9 Synthesizing theoretical, qualitative, and quantitative research

Metasynthesis as a methodology for education

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Introduction

Reviews of research have increased in importance as research centers, universities, foundations, and governments desire to aggregate “what the research says” about any given problem or topic. Unlike studies that report new data, review articles rely on pre-existing data which is then combined to achieve some larger understanding. Whether within education, health sciences, or engineering, every attempt to present “evidence-based” or “best practices” should be based on research results spanning multiple investigators, multiple approaches, and multiple research subjects (Jenson, Clark, Kircher, & Kristjansson, 2007). Additionally, by adding together the approaches, methods, findings, and claims of many different researchers, patterns that may have gone unnoticed within a single study can emerge, leading to innovations for a topic or phenomenon (Thorne, Joachim, Paterson, & Canam, 2002).

Over the past decade, qualitative metasynthesis (Sandelowski & Barroso, 2006) has developed within health sciences as something of a qualitative counterpart to quantitative meta-analysis. Qualitative metasynthesis is a methodology that focuses on a single topic or subfield, and aggregates the results of many studies into broad, research-supported findings and theories. In this chapter, we theorize, define, and demonstrate an expanded iteration of metasynthesis. While the methodology of Sandelowski and Barroso should and will continue for circumstances that call for aggregative understandings of strictly qualitative research, there is also a need for synthesis of theories, concepts, and data spanning research that is theoretical, and qualitative, and quantitative. We will illustrate that need, and how it can be met using a framework of metasynthesis.

This chapter begins by summarizing the widely used methodologies to review published research, specifically the annotated bibliography, the literature review, and meta-analysis. This is followed by a look at key features of qualitative metasynthesis as currently used within health sciences, and an explanation of how and why it can be expanded into a theory-based methodology.
that can accommodate and promote understanding of theoretical, qualitative, and quantitative data. Next is an explanation of how our metasynthesis was implemented: we use our project on border pedagogy for teacher preparation (BPTP) to explain how metasynthesis was refined to understand the real issues faced by teacher certification programs in the borderlands (Ostorga, Zúñiga, & Hinton, 2020). We conclude by discussing future possibilities for metasynthesis as a method, including its potential to develop dialogue between theoretical research, qualitative research, and quantitative research.

**Review methods**

**Literature review and annotated bibliography**

A literature review could be a name for a standalone paper, or for a common section within a larger paper. It seeks to review previously published research about a topic. Published studies are briefly summarized, and often explained in relation to each other, in something of a narrative form (Feak & Swales, 2009; Urquhart, 2011). A literature review is organized to evaluate or explore relevant concepts and ideas. However, it does not need to be conducted in a manner that is transparent, systematic, or comprehensive. In fact, literature reviews can constitute part of an author’s argument, intentionally referring to research that, on balance, tends to support the author’s claims and/or biases. Near the end of the literature review, the findings of the reviewed studies may be non-systematically combined into general conclusions about the topic. Unwarranted conclusions about what the literature says could be identified during a peer review process, but even this is likely to consider only face validity, or whether a claim seems plausible on the surface. Authors have substantial leeway in the framing of reviewed studies (Dellinger, 2005).

An annotated bibliography can be functionally similar, and it can be thought of as a form of literature review. But annotated bibliographies do not need a narrative to weave together ideas from separate studies. Instead, each previous study is separately summarized, and sometimes evaluated (Hong, 1996). Compared to a literature review, an annotated bibliography might be more methodologically transparent, such as by including an explanation of how the literature was found, though this is not a consistent feature. They may also be more comprehensive, and in some fields, large annotated bibliographies can be found for certain topics. As a result of these features, an annotated bibliography can have the appearance of greater validity and authority, as they sometimes present themselves as analogous to a card catalog, or to reference books such as encyclopedias. In the past, before mass access to electronic databases, inclusion or exclusion from an annotated bibliography could have an influence on which research gets read. Importantly, the annotated bibliography allows each reviewed article to stand alone, and (unlike literature review and other review methods) does not substantially combine, synthesize, or conclude.
Meta-analysis

