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Re-examining the Literature Review: Purposes, Approaches, and Issues

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CHAPTER 22

RE-EXAMINING THE LITERATURE REVIEW

Purposes, Approaches, and Issues

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The word "review" means, quite literally, to see again. In academic contexts, the process of reviewing goes beyond a mere retrospective to offer a synthesis and critical reappraisal of the scholarly work published thus far on a particular topic (Cooper, 1998; Mertler & Charles, 2005). The general characteristics of a high-quality literature review are "appropriate breadth and depth, rigor and consistency, clarity and brevity, and effective analysis and synthesis" (Hart, 1998, p. 1). For scholars in general and the early childhood field in particular, the material under review must consist of authoritative sources—the theory, research, and professional wisdom that have been subjected to peer review and published in widely respected outlets (Barnes, 2005; Ngai & Wat, 2002).

Webster and Watson (2002) defined an effective literature review as one that "creates a firm foundation for advancing knowledge. It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed" (p. 13). Expectations for the literature

review do not stop there, however. The quality of the writing also enters into the work of reviewing because it is a narrative essay (Merriam, 2009) that takes a point of view (Reuber, 2011) and presents a coherent synthesis of the literature in discursive prose (Notar & Cole, 2010). Two former editors of the American Education Research Association publication, *Review of Educational Research*, used the metaphor of a stone wall to explain the interdependence of research and the work of reviewing:

> The scholarly literature in education . . . is like a wall that is built one stone at a time, each stone filling a hole previously unfilled, each one mortared and connected to those that came before and after it, each one providing a support for the subsequent ones, and each one being supported by those that came before . . . The review article attempts to describe the wall itself and to discover its mortar, its architecture, and design; the wall's place in the architecture of the larger structure; its relation to the other elements in the structure; its significance, purpose, and meaning in the larger structure. (Murray & Raths, 1994, p. 197)

A successful review of the literature in early childhood education uses a collection of carefully selected sources to arrive "big picture" understandings of a topic that will advance thinking and promote more enlightened perspectives on the care and education of the very young.

Just as metacognition is often defined as thinking about one's own thinking, writing a review on reviewing the literature is a challenging intellectual undertaking (Swales, 2009). Our goal for this chapter is not only to produce a helpful resource suited for a research handbook but also to exemplify a high-quality literature review in the process. Generally speaking, the literature about literature reviews is essentially of three types: (1) qualitative approaches that investigate the conceptualization processes undergirding literature reviews; (2) quantitative approaches that use statistical formulas and effect sizes in empirical studies as a foundation for the literature review, and (3) professional wisdom from various gatekeepers involved in assessing literature reviews, such as dissertation advisors and journal editors. In conducting the review for the chapter, we relied on articles published in leading professional journals across the social science disciplines, books and chapters published by scholarly publishers, and research textbooks and textbook chapters that had survived to at least a second edition. For the articles, we focused on the past decade but also conducted a "backward search" that consisted of reviewing the references of the articles yielded from the keyword search, reading the 'references of the references' that were relevant, and searching the previous work of the authors (Levy & Ellis, 2006; Webster & Watson, 2002).

HIGHER ORDER THINKING AS A THEORETICAL BASE

Successful reviews rely on interaction between the qualities of the database and the capabilities of the reviewer. In terms of the qualities of the database,

- How appropriate it is for the reviewer's topic?
- Does it allow the researcher to conduct an advanced, Boolean search?
- Does it allow the researcher to limit his/her searches to peer-reviewed journals?
- Does it provide a high-quality thesaurus?
- Is there depth to its subject indexing?
- Does it provide access to "high-impact" journals (a concept devised by Eugene Garfield (1987), the founder of the Institute for Scientific Information, the impact factor is the average number of citations received per paper published in a journal during the two preceding years).
- Does it allow the researcher to conduct a "cited reference search" (i.e., a search for articles that have cited a previously-published work)?

The capabilities of the reviewers, including their

- Information literacy, defined as "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information" (Association of College and Research Libraries, 2000, p. 2);
- Ability to understand the methodological qualities of studies;
- Willingness to invest time and mental energy;
- Capacity for processing a huge amount of material;
- Attention to details and accuracy;
- Ability to form a mental landscape of the literature;
- Tolerance for ambiguity when coping with an unstructured problem; and
- Commitment to contribute (Lather, 1999) to the "body of knowledge" (BoK), defined as the cumulative, research-supported knowledge achieved by "building on each other's [research] results" (Iivari, Hirschheim, & Klein, 2004, p. 314).

