing transparency in reporting the synthesis of qualitative research, or ENTREQ (Tong, Flemming, McInnes, Oliver, & Craig, 2012). As qualitative meta-synthesis evolves, it is likely that reporting guidelines will continue to evolve as well.

Horses for courses and qualitative meta-synthesis

Previous reviews have identified the proliferation of methods for qualitative meta-synthesis (Barnett-Page & Thomas, 2009; Dixon-Woods, Agarwal, et al., 2004; Hannes & Macaitis, 2012; Melendez-Torres, Grant, & Bonell, 2015). However, methods continue to grow and develop as qualitative meta-synthesists innovate to meet their specific needs, and as meta-synthesists seek to overcome the qualitative-quantitative divide across different systematic reviews.

New analytic methods. Much of the work on development of new analytic methods has been in response to specific disciplinary or contextual issues that arise in doing a systematic review of qualitative research. To our knowledge, there has not been a specific method recently developed to meet the needs of educationalists, though of course the germinal work in meta-ethnography was conducted by a team of educational anthropologists (Noblit & Hare, 1988). However, recent work by social workers on 'qualitative interpretive metasynthesis' (Aguirre & Bolton, 2014) has been led by a need

to translate the principles of qualitative meta-synthesis into the values of social work, for example by focusing on 'synergistic understandings' that reflect social workers' engagement with clients' ecological systems as opposed to isolated themes arising from a meta-synthesis of qualitative studies. The importance of the role of ecological systems is by no means limited to the field of social work and is very relevant to educational researchers as they examine the multiple and intersecting environmental layers inherent in schools.

As an example of the development of methods to meet specific contextual issues, 'best fit' framework synthesis (Carroll, Booth, Leaviss, & Rick, 2013) builds on previous work in framework synthesis (Brunton, Oliver, Oliver, & Lorenc, 2006) to work through qualitative studies quickly and extend a priori conceptual frameworks in contexts where findings of a qualitative meta-synthesis are required to be responsive and quickly delivered. Carroll and colleagues (2013) simultaneously assemble relevant qualitative studies and theoretical frameworks, and they use a synthesis framework to code information from the primary studies. Data that cannot fit into the framework are then examined to nuance or extend the framework.

Putting systematic reviews together. An emerging approach in this field includes the 'mixed methods systematic review', which incorporates elements from both quantitative systematic reviews and meta-analyses as well as from qualitative meta-syntheses. Again, key instructive examples are found among health research—notably Harden et al. (2004) and Oliver et al. (2005)—rather than education**,** although the EPPI-Centre's review library is notable for cataloguing research in this area. Overall, there

remains a need to more comprehensively bridge the gap between qualitative and quantitative educational research in syntheses.

Such a cross-synthesis between quantitative and qualitative review findings may be conducted a number of ways, including according to a mixed methods convergent parallel design. The convergent parallel design involves a phase in which qualitative and quantitative data are concurrently yet independently collected and analysed, followed by a phase which sees these two strands joined together and the data merged for subsequent interpretation and discussion (Creswell & Plano Clark, 2011). Based in pragmatism, this design places the mixed methods nature of the research question at the centre, casting aside any controversies arising from paradigm differences between constructivism and positivism in favour of applying a practical approach to research (Creswell & Plano Clark, 2011). This design may be most appropriate to answer mixed methods research questions because it allows for the synthesis of corresponding data across qualitative and quantitative results so as to more fully illuminate the phenomenon of interest, valuing each strand equally without placing one above the other (Creswell & Plano Clark, 2011). It is important to point out that while the linear nature of written reports may suggest that the strand reported first is conducted first and the strand reported second is conducted after the first, this is not the case in a convergent parallel design, where both strands are conducted in tandem.

Another design for cross-synthesising between qualitative and quantitative primary studies includes conducting an initial qualitative synthesis to develop theory and suggest hypotheses, which could then be tested in a quantitative synthesis. Similarly, the reverse order could also be illuminating, particularly if qualitative meta-syntheses were

conducted to delve deeper into exploring findings from quantitative syntheses. It is important to bear in mind that whichever design is applied, there are distinctive strengths of both qualitative and quantitative research, and whichever design is selected for the mixed methods synthesis should reflect the nature of the research questions.

Discursive and methodological issues

A key area in which qualitative meta-synthesis is developing is in outlining the discursive issues it presents for social scientists, including educationalists. For example, Riese, Carlsen, and Glenton (2014) have recently argued that even in anthropologically oriented understandings of education, qualitative meta-synthesis can be helpful both to build up theoretical understandings across contexts and to problematise traditional understandings of a research field. Their argument, which essentially is oriented towards the development of an applied anthropology that is analytically generalisable, does not demand a specific analytic approach, aside from a general orientation towards interpretivism. Riese and colleagues (2014) also point out that as a method, systematic reviews of qualitative research can be used to set the agenda for future social research.