While the literature review remains prominent across many fields, the annotated bibliography receded somewhat (with the exception of medicine (Hong, 1996)), which may or may not be related to the popularity of meta-analysis (O’Rourke, 2007). Meta-analysis is an attempt to make the review of literature systematic. Quantitative meta-analysis is by far the most prominent form of meta-analysis, so much so that when most people say “meta-analysis,” they almost exclusively mean quantitative meta-analysis. This type of review may narratively summarize previous research, similar to what a literature review does, but the focus is on the numbers (Jenson et al., 2007). The core of quantitative meta-analysis is a statistical combining of research subjects, findings, and effect sizes. And where a literature review may switch between related themes that are relevant to the topic, a quantitative meta-analysis must be more focused. If a study is not similar enough to produce findings that can be at least partially combined, it will likely not be included. The process of locating and including previous research is usually explained. Quantitative meta-analysis includes a methods section showing specific steps taken. There may be details such as a table with the features of each study, so that the reader understands why they are included and how they are comparable to each other. Additionally, there is explanation of the statistical procedures followed during the meta-analysis. Qualitative meta-analysis is a newer and (so far) less popular form, that seeks to mimic the analytical process of quantitative meta-analysis, comparing and combining ideas from previous qualitative research, without the statistical comparison and aggregation possible in quantitative work (McCormick, Rodney, & Varcoe, 2003).

Sandelowski and Barroso’s qualitative metasynthesis

Like meta-analysis, qualitative metasynthesis is a form of systematic review. Sandelowski and Barroso (2006) situate their methodological approach in the context of the growth of interest in qualitative research. They explain that “practice disciplines,” including health sciences and education, have special interest in various qualitative methods. Sandelowski and Barroso mention studies on historical, cultural, political, and discursive factors that influence healthcare in various ways. Within health sciences such as nursing, as within some areas of education, qualitative research is now accepted in some of the prominent journals of the field (Malterud, 2019).

Despite this prominence, qualitative research has never ceased to be attacked and criticized by some who have a quantitative preference. Any non-quantitative researcher is familiar with the insults, recounted by Sandelowski and Barroso – “not generalizable,” “non-representative,” “subjective,” “neither reliable nor valid” (p. 2). It is explained by Sandelowski and Barroso that qualitative research has case-bound idiosyncratic validity, and an ability to reveal unexpected details that cannot or have not been understood through numbers. Glaser and Strauss
(1967) first expressed the concern that qualitative studies were becoming islands, too disconnected from each other to build into a larger significance; while some became popular and much read, the majority fade from memory. Just as qualitative research struggled with mass isolation of knowledges, quantitative research began aggregating itself through metasynthesis, combining multiple studies and claiming increased validity by way of aggregated effect sizes.

Qualitative research synthesis was specifically a response to this situation. Sandelowski and Barroso developed this methodology for what they call the metasynthesis of qualitative studies. As with other review methods, qualitative metasynthesis seeks a larger understanding of the field’s knowledge about a topic. Like quantitative meta-analysis, it does so in a systematic way. Qualitative metasynthesis has been described as a dialogue with and between published studies (Zimmer, 2006). Today, qualitative metasynthesis is a robust methodology with specific steps, which have evolved and improved over time. A crucial part of the process is to create a typology to identify the studies to include, such as in Sandelowski and Barroso’s (2003) metasynthesis of qualitative research on women with HIV in the United States:

- The studies must be on the topic of HIV-positive women.
- The studies must have human subjects who are HIV-positive women.
- The studies must use qualitative means of gathering data about HIV-positive women.

(p. 908)

In a search of databases, we may see how studies of the topic can be identified through searches. This search stage is crucial. Ludvigsen et al. (2016) warn of the risk of non-exhaustive searching, and offer guidelines to more fully capture the literature about a given phenomenon. The other criteria, about research subjects and type of data gathered, can be filtered by reading the methods sections. Notably, prominent types of methods are intentionally excluded by qualitative metasynthesis:

- Mixed-methods combining qualitative and quantitative methods;
- Quantitative research;
- Discourse analysis;
- Hermeneutic analysis;
- Analytical essays.