Limitations in the resources or in the reviewers diminish the potential for positive interaction and affect the quality of the review. To illustrate, in preparation for the candidacy exam, a student indicated that she wanted to study "student teachers' professional growth" and the role of the classroom teachers to whom they were assigned but had difficulty locating resources. It was not until a faculty member suggested that she look into the

Professional Development Schools literature that the student found the research strand that would enable her to produce a literature review. Thus, the interpersonal support, the available resources, and the characteristics of the reviewer all interact in ways that influence a literature review.

There is little question that higher order thinking skills are demanded in order to produce a high quality review of the literature (Fisher, 2004). Originally set forth in Benjamin Bloom and his associates' (1956) *Taxonomy of Educational Objectives: Handbook I, The Cognitive Domain,* these skills are:

- Analysis—the ability to perform mental operations such as comparing/contrasting, categorizing, and differentiating. Applied to reviewing, this would involve such things as assembling the data, identifying major works, making lists of authors/citations, or arranging information chronologically.
- Synthesis—the capacity to combine and generate something original. Applied to reviewing, this would involve such things as outlining, mapping, and identifying strands or themes in the data. (See Sciplore, 2010).
- Evaluation—the practice of supporting ideas with evidence, appraising/critiquing the literature, and summarizing in ways that lead to recommendations. Applied to reviewing, this would involve weighing the evidence, using it to support a complex argument, and applying accepted argument patterns (e.g., analogy, sample to population, cause and effect) to the assembled evidence (Hart, 2008; Fisher, 2003).

For the remainder of this chapter, six themes were used to synthesize the material:

1. The purposes that literature reviews serve for various stakeholders in the early childhood field
2. Broad categories of literature reviews and the theoretical underpinnings of each type
3. Major mistakes in reviewing the literature and ways to avoid them
4. Human and online resources that support the skills of reviewing
5. Writing reviews with an eye toward publication
6. The future of reviewing
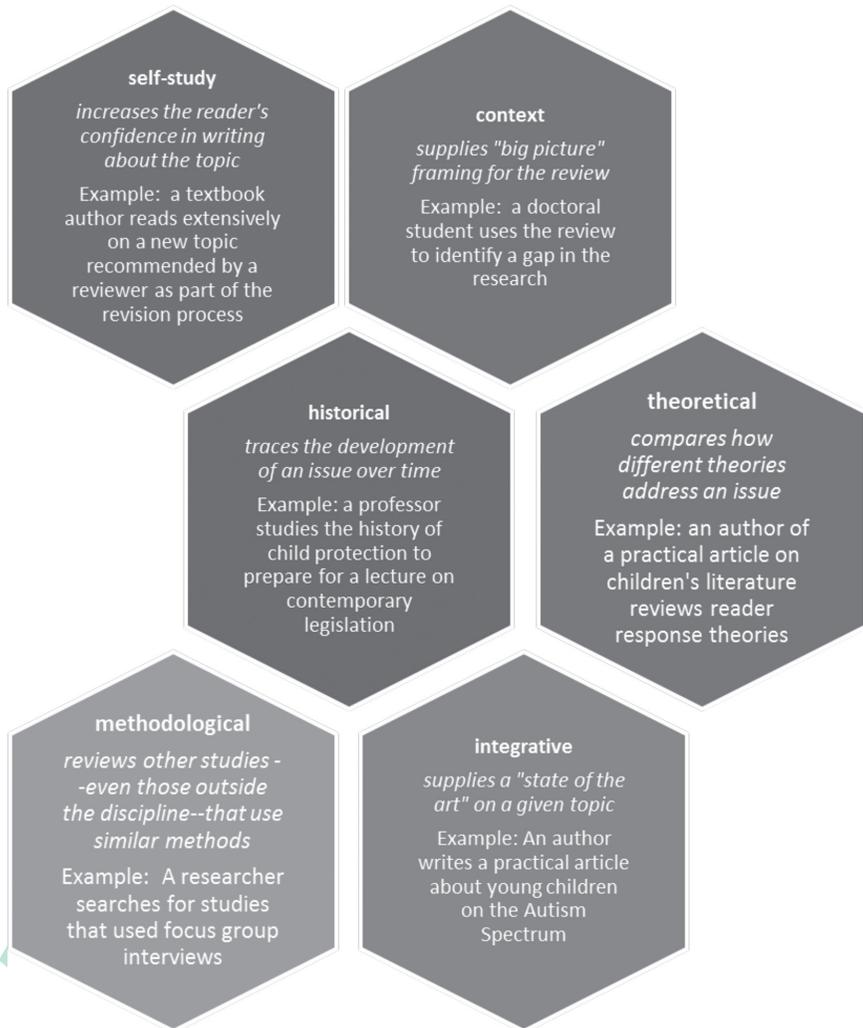
PURPOSES OF THE LITERATURE REVIEW