Within the operation of qualitative meta-synthesis, methodologists continue to seek clarity on 'how' studies are synthesised. This bears obvious parallels to continue innovation in analysis of primary qualitative data. Melendez-Torres, Grant and Bonell (2015) examined a set of 61 qualitative meta-syntheses to establish a taxonomy of how these meta-syntheses undertook to achieve reciprocal translation. They divided the approaches used into four categories: one in which reciprocal translation was based on a visual representation, such as a map of concepts or a grid of second-order constructs; one in which reciprocal translation began with a 'key paper' and then examined subsequent

papers to develop the synthesis (see Boxes A and B); one in which study themes were used as the basis of the reciprocal translation either by combining them into similar categories or by comparing them across studies; and one in which meta-synthesists used an approach similar to primary qualitative research in coding study results line by line. This taxonomy, though developed in public health, offers a parsimonious classification to understand the diversity of approaches in qualitative meta-synthesis. In addition to this taxonomy of operations of reciprocal translation, one research group has described that meta-ethnography involves two processes, the first of which is 'reading', or engagement with the text of the studies 'to appraise; familiarise; identify; extract; record; organise; compare; relate; map; stimulate; and verify'(Lee, Hart, Watson, & Rapley, 2014, p. 8), and the second of which is 'conceptual innovation', or the development of key metaphors that go beyond the primary studies, rather than merely restating them. Lee and colleagues (2014) point out that conceptual innovation is not inevitable in meta-ethnographies, due in part to the path-dependency of research narratives.

Conclusion

This paper has reviewed paradigmatic and methodological aspects of qualitative research before exploring the historical movement, core theoretical and practical issues of qualitative meta-synthesis. The spectrum of methods reflects the different approaches to qualitative research visible at the primary study level. As such, in order for meaningful progress in this area to contribute to educational practices, researchers must be both transparent and comprehensive in their reporting of chosen meta-synthesis aims and methods. The opportunity to apply qualitative meta-synthesis alongside quantitative

systematic reviews and meta-analyses that are already more widely accepted in the education field opens up future discovery of novel insights for theory development as well as everyday practice and research agendas. Given the multiple ecological levels at which educational policies and practices are initiated in addition to the recognition of children's individual learning needs, much can be gained by a broader uptake of qualitative meta-synthesis and in turn mixed methods cross-syntheses within the field of educational research.

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Box A. Preparing pre-service teachers to integrate technology in education: a synthesis of qualitative evidence (Tondeur et al., 2012)

In their 2012 paper on integrating technology in education, Tondeur and colleagues aimed to identify strategies for instructing pre-service teachers on how to incorporate technology in their lessons. To do this, the authors conducted a key word search in the electronic database Web of Science, which while not fully elaborated in the paper, somehow resulted in 144 studies to be assessed initially by reading their abstracts for relevance to this meta-synthesis.

The 23 studies that passed this examination were then critically appraised using the Critical Appraisal Skills Programme (CASP) checklist for qualitative research (1988). Although potential included studies were systematically and rigorously appraised, the authors did not exclude studies based on poor ratings or lack of comprehensively reported methodologies. This quality appraisal was explicitly included as the third phase of Tondeur and colleagues' meta-ethnography, which otherwise closely aligned with Noblit and Hare's original (1988) description. The authors chose to chronologically translate each study into the next, such that the first paper to be published served as the 'index paper' whose themes were compared with those of the second paper to be published as so forth. Throughout this process, the concepts were reduced and abstracted by 'merging and collapsing' (p. 136) themes of similar groupings. The authors flagged such reduction as a potential limitation of their study in that they acknowledge the 'reduced…importance of the contextuality of the results…the results of the review cannot simply be generalized to other teacher training institutions in different parts of the world' (p. 142).

The findings of this meta-synthesis are reported at both a micro and institutional

level. While the authors do not go so far as to explicitly provide guidance to practitioners based on their findings, they do assert, '…it seems to be important that pre-service teachers have the possibility to see and experience the pedagogical integration of technology in the classroom during their training experiences' (Tondeur et al., 2012, p. p. 142). Additionally, they argue that unless theory is delivered alongside practical instruction, 'the knowledge and the skills pre-service teachers gained from a separate stand-alone course process are likely to remain isolated and unused' (p. 142). Thus, although couched in their report as not generalisable to other contexts, the authors do express a desire that the themes from this meta-synthesis inform policy makers and practitioners in this area.