It can be argued that these exclusions are appropriate. There is ease with the uniformity and comparative possibilities of only considering qualitative data. In this sense, it stands as a parallel to quantitative meta-analysis. It creates a valuable tool, to see the totality of relevant qualitative research in one place. However, few would argue that this exclusion is because of a lack of relevance or validity in these other types of research (especially as statisticians and theoreticians are equally ignored). Sandelowski and Barroso (2003), in fact,
emphasize that their method’s omission of non-qualitative work should not be interpreted as a dismissal of such work (p. 908). And there are always gray areas. How mixed must the methods be in order to justify excluding the qualitative portion of data? How much generative analysis is acceptable in a study that only has minimal data coming from human subjects? While a focused method has a valuable place, there is also value to an expansive form of aggregative research, beyond qualitative metasynthesis or any form of meta-analysis developed so far. Notably, Urquhart (2011) proposes a method for metasynthesis to integrate both quantitative and qualitative studies, though it is not yet widespread; as we will explain, the continued limitation to only studies with empirical methodologies may not be most effective for a topic such as border pedagogy. A recognition of that is at the heart of our expansion of metasynthesis.

Data procedures

Once the studies for a qualitative metasynthesis are identified, Sandelowski and Barroso (2006) detail the analytic devices needed to create the synthesis. We create a taxonomy of findings, ordering the claims of the studies themselves. This is meant to show the semantic relations between categories (Spradley, 2016). For example, several studies may have findings that describe justifications, cause and effect, or a negative impact. Such findings are grouped together. As more studies are taxonomized, the potential categories are expanded and refined so that the similarities and differences will become visible. Sustained comparisons are used to interrogate these similarities and differences across various studies and findings, such that broad themes begin to form. Sandelowski and Barroso place importance on including in vivo concepts, referring to the frames, metaphors, or theories developed by researchers in each study, as well as imported concepts, meaning the pre-established concepts that the researchers cite and use to explain something about each study. Sandelowski and Barroso offer a simultaneous caveat and endorsement of such a systematic way of aggregating findings:

Any qualitative metasynthesis of findings thus constitutes an interpretation at least three times removed from the lives represented in them: it is the synthesist’s interpretation of researchers’ interpretations of research participants’ interpretations of their lives. Clarifying the analytic devices used to create such metasyntheses thus becomes essential to demonstrating that despite being far away from participants’ lives-as-lived, these interpretations still remain close to their lives-as-told. (p. 167)

An expanded metasynthesis for educational research

We frame Sandelowski and Barroso’s methodology as qualitative metasynthesis, implicating that there is such a thing as a broader metasynthesis. Indeed,
Sandelowski and Barroso sometimes refer to their own methodology as qualitative metasynthesis. We envision metasynthesis, then, as encompassing qualitative, and quantitative, and theoretical research of many types. Principally, we implemented Sandelowski and Barroso’s concept without the methods-based exclusions. We include studies that are not qualitative and that are not empirical. This opened up many possibilities for broad and bridging understandings of research. It also created the possibility of genuine synthesis between very different types of studies, creating something new on existing foundations. This broader realization of metasynthesis has shifted from its qualitative empiricism into a more theoretical framing. Empirical research remains a central part of the research base, but it does not have a monopoly on knowledge.

One key factor, pointed out by Sandelowski and Barroso, is that qualitative metasynthesis only works if the topic has been frequently addressed in research questions. Yet sometimes, researchers need to learn something about a topic that has not often been addressed. In this sense, metasynthesis can be about a goal to build or understand something. The work of metasynthesis can be based on findings and claims that already exist on the margins of previous studies, and the goal may be to bring them together to paint a picture of something that has not been previously revealed. We adapted this methodology in order to suit the needs of a BPTP. Ideally, BPTP would shape certification programs that educate the types of teachers needed in borderlands elementary, middle, and high schools. While relevant concepts and techniques are visible in the literature, they had not been put together in a comprehensive way. Our metasynthesis steps, listed next, were designed to allow us to reveal a pedagogy which, in a way, already existed, scattered across the work of borderlands researchers.

Our methodology is based on steps developed and implemented over decades by multiple researchers and methodologists. So while our overall process is new, it is not based on new procedures. Rather, they are adapted and integrated into this iteration of metasynthesis. For each step, we briefly summarize its elements. Readers who seek details are referred to the relevant methodological sources, including Sandelowski and Barroso (2006), Zimmer (2006), Ludvigsen et al., (2016), and implementations of qualitative metasynthesis in education research (e.g., Brown & Lan, 2015; Scruggs, Mastropieri, & McDuffie, 2007; Téllez & Waxman, 2006).