Much of the writing about the literature review is aimed at contextualizing a piece of original research in the context of the context of scholarly work that that antedates it—a practice that is commonly referred to as finding a

gap in the extant research (e.g., Bettany-Saltikov, 2010; Blaiki, 2007; Notar & Cole, 2010; swell, 2003; Reuber, 2011). What is frequently overlooked in discussions of literature reviews is that they differ, depending upon their purposes, audiences, and authors. For example, a literature review could take the form of Chapter 2 for a dissertation that is written by a novice researcher. Another literature review could be more of a "translation" of the research, written with newcomers to the early childhood field in mind, such as a college-level textbook written by a teacher/scholar. Yet another literature review might be the background section of a research protocol submitted to a university Institutional Review Board that was written by a leading researcher. Each of these literature reviews has a different audience and, therefore, a somewhat different purpose. In the case of a Chapter 2 for a dissertation, the goal is to convince the dissertation committee that the candidate is sufficiently conversant with the literature to earn the degree and conduct independent research. In the case of the introductory textbook, the goal is to be true to the theory and research, yet make it understandable to beginners. Finally, in the case of the research protocol, the purpose is to show the diverse membership of an institutional review board, most of whom probably are outside the researcher's field, that their colleague's plan reflects respect for human subjects while making an original and significant contribution to the field. Figure 22.1 highlights six purposes for the identified by Neuman (2009) and applies them to the early childhood field.

Another key aspect of literature reviews is that they have different outcomes for different consumers of the scholarly literature. Most of what is written about literature reviews tends to focus on potential benefits for those seeking to conduct research, whether novice or experienced, and includes such things as:

- Contributing to a well-stocked mind that can yield new insights
- Establishing a solid foundation and theoretical framework for original research
- Identifying fruitful directions for further research
- Saving time, effort, and resources by informing researchers about what has been studied previously and with what level of success
- Enabling researchers to situate their work within in the larger context, thereby making the nature of their original contribution clear
- Providing researchers with different disciplinary specialties to study a topic of interest from multiple perspectives (Hart, 1998; Merriam 2009; Pan, 2004; Ridley, 2008; Trainor & Graue, 2012; Webster & Watson, 2002)

Yet, in a field as diverse as early childhood education, outcomes of literature reviews that extend beyond those afforded to established researchers

self-study

increases the reader's confidence in writing about the topic

Example: a textbook author reads extensively on a new topic recommended by a reviewer as part of the revision process

context

supplies "big picture" framing for the review

Example: a doctoral student uses the review to identify a gap in the research

historical

traces the development of an issue over time

Example: a professor studies the history of child protection to prepare for a lecture on contemporary legislation

theoretical

compares how different theories address an issue

Example: an author of a practical article on children's literature reviews reader response theories

methodological

reviews other studies --even those outside the discipline--that use similar methods

Example: A researcher searches for studies that used focus group interviews

integrative

supplies a "state of the art" on a given topic

Example: An author writes a practical article about young children on the Autism Spectrum

Figure 22.1   Multiple purposes for the literature review. Adapted from Neuman, 2009.

need to be considered. Two important categories of consumers are college students and practitioners working with children and families. For college students, particularly those enrolled in teacher preparation programs or in master's degree programs for experienced teachers, the high-quality litera-ture review can supply authoritative definitions of key terminology and dis-cussion of relevant constructs, challenge their assumptions, quickly orient them to a topic of relevance, and lead them to the resources necessary to complete their assignments. Reading and understanding a well-fashioned

literature review also simulates participation in the professional dialogue as students "think along" with the writer of the review and interrogate the text by writing comments or questions in the margins. Such practice enables students to see how they might enter into those important discussions, both during class and beyond. A balanced literature review offers many important benefits to those who are not enrolled in formal study as well. For the early childhood practitioner responsible for the care and education of the very young, a high-quality literature review can surmount the obstacle of attaining a sophisticated research skills, save the time of conducting a review, resolve some pedagogical puzzle, promote professional development on a topic or issue of interest, and locate authoritative support when a controversy surfaces in the workplace. When literature reviews are published and widely disseminated, they serve the additional purpose of transcending geographic boundaries, furthering intercultural understanding, and promoting interdisciplinary approaches to research.