Box B. The school environment and student health: a systematic review and meta-ethnography of qualitative research (Jamal et al., 2013)

In their 2013 meta-ethnography, Jamal and colleagues examined the processes through which young people's health was influenced by their social and physical school environment. In this thoroughly reported study, readers are directed to the previously published study protocol for additional specifics regarding search strategy and terms etc. (Bonell et al., 2011). The practice of publishing a protocol provides greater transparency in the research field regarding intended aims and proposed analyses, which can guard against reporting or publication bias given undesirable or underwhelming findings. While typically more discussed among a quantitative tradition (e.g., randomised controlled trials and systematic reviews of trials), this practice in qualitative meta-synthesis allows for much greater coverage and depth of methodological descriptions in the protocol and thus more room to report interpretations and findings in the main paper.

Indeed, this meta-synthesis sought out studies with thick descriptions by rating potential included studies as 'high', 'medium', or 'low' in conceptual richness. The authors additionally applied criteria from EPPI-Centre guidelines to appraise the quality of included studies. While they did not exclude studies with lower ratings, Jamal and colleagues used these ratings to inform their interpretation, using studies deemed to be of higher quality as the starting point or 'index papers' in their meta-synthesis.

Unlike the other meta-syntheses described in this paper, Jamal and colleagues created an evidence map following their initial search for relevant studies. They took this map to key stakeholders (e.g., young people, policy makers) for consultation and setting

priorities of their research agenda. In this way, we see how the exchange of knowledge was bidirectional between the research team and stakeholders. Additionally, this process provides an example of how an *a priori* protocol need not stymie the exploratory and inductive process of qualitative research.

When translating the themes and concepts from one study into the others, Jamal and colleagues first grouped the studies based on the type of health outcome reported in the primary study. After identifying key themes within each outcome type, relationships between these themes/outcomes were established. Finally, as their focus was on the processes of school environment on students' health, the authors established their line of argument interpretation. The authors note how young people sought to create and maintain a 'tough' reputation, as this would allow them entry into friend groups with other 'tough' young people, thus providing safety. Understandings of masculinity in the school environment were reflected in this 'toughness'. Furthermore, 'unowned' (p. 6) spaces such as staircases and toilets provided opportunities for risky health behaviours compared to classrooms, which were associated with oversight provided by the class teacher. In addition, young people reported that their teachers were 'disconnected' (p. 6) from their day-to-day realities, particularly from those young people whose home lives were particularly unstable or those who identify as Black. Finally, because of their disconnection from school, young people sought to 'escape' (p. 7) the school area when possible, such as during lunch periods, which in turn saw them purchasing unhealthy foods and beverages from local shops or smoking. Thus, Jamal and colleagues reached the conclusion that students 'not only react to schools' institutional systems for ordering instructional and regulatory practices, but they also promote their own parallel,

competing version of these…'orders'…where students' family and/or community culture is immersed in urban 'street culture', with relatively little hope of conventional social advancement, this will permeate the local student-network and thus shape both students' action and, in turn, the institutions' regulatory response' (2012, p. 8). It is clear, then, that this meta-synthesis extended beyond describing the themes found in the primary studies to posit a theory by which students and educational institutions act and react to each other in ways that influence health decisions.

Box C. A qualitative metasynthesis comparing U.S. teachers' conceptions of school readiness prior to and after the implementation of NCLB (Brown & Lan, 2015)

This 2015 paper by Brown and Lan focuses on teachers' notions of school readiness and whether/how their understandings changed with the implementation of the No Child Left Behind (NCLB) Act in the United States. They searched electronic databases and conducted key-word searches in relevant journals, although a comprehensive list of databases and journals is not provided as in some of the other studies highlighted here as examples. It is similarly unclear how many references were generated by the initial searches and what the procedure was for narrowing down this initial list to result in their first 38 potential studies. In applying a quality control to these potential included studies, Brown and Lan chose the criterion of publication in a peer-reviewed journal as indication that the reported study was of sufficient quality for inclusion in the meta-synthesis. Their reasoning was that in the process of submission, peer review, revision, and ultimate publication, any study should had been rigorously assessed by academic peers and thus its trustworthiness would be higher than reports in non-peer-reviewed publications. By excluding studies not published in peer-reviewed journals, the authors further purged their potential included studies to 17. The authors do acknowledge the potential limitation of this form of quality control, writing that 'it might have such unintended consequences as filtering out research findings that contradict the findings of this metasynthesis' (Brown & Lan, 2015, p. 4). Given that one of the three types of meta-ethnography described by Noblit and Hare (1988) is that of refutational hypothesis, and that such refutational meta-syntheses are more rare in the literature than reciprocal translations or lines of argument syntheses, this limitation is well noted. Their final set of

included studies numbered 12 (six pre-NCLB and six post-NCLB), as they sought to purposively restrict their included studies to between 6 and 10 papers, as per guidelines by (Major & Savin-Baden, 2010).