1 Matching the topic to the method. Certain phenomena or topics are suited to certain methods. Within reviews of research, more popular or established topics may be most suited to a different methodology. For example, if the researchers are specifically interested in developing best-practices claims based on effect size, and there are sufficient published studies available, quantitative meta-analysis is more appropriate. If the researchers are surveying a topic that boasts dozens or hundreds of studies which directly seek to answer something about that topic, qualitative metasynthesis is more appropriate. For topics that are fairly new or marginalized within the published literature, or for topics that draw deeply from concepts arising
from within empirical as well as theoretical literature, metasynthesis may be the answer.

2 **Searching the literature.** Researchers using metasynthesis need familiarity with both the topic and means of retrieving information. It is vital that reviews of the literature are exhaustive enough to incorporate all relevant research. In the case of education-related topics, we pursue available databases, such as EBSCO, Emerald, ERIC, Gale, Google Scholar, JSTOR, ProQuest Dissertations & Theses, and WorldCat for academic books. Studies will be identified with matches based on words found in the title, keywords, or abstract. The search also expands through the references sections of studies that are marked for inclusion. While Sandelowski and Barroso offer useful guidelines, the nature of technology makes it inevitable that our approach to searching must evolve. When searches of different databases begin to turn up duplicate results, that is a sign of nearing search saturation (Jacobs, Van Moll, Kusters, Trienekens, & Brombacher, 2007; Roberts, 2015). The researchers need to read the identified studies and verify that they are relevant to the topic, and what their findings (in the case of empirical studies) or claims (in the case of theoretical studies) are.

3 **Building a typology.** We sort published studies according to factors within the studies themselves. All metasyntheses are concerned with integrating findings or claims. Analyzed findings are seen as distinct from results, which Sandelowski and Barroso (2006) characterize as the mere reporting of data. If published research does not contain findings or claims, it may be impossible to integrate them. For studies with findings, we focus on the “contents and form of what they present” (Sandelowski & Barroso, p. 141). If there are multiple studies that produce similar findings or claims, the typology will integrate that as a theme.

4 **Refining the phenomenon/topic.** The process of searching the literature and building the typology may reveal that the phenomenon or topic was too wide, too narrow, or not quite in line with the actual research. Refining the topic may entail the addition or removal of certain studies. Or, it may mean shifting the focus toward certain findings within identified studies.

5 **Writing metasummaries.** Each included study needs to be summarized in a way that emphasizes the findings or claims relevant to the goal of the metasynthesis. This differs from the Sandelowski, Barroso, and Voils (2007) process of including and using all findings, whatever they may be, to determine the direction of the qualitative metasynthesis.

6 **Categorizing the findings.** While studies may be unique, any topic with substantial published work will yield overlap in the themes of *in vivo* categories – the manifest claims of each study. The metasummaries are compared and combined, and themes that are mentioned in more than one study are reinforced. These become prominent categories that drive the analysis of the body of research (Bendassolli, 2013).

7 **Synthesizing *in vivo* and imported concepts.** In order to understand the findings, we use concepts from the studies themselves. How does the
8 Integrating findings. The ultimate purpose of metasynthesis is the integration of all findings relevant to the topic. The analysis must be a comprehensive look at the findings across studies, presented in a way that organizes the information into a true synthesis.

No methodological exclusions

The primary difference in our formulation of metasynthesis is that rather than consider only qualitative literature, we are including qualitative, quantitative, and theoretical literature. Any process that is going to exclude others’ work can be at risk of limiting our understanding of the topic. While there is value in focusing on certain methods for certain purposes, and while the highlighting of a marginalized methodology is often worthwhile, our specific approach is to cast a wide net for methods. Notably, this has included methods that some methodologists would dismiss as not methods at all.

To show one example beyond our own study, Joyce King (2017) wrote an article that was delivered as her presidential address at the annual meeting of the American Educational Research Association (AERA), then published in AERA’s journal Educational Researcher, an influential publication within educational research. King’s article considers Black cultural traditions, curricular violence, and racial and cultural dignity, and works to generate and expound upon new theories and frameworks including epistemological nihilation and morally engaged research. Within 18 months, King’s article had been cited by nine other peer-reviewed articles from various methodological perspectives. This speaks to both the influence and importance of this and other theoretical work. The article does not report what empiricists think of as “original data,” meaning new data that was gathered through the study’s methods. Instead, King uses data from existing publications as well as diverse sources such as personal communications, websites, and agency reports to put together a powerful argument about racism and morality. But the bulk of King’s article is not about its source data – it is about the generation of new ideas. It is theory. This type of writing is sometimes labeled within social sciences as a theoretical essay. We argue that the intellectual work and their rigor are no less valuable than a study that considers only original data from human subjects.