TYPES OF REVIEWS

In their analysis of the literature on literature reviews, Notar and Cole (2010) conclude that there are at least four main types of literature reviews: (1) integrative reviews, (2) systematic reviews, (3) meta-analyses, and (4) qualitative reviews. Figure 22.2 includes the four approaches, offers an example from the early childhood field, and highlights the strengths/limitations of each.

As Machi and McEvoy (2008) observe,

> Doing a literature review is a complex project for even the most advanced researcher, especially if learning how to compose a literature review has been by trial and error. To become successful at this craft, researchers need many skills. They need a way to narrow the research topic and to focus on their literature search, and they need the tools necessary to negotiate the myriad books, periodicals, and reports about their topic. (p. ix)

Such challenges can lead to mistakes, both unintentional and intentional.

MAJOR MISTAKES IN REVIEWING

The pitfalls of literature review for novices are legion. Novices may, for example, be unaware of the quality of various sources, rely exclusively on an online search with narrow parameters, fail to use the appropriate search terms, ignore work outside their disciplinary specialty, neglect to exhaust all authoritative sources, and become overwhelmed by the sheer number of

Type of Review	Integrative	Systematic	Meta-Analytic	Qualitative/Interpretive
Definition				
Primary Purpose	To demonstrate mastery of a corpus of theory, research, and professional wisdom in the literature by synthesizing and critiquing it	To make an informed decision based on an exhaustive review of empirical studies on a narrowly defined topic	To persuade, using the weight of quantitative evidence as support	To supply one person's interpretation of a diverse body of literature to promote further reflection and varied perspectives
ECE Example	A review article published in Young Children or Childhood Education to inform educators about a timely topic	A review used to decide which assistive technology tool is most appropriate to support a child with a specific auditory impairment	A meta-analysis article published in Review of Educational Research	An article on a controversial topic published in Teachers College Record that is designed to stimulate professional dialogue
Strengths	Distills a wide-ranging topic into its essence and the whole is more than the sum of its parts	Provides and "audit trail" evidence based guidance	Produces a "state of the art" document with statistically significant findings as the foundation	Identifies themes and strands in the literature that are fruitful for advancing thinking in the field
Limitations	May deteriorate into a rehash of existing work	May overlook relevant work within or outside the field through the narrow scope set at the start	May seem more absolute in its answer to the question than is warranted; deliberately ignores qualitative research findings	May be less persuasive to decision-makers seeking facts and figures
Resources	Barnes, 2005; Edgemon, Wiley, Jablonski & Lloyd, 2006; Levy & Ellis, 2006; Torraco, 2005; Webster & Watson, 2002; Whittemore & Knafl, 2005	Aveyard, 2011; Bettany-Saltikov, 2010; The Cochrane Collaboration, 2012; Garrard, 2011; Jesson, 2011; McKibbon, 2006; Tranfield, Denyer & Smart, 2003; Torgerson, 2003	Frankel & Wallen, 2009; Sciplore, 2010	Eisenhart, 2009; Gay, Mills, & Airasian, 2006

Figure 22.2 Four main types of literature reviews.

resources on a topic (Levy & Ellis, 2006). An admixture of procrastination and panic sometimes leads to deliberate unethical actions such as plagiarizing from published sources or purchasing a ready-made review paper. Figure 22.3 summarizes the worst mistakes in conducting a literature review and ways to avoid them.