Based in meta-ethnographic roots, Brown and Lan name their process as qualitative meta-synthesis and follow the procedures outlined in Major and Savin-Baden's (2010) book on qualitative research synthesis. Whereas Noblit and Hare's (1988) meta-ethnography contains seven phases, Brown and Lan modelled their qualitative meta-synthesis off of the four-step process described by Major and Savin-Baden (2010). In this process, which can be roughly mapped on to meta-ethnography, the first step 'beginning the process' entails phases one through four of meta-ethnography, followed by step two 'analysis' (phase five), step three 'synthesis' (phase six), and step four 'interpretation' (phase seven). During the analysis and synthesis stages, Brown and Lan identified initial codes from the studies that led to the development of primary and ultimately secondary themes.

The findings of this meta-synthesis conclude that there was indeed a shift in how teachers' constructed meaning of 'school readiness' with the implementation of the NCLB Act. The authors posit that increasing focus on academic outcomes will intensify this shift between nativism (school readiness as a within-child concept, i.e., maturity) towards empiricism (school readiness as the result of preschool teachers' work to prepare children), even as it perpetuates a fairly limited, White middle-class perception of what it means for children to be ready for school. Thus, it appears that with this shift in attitudes about school readiness, teachers increasingly view it as their responsibility to train preschool-aged children on expectations aligned with White, middle-class values for

academic/social skills. Brown and Lan argue that from these findings, more work needs to occur when training teachers to 'understand the messiness of the construct of school readiness' (2015, p. 10). Thus, the findings from their meta-synthesis are intended if not to direct *how* practice needs to change then to at least serve as *a call* for change in practice and policy.

Box D. Research on mentor education for mentors of newly qualified teachers: a qualitative meta-synthesis (Aspfors & Fransson, 2015)

In their 2015 paper on educating mentors for newly qualified teachers, Aspfors and Fransson sought to identify common themes across studies on mentor education as well as insights into how to advance mentor education as a field. Aspfors and Fransson widened their search for relevant studies beyond just that of electronic databases. They also searched peer-reviewed journals and perused reference lists of included studies. While systematic reviews of quantitative studies aim for comprehensiveness when sampling, it is yet to be universally decided whether reviews of qualitative research should also seek an all-inclusive sample or if primary qualitative research sampling techniques such a purposive sampling are appropriate. In this example, Aspfors and Fransson follow recommendations along the purposive sampling argument and actively seek 10 to 12 included studies for their meta-synthesis (Bondas & Hall, 2007 as cited in Aspfors & Fransson, 2015). In addition to the inclusion criteria related to their topic, the authors used publication in a peer-review journal as a proxy for assessment of high quality research, which mirrors the example in Box C. Thus, studies not published as peer-review articles were excluded on the grounds of lack of quality.

Aspfors and Fransson based their analysis on an adapted meta-ethnography, which is also based in Sandelowski and Barroso's (2007) qualitative research synthesis. For this process, when they were initially relating the themes from different included studies, the authors applied qualitative content analysis, in which they proceeded from open coding to categorisation across codes to a yet higher level of abstraction. This resulted in a meta-synthesis that produced three broad dimensions within which the

authors situated aspects of mentor education: (1) the educational context (e.g., national educational policy); (2) the interplay of theory and practice, which 'are inseparable units, where one cannot be understood without the other' (Aspfors & Fransson, 2015, p. 83); and (3) the relationship between mentors as a way to build an open culture for trust. More specifically, the researchers were able to identify common themes, including the importance of the school context in facilitating the mentor education, the extent to which mentors were able to concurrently practice the theoretical concepts or relate the concepts to previous practice, the benefits of self-reflection, and the role of positive relationships between mentor and mentee. These findings, more than just describing the concepts of the primary qualitative studies, identify overarching dimensions that the authors posit are necessary for consideration when establishing and implementing mentor education programmes.

Box E. Barriers to, and facilitators of, parenting programmes for childhood behaviour problems: a qualitative synthesis of studies of parents' and professionals' perceptions (Koerting et al., 2013)

Koerting and colleagues focused on improving children's home learning environment through examining barriers and facilitators to parent training programmes in their 2013 meta-synthesis. The authors studied aspects related to both initial access to these parent programmes as well as continued participation, and they sought views from either parents attending the programmes or professionals facilitating the trainings. In addition to their search of electronic databases, which was elaborated in an appendix, Koerting and colleagues highlighted the necessity of performing additional web-based searches and perusing reference lists of included studies to avoid overlooking relevant reports that might not have surfaced in the original database search. These search methods are common among more traditional systematic reviews of quantitative studies, but are perhaps even more relevant for reviews of qualitative research given the previously discussed practical limitations of how qualitative research studies are catalogued online.