Theoretical research, for better or worse, is frequently presented in a manner that focuses on the conceptual results of the researchers’ process, and glosses over the way those results were found. Indeed, the work of researchers such as King is unquestionably “original,” as it invents concepts and framing based on an author’s intellect, experience, and deep reflection. Theoretical research can be creative, but it should not be dismissed as speculative. Nonetheless, this type of research, as illustrated in the example from King, often does not
explain its own methods of knowledge production. Some may argue that an explicit methods section would be unnecessary or distracting within this type of article. We are not going to insist that theory-centered authors add methods sections (the very form of which could be an unnatural imposition of empiricism). We recognize that a lack of methodological transparency is not the same as a lack of method. We also recognize that research relying on theoretical methodologies is frequently viewed (and cited) as an important foundation for new research whether theoretical, qualitative, and quantitative. Indeed, the empirical scholars who cite this research by King obviously did not exclude or ignore her due to methodology. For a hypothetical metasynthesis on Black culture and curricular violence, King's article could be included as an important theoretical contribution, alongside qualitative and quantitative articles. For our analysis and synthesis of the literature on BPTP, we included published work in three methodological categories: theoretical, qualitative, and quantitative. Yet through metasynthesis these three categories are not understood independently, but are rather used together to build understanding of the ideas developed and used within research on our topic.

The amount of published research

In Sandelowski and Barroso (2003), a key motivator is the sheer volume of qualitative research on their topic of HIV-positive women. Applying their methodological and thematic exclusions, they still identified 99 relevant studies, a number they described as “too large to allow intensive analysis of each report and to undertake the methodological detailing and experimentation required of a project focused on developing method” (p. 155). So they focused their topic more, to HIV-positive mothers, in order to reduce the pool to 45 studies.

It is laudable that this and other important topics have produced so many qualitative studies. But what about researchers interested in topics that have received less attention? We concur with Sandelowski and Barroso that it is crucial to have a quantity of material suitable for a project on method development. If we were not interested in the borderlands, such as if we wanted to synthesize ideas about teacher education in general, we would run into the same issue, with so many studies that deep analysis is difficult. In education research, limiting the aggregation to only qualitative research seems justified for such general topics, because there are so many completed studies and so many of them are qualitative. Whereas in comparison, border pedagogy for teacher preparation is not often investigated, and the relevant work that does exist often falls outside the limits of qualitative methods. For certain topics, in certain fields, different boundaries are needed in order to (1) create a large enough pool of studies and (2) represent the forms of the studies actually being carried out, without excluding or ignoring certain segments due to methodology. We anticipate that as interest in the borderlands grows, more research will be published on border pedagogy for teacher preparation, and a strictly qualitative metasynthesis will eventually be possible, and even necessary.
**Focus on findings’ connection to the topic**

In the metasummary stage, the original form of qualitative metasynthesis calls for accepting and summarizing the others’ findings, whatever they may be and whatever they may relate to. The logic of this is that the study, as a whole, was already about the topic. Therefore all findings are assumed to be relevant. We have adapted this to allow exploration of topics that are rarely addressed directly in a research question. In our example, our goal is to understand something about border pedagogy. Yet border pedagogy itself was rarely addressed directly by a research question in the empirical studies. We needed to inductively identify (often based on the theoretical framing of the study) the concepts that relate to border pedagogy, then we searched the literature for those concepts. There are studies with findings or claims that are all connected to our goal, but there are others where only certain findings or claims are relevant. This process is one of the things that makes our elaboration on metasynthesis more generative, and less empirical.

**No quasi-quantitative synthesis**

Sandelowski and Barroso have achieved important innovations in understanding and presenting qualitative research in ways that make it more accessible to researchers who apply a strictly quantitative perspective to a topic. Nursing is a field that is deeply invested in the humanity of its subjects; however, nursing is conceptually situated within the broader field of health sciences, which has a history of prioritizing quantitative views. As non-nurses, we can imagine such an emphasis could be constraining to efforts to recognize the value of qualitative work that can inform researchers and practitioners. Sandelowski and Barroso develop statistical means to calculate manifest frequency and intensity effect sizes (p. 159). This stage of qualitative metasynthesis serves to highlight qualitative research and frame it in a way that can stand alongside aggregative methods focused on quantitative methods, specifically quantitative meta-analysis. The implementation of numerical processes that Sandelowski and Barroso use to aggregate findings can at a certain level be seen as a parallel to effect size, a crucial calculation that can and does improve the validity claims made by meta-analyses.