Another major impediment to the successful literature review is simplistic, linear conceptualizations of the process of reviewing. In Bruce's (1994) study of students' approaches to the literature review, their ideas about reviewing varied widely. They were, from lowest level of conceptualization to highest:

- *List*—a collection of references without in-depth knowledge of content
- *Search*—an emphasis on the strategies for locating relevant materials
- *Survey*—a representation of immersion in the knowledge base
- *Vehicle for learning*—the reviewer interacts with material and is influenced by it
- *Research facilitator*—the literature review shapes the reader's thinking and guides original research
- *Report*—a synthesis/final representation of the researcher's interaction with and evaluation of the literature

Therefore, as a first step, reviewers need to view a literature review as a high-level conceptualization task that is recursive, rather than linear. The "literature universe" of the field of early childhood education is comprised of diverse, interdisciplinary work including psychology and educational psychology, literacy and linguistics, neuroscience, child development, medicine, special education, physical education, family studies, and more; this can make it particularly challenging to access the best sources for a particular topic. If, for example, a student wanted to conduct research on military families who have a young child with special needs, some of this information would be found in articles about geographic relocation, statistics on the provision of special education services in different states and countries, discussions on the effects of parental absences on young children, and the policies of various branches of the armed service—to name a few. A practical situation such as this one helps to explain why librarians Boell and Cecez-Kecmanovic (2010) have conceptualized reviewing as a hermeneutic cycle in which the tasks of searching, sorting, selecting, acquiring, reading, identifying, and refining are interconnected and ongoing; the reviewer can re-enter the cycle at any of these points as needs for information on new topics surface, the need to dig deeper or wider on an aspect of a topic emerges, or new insights are acquired.

Plagiarism	Errors of Fact	Inadequate Sources	Listing	Weak Argument
• take notes carefully and devise a system for differentiating between your ideas and those of others • document sources in complete, correct bibliographic style throughout the process from note-taking to final manuscript • create an annotated bibliography and maintain copies of the original source material • consider submitting your work to Turn... get a similarity sco... published work • particularly for students studying in a different country, realize that definitions for plagiarism vary from one culture to another	• use primary sources rather than relying on someone else's interpretation • take the time to double check everything • present a balanced view and include conflicting findings • for major studies, include more de... the findings	• select scholarly sources (reputable, refereed publications) rather than popular sources • work with an academic librarian to identify appropriate databases, develop effective search strategies, and evaluate potential sources • discuss your idea with an expert in the field • read widely and well	• avoid boring lists in which each paragraph begins with a name and a date • chunk information and strive for meaningful synthesis • compare, contrast, and critique rather than merely report • cluster minor studies with similar findings together • pay attention to writing style, not just content, when reading; strive to emulate this style	• use authoritative definitions from the professional literature (rather than the dictionary) • supply concise examples to illustrate key points • use an "assert, then support" strategy that backs up ideas with evidence • read more about the common fallacies in logical arguments—and how to avoid them

Figure 22.3 Ways to avoid major mistakes in reviewing. *Sources:* Notar, & Cole, 2010; Bloomberg & Volpe, 2008; Blum & Muirhead, 2005; Fink, 2009; Hart, 2001; 2008; Laband & Piette, 2000; Levy & Ellis, 2006; McMillan & Schumacher, 2010; Mertler & Charles, 2005; Muirhead, 2004; Notar & ..., 2010; Petticrew & Roberts 2006; Randolph, 2009; Steward, 2004; Swales & Lindemann, 2002; Torgerson 2003; Zinsser, 2001

HUMAN AND ONLINE RESOURCES
TO SUPPORT REVIEWING

After reviewers understand the cyclical nature of the literature review, they can begin to direct their attention to searching for resources. Online periodical databases offer access to the largest amount of current, scholarly information in the field of early childhood education. Of course, academic libraries pay to subscribe to these databases and, therefore, a reviewer's access to certain databases depends upon his/her access to an academic library as well as that academic library's budget. Most large academic libraries, however, subscribe to hundreds of online periodical databases, providing reviewers with a wealth of information but making it very difficult to know where to begin. Recommendations for scholars at this stage follow.

Selecting and Narrowing the Topic

Research interests often emanate from professional experience, suggestions from experts, the academic journals, and the media (Machi & McEvoy, 2008). Selecting a focus for the literature review also is dependent upon the writer's role. Students should begin by referring to the course syllabus because faculty may have identified a list of topics or, topics may be suggested by the subjects to be covered in the course, the recommended readings, and the table of contents and references in the required and recommended textbooks. One advantage of using these materials as a starting point is that they supply the reviewer with the professional terminology that would be helpful in conducting a search. For example, if a student is interested in learning more about autism in young children, descriptors such as autism spectrum disorder (ASD), pervasive developmental disorders, and Asperger's syndrome might be useful. Following this procedure also enables the student to generate a list of possibilities that could be discussed with the instructor. If the reviewer has a free choice of topic, the best advice is to select a subject that holds great interest for the writer, is timely, and has a sufficient body of research on which to base the review.