As with some of the other examples provided here, Koerting and colleagues applied EPPI-Centre criteria when appraising the quality of potential included studies. Unlike some other studies, the authors did exclude a paper based on a determination of poor quality; however, the specific reasons that paper was deemed to be poor quality are not elaborated. While even the process of appraising the quality of qualitative studies can be controversial, it has been shown thus far that educational meta-syntheses often do conduct some type of quality appraisal. However, more variable is the decision of whether to exclude studies, as done in this meta-synthesis, for poor quality.

Koerting and colleagues applied thematic synthesis in this meta-synthesis, resulting in findings that, while still interpretive, are much more integrative than those reported in other examples following a meta-ethnographic approach. After coding each line of findings in the primary studies, the authors grouped these codes first into descriptive categories and subsequently into analytical themes. After working and re-working the multiple layers of codes, the authors went back to the original studies and applied their new framework when re-coding the findings sections. The result is a four-part description of the barriers/facilitators to initial access/continued participation, which are discussed in a preliminary way as moderated by type of respondent (e.g., parents or professionals). The authors were able to identify differences between parents' and professionals' views, with parents indicating concerns about barriers to service access and continued engagement, often with a focus on difficulties balancing their work responsibilities and caring for other children in the home. Professionals, in contrast, provided more views on both barriers and facilitators, but their concerns revolved more around challenges in provision of services. Since the design of this meta-synthesis was predominantly descriptive and utilised thematic synthesis methods, the interpretation does not extend to positing a larger framework of how these processes interact or inform practice.

Box F. Peer relations in peer learning (Riese, Samara, & Lillejord, 2012)

Riese and colleagues, in their 2012 paper on students' peer learning, sought to explore both the social and relational processes of peer learning in the educational environment through meta-synthesising primary qualitative research with thick descriptions. They gathered qualitative research examples through a systematic electronic database search, detailed in their report. They applied three criteria against which they judged potential included studies: (1) studies should have been carried out in a school setting with a teacher facilitating peer learning with such significant student collaboration that created and maintained relationships between peers; (2) studies should have explored the processes of peer learning and relations that are formed between the students; and (3) studies should have produced thick descriptions that could be compared with those of other studies (i.e., richly analysed and sufficiently reported). In addition to these inclusion criteria, Riese and colleagues appraised the quality of included studies following guidelines advanced by Elliott, Fischer, and Rennie (1999), which they include in an appendix (Riese et al., 2012). While it is unclear whether studies were excluded based on the result of this quality assessment, it is clear that studies deemed to be insufficiently developed with regard to the thickness or richness of their descriptions were indeed excluded from this meta-synthesis on peer learning.

In analysing their included studies, Riese and colleagues followed a meta-ethnographic approach in which they apply grounded theory methods to examine the processes involved in peer learning. To this end, their analysis involved three stages of increasing levels of abstraction, as the first sought to identify all themes in the primary studies, then to compare those themes across studies, and finally to find novel insights.

In response to critiques of meta-synthesis designs and the many methods researchers might use, the authors clarify that, 'Rather than considering the included studies as cases to be compared, we regard them as *texts* in a scientific discourse on peer learning…This implies an understanding of theory as identification of social rules that underlie and govern social patterns, rather than as law-like expressions of the nature of social behaviour' (Riese et al., 2012, p. 608). Thus, they emphasise that they interpreted the findings of the primary studies rather than the original data from those studies. It is in this way that they come to the new understandings termed 'third order interpretations' in the final step of their analysis.

Finally, Riese and colleagues directly link their new, meta-synthesised interpretation of peer learning to applicability for practitioners (i.e., teachers) when they provide guidance for *how* educators should go about integrating peer learning into the classroom. They write, '…it is of crucial importance to pay attention to the social relations that exist between members of a group prior to the design of the peer learning programme and in the development of the programme. In peer group interaction, peer relations must be perceived as integral to the design and instructional practices of the peer learning programme as they mediate action in both productive and less productive manners' (Riese et al., 2012, p. 618). Thus, this meta-synthesis extends beyond a thematic description of different types of peer learning processes and not only posits a theory for the mechanisms by which peer learning is or is not effective, but also advises practitioners on how to set up peer learning in a way to encourage beneficial results.

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