While there is of course intense valuation – including in a financial sense – of quantitative research within the broad field of education, our perspective and project arises within the overlaps of subfields in which qualitative work, especially, is influential and widely read. Theoretical research has always been a significant strand of education scholarship (e.g., Giroux, 1916; Wollstonecraft, 1792). Bilingual education, teacher preparation, and borderlands studies all boast strong traditions of qualitative research. The use of Sandelowski and Barroso’s quasi-qualitative means of aggregating data may not be as necessary or useful in all fields. The expected audience for our project – education researchers and practitioners in the borderlands or at HSIs – includes many who already...
know and use both quantitative and qualitative literature. In light of this, our methodology addresses two other imbalances: the tendency for theoretical research to be minimized or ignored in reviews of research, and the tendency for quantitative research to ignore border pedagogy.

Strong theoretical synthesis

In our study (Ostorga et al., 2020), we first needed to find a working definition of Border Pedagogy for Teacher Preparation. Even some of these words are contested, as there is disagreement about what counts as a border or borderlands, and disagreement about whether pre-service teachers are experiencing preparation, or education, or training. We resolved this by building uncertainty into the initial stages of metasynthesis on BPTP. There was no need for us to resolve or finalize these disagreements by ourselves. Instead, we turned to the literature.

We interrogated our core topic. Border pedagogy is a concept that has been explored since the late 1980s by multiple researchers, and its application to teacher preparation, we all agreed, was the topic (though not necessary mentioned by name) of a number of journal articles and at least one edited volume by Bustos-Flores, Sheets, and Clark (2011). We first read (or re-read) the chapters from the Bustos-Flores, Sheets, and Clark book, and the pdfs which had already informed our thinking about border pedagogy. Searching specifically for publications with the phrases “border pedagogy” and “teacher preparation” yielded few results. Instead, the exemplar publications gave us keywords that we then searched in multiple databases. They also showed useful patterns. For example, beginning from our limited set, it became clear that educational research integrating border pedagogy in the U.S. tends to originate near the actual border with Mexico, especially Texas and Southern California. Additionally, some work was emerging from Colorado and Utah, areas of the U.S. that, while not along today’s geographic border, were also formerly part of Mexico. This established the geographic basis of the borderlands, as framed by Anzaldúa (1987), for our conceptualization of teacher preparation. There are researchers applying theories of culturally relevant pedagogy, critical pedagogy, hybrid identity, community, bilingualism, translanguaging, and transnationalism to teacher preparation across the region. We refined our search further by concentrating on research with populations that match our university and other large teacher preparation programs within the borderlands: the majority of the prospective teachers are Latinx, the majority of the instructors who prepare them are Latinx, and the majority of children who attend the districts where they will likely find jobs are Latinx. While it is worth looking at programs that develop white teachers, and programs that are implemented by white faculty, that is not our mission, either as a certification program or as researchers attempting to find a BPTP. We are interested in a pedagogy that is applicable to the demographic future of the borderlands.
Our search of databases spanned 70 discrete search terms in six categories (listed with one example of each):

- Identity/demographics (e.g., “Mexican American”);
- Geographic location (“Southwest”);
- Teacher education (“pre-service”);
- Labels of bilingual students (“emergent bilinguals”);
- P-12 programs (“Raza studies”); and
- Concepts (“funds of knowledge”).

Over several months we read, discussed, and added and removed articles and books from the corpus – that is, merely containing certain words is not the determiner of whether or not the research actually relates to BPTP. The identified works were summarized using metasummary, then analyzed, coded, categorized, and synthesized into a preliminary BPTP. The elements of this pedagogy are shown in Figure 9.1.