One of the challenges inherent in selecting a topic is narrowing it sufficiently to treat the subject adequately within the page limit range that has been specified. To illustrate, "infant/toddler development" would be an encyclopedia or a book; it would need to be much more specific in order to conduct a meaningful review. At this point, the reviewer needs to decide what particular aspect of infant/toddler development is of most interest; however, if a topic such as literacy is the choice even that may be too broad to treat adequately in a short piece of writing. Further narrowing might take the topic to vocabulary growth during the infant/toddler years. Now

the topic is sufficiently narrow to search and write an 8–10 page paper for a class assignment.

Doctoral candidates who are conducting a literature review for the traditional Chapter 2 of a dissertation have a different challenge where conducting the literature review is concerned. Their review needs to provide background on many different clusters of information related to the study's purpose and focus. If a doctoral student is conducting an interview study of children, parents, and teachers in Title I Reading Programs, then some of the areas will be on the topic (e.g., children's literacy development, research on reading difficulties, the history of Title I) and some on the method (e.g., qualitative research, interviewing techniques, using *NVivo* for data analysis). Equally important is the theoretical base, which is discussed in the next section.

Finding a Theoretical Base

For doctoral candidates and college/university faculty seeking to publish, there will be an expectation that the writer identify and describe a theoretical base to serve as a conceptual framework for the review of the literature. A first step in understanding how theory "frames" the review is with a metaphor. Picture, in your mind's eye, a mansion on a hilltop with many windows on each side. It is not possible to look out of all of the windows and take in all of the views simultaneously; rather, it is necessary to choose a particular window and allow it to frame the perspective. This does not mean that the author is unaware that there are other viewpoints, only that she or he makes it clear which perspective was selected and why. Theory functions in much the same way; although it limits in some ways, it also provides a focal point that helps to structure the review. To illustrate, if a doctoral candidate were interested in parent/family involvement in early childhood education programs that topic has an extensive body of literature associated with it. Narrowing the topic might lead to a focus on parent/family involvement in kindergarten. Based on practical experiences, the candidate concludes that some of the efforts to "involve" parents and families of young children have failed because they do not respect what families know and do in support of children; rather, they presume that the only way to help young children is to require that parents/families push the child to complete drill and practice types of activities at home, as designated by the teacher. The reviewer in this case finds a theory, social capital theory, with relevance for the study. In a nutshell, social capital theory takes the stance that, in every person's life, there is a range of resources that is intellectual, economic, cultural, and institutional in nature (Li, 2004). These resources are referred to as capital because, like personal wealth or

the natural resources of a country, they are not equally distributed and allocated. Use of the resources depends on an individual's circumstances in society, access to resources, and ability to elicit appropriate support. This leads to the concept of "funds of knowledge" as described in the work of Moll, Amanti, Nett, & Gonzales 1992. From this perspective, family involvement is successful when it is respectful of what families know, approaches families from a strengths (rather than deficits) orientation, recognizes that families understand their child in ways that others cannot, affirms their expressions of care and concern for their child, and acknowledges that support for learning often is rooted in everyday experiences rather that school-like tasks (Dunst, Raab, Trivette & Swanson, 2010; Hanson & Lynch, 2010). Clearly, using this theory as the "base of operations" for the literature review suggests some ways of organizing the review into themes or strands that would be missed in the absence of a firm grounding. When reviewing the literature for a dissertation or a professional journal article, it is vital to identify the theoretical base early in the process. This does not mean that the review will be biased and ignore other research. It does mean that the researcher will make the theoretical stance clear to the reader instead of pretend that all research literature is equally pertinent for the study that is planned. If a quantitative study is planned, quantitative research is, by definition, a test of a theory; without a theory, there is no study.

Theory plays a somewhat different role in qualitative research where it serves as a tool for reflection. At times, the qualitative researcher seeks to use the data to allow a theory to "bubble up" from the data related to a specific situation in a particular context, referred to as a grounded theory study. Whether a study is quantitative, qualitative, or mixed method, identifying a suitable theoretical base is a major stride forward in conducting the review for original research such as the dissertation