Our method takes cues primarily from Sandelowski and Barroso, who were themselves significantly influenced by grounded theory (Corbin & Strauss,
We also returned to grounded theory, which guided us as our concepts, methods, and research questions evolved during the process. Qualitative metasynthesis was developed with the intent to find best practices for health sciences. Best practices are also a central concern of education research, and that is true in this border pedagogy. What we (as a field) think of as border pedagogy could be partially understood by using qualitative metasynthesis in its more established form. However, this idea of borderlands is a highly contested and theoretical concept. It may not be adequately captured by strictly empirical means. Surveying the literature while considering a more canonical qualitative metasynthesis, we collectively came to believe that, in the case of this phenomenon, to ignore or shortchange theoretical research would be to misinterpret the nature of border pedagogy. Border pedagogy involves theory and practice; yes, there is a practical component, but the theoretical component is essential. The following example studies showed how important theory is to border pedagogy:

• Toward a Pedagogy of Border Thinking: Building on Latin@ Students’ Subaltern Knowledge (Cervantes-Soon & Carrillo, 2016);
• In Search of a New Border Pedagogy: Sociocultural Conflicts Facing Teachers and Students along the US-Mexico Border (Calderón & Carréón, 2000);
• Nepantlera Pedagogy: An Axiological Posture for Preparing Critically Conscious Teachers in the Borderlands (Reza-López, Charles, & Reyes, 2014);
• Border Pedagogy in the Age of Postmodernism (Giroux, 1988);

In short, any attempt to understand the published literature on borderlands pedagogy would be ill-served by an attempt to exclude theoretical research. Our work on BPTP continues, and as it does, our approach to metasynthesis evolves. Metasynthesis is envisioned here as a broad way to approach new, contested, or conceptual topics. Just as we are adapting Sandelowski and Barroso’s methods to a different purpose, we expect our methodology to be a step to innovations by other researchers.

Implications
Qualitative metasynthesis has seen use in the health sciences (Malterud, 2019), where it has shown potential to become a useful parallel to quantitative meta-analysis (e.g., Baumgarten & Poulsen, 2015; Cubis, Ownsworth, Pinkham, & Chambers, 2018; Vogel et al., 2019). If it continues to grow in usage, those two methodologies in tandem could provide a more comprehensive view of
the literature – and, thereby, greater validity. Approaching a new subfield, a researcher could read quantitative meta-analysis and qualitative metasynthesis, gaining two distinct empirical views of the subfield.

At the same time, emerging from a different disciplinary source, meta-ethnography has seen increased use as a more anthropology-oriented type of qualitative synthesis (Noblit, 2018). While its parameters are different from those we seek here, meta-ethnography includes effective ways of drawing out theory from bodies of ethnographic work (e.g., Urrieta & Noblit, 2018). Concepts from meta-ethnography can similarly provide a distinct perspective on a given subfield. We are exploring this body of work as we develop our methodology.

As explained earlier, our metasynthesis method seeks a view that is comprehensive of quantitative and qualitative, as well as of theoretical research. Reaching back to one of the original concepts of the older review methods, literature reviews and annotated bibliographies, a goal in metasynthesis is to not exclude any study on the basis of methodology. Yet there are (non-methodological) limits to what is studied, and as a theoretical methodology that fully recognizes subjectivity, these will vary from researcher to researcher. Relevance is a central concern (Sandelowski & Barroso, 2006, p. 50). Studies should be excluded if the typology indicates that they are off-topic. For peer-reviewed and similar studies (e.g., dissertations), there should be no attempt to exclude any study based on alleged quality. We echo Sandelowski and Barroso’s caution against misuse of a “quality” filter as a way to ignore unorthodox or marginalized voices (p. 134). While some aggregative review may ignore research that has not appeared in mainstream academic journals, there are topics that are themselves so marginalized that they are rarely included in prestigious journals. We seek to avoid a priori prejudices and “err on the side of inclusion” (p. 50). The iterative process of metasynthesis can be used to not only allow but to actually encourage looking for sources that are off the beaten path (that said, this is not meant as an endorsement of everything found on the internet, or a blanket critique of peer-review).

During our initial implementation of metasynthesis, we discovered the process could identify method-related gaps in the literature. In our case, we found an impressive amount of qualitative – especially ethnographic – research, and a range of both well-known and lesser-known theoretical research. However, very few quantitative studies with much relevance to BPTP have even been attempted; the vast majority of related quantitative work focuses on either children or in-service teachers rather than pre-service teachers. So far, only one quantitative study fully fits into our metasynthesis (Green, Tran, & Young, 2005). Among the studies that don’t quite apply to teacher education, some researchers approach the border as if it were not so different from any other region. That premise is at odds with (and arguably refuted by) the body of research on border pedagogy. Indeed, there are qualitative studies in our metasynthesis whose implications specifically name areas in need of quantitative investigation, and provide guidelines that could facilitate such research. This
led to an important implication of our metasynthesis, which is that we need more quantitative studies to approach our region’s teachers and students using a theoretical framework informed by border pedagogy. The established aggregative review methodologies may not be well equipped to notice a gap such as this, because they tend to review studies through one particular methodological lens. When identifying gaps in the literature is useful and necessary for dissertation authors, grant applicants, and manuscript reviewers, metasynthesis may become an applicable tool.

Finally, we think of that very old yet still popular review method: the literature review. We see much usefulness in metasynthesis’s systematic incorporation of three valuable and interrelated bodies of research: theoretical, qualitative, quantitative. As shown in our BPTP study, the same topic is often addressed separately through very different methods. Many of these researchers read and cite very different methodologies in their own literature review sections. For example, an experimental or ethnographic design related to new teachers on the border will often cite theoretical work by someone such as Anzaldúa. How do researchers go about determining which sources to include or exclude? Is it based on the citations found in an earlier study? Is it based on a database search, or maybe the readings assigned in a certain grad program? Is the selection process transparent, or secret? Considering the ubiquity of literature review sections, it may be too much to ask for every study to explain the methodology of its literature review. Yet some researchers may learn or invent a system for reviewing literature. We argue that even when the process is not explained, there was some sort of process. Metasynthesis could be that process. Unlike other popular forms of systematic review, metasynthesis does not attempt to limit itself to only qualitative or only quantitative. It acknowledges and embraces the importance of theoretical work, and it not only allows but encourages consultation of research beyond the author’s preferred methodologies. It attempts to fairly consider varied bodies of research, and to then synthesize them into something that is coherent and relevant to a particular research topic. We believe that education research as a whole can benefit from more opportunities for communication across methodologies. Could we build opportunities for statisticians, theoreticians, and ethnographers working on the same topic to learn from each other? When someone needs to understand something about a topic, and does not want to exclude certain methodologies, and wants an explicit, systematic process with steps that can be followed, then metasynthesis may be useful.

Epilogue

Though we have spent over a year being inspired by Sandelowski and Barroso’s methods, we have not used the metasynthesis name at all stages of this project. In recognition of the popularity of quantitative meta-analysis both within and beyond academia, we previously considered defining this new method as some
form of meta-analysis. However, the popularity of quantitative meta-analysis and relative unfamiliarity of qualitative meta-analysis (McCormick et al., 2003) in concert mean that most people assume all meta-analysis is quantitative. Though such an assumption may justifiably be resented by theoretical and qualitative researchers, we have chosen not to directly push back against it. Instead, we choose to shift the focus to the aptly named metasynthesis. Though much less recognized than meta-analysis, metasynthesis builds on the general public’s growing familiarity with the concept of meta and ports it to the very well-known concept of synthesis. While some may not dwell on the distinction between analysis and synthesis, within our field of education, teachers and students often connect them with their positions within Bloom’s Taxonomy (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956) – in which synthesis is more abstract and more generative than analysis. That is, synthesis means we are assembling concepts that already exist, then using them to create something new. This process, familiar to any classroom teacher who embraces project-based learning or critical pedagogy, is an apt framing of the actual process we have followed as we have developed a BPTP. Our position is that perhaps the positivist (or at least empirical) methodologies may keep the meta-analysis name, while our effort may instead contribute to metasynthesis, simultaneously promoting the established use as qualitative metasynthesis, as well as our new form, integrating theoretical methods. After all, as synthesis is more integrative than analysis, then it stands to reason that metasynthesis would be more integrative than meta-analysis, making metasynthesis an ideal conceptual name for cross-methodological views of theory.

Notes
1 For summaries of other, less frequently used forms of reviewing published research, see Grant and Booth (2009). Meta-ethnography (Urrieta & Noblit, 2018) is an important and growing form of specifically qualitative synthesis; see our “Implications” section.
2 There are several distinct forms of statistical combination used in quantitative meta-analysis, which should not be conflated but are not the focus of this chapter (Jenson et al., 2007).
3 Referred to in the literature as teacher preparation, teacher education, teacher training, or pre-service teacher development.

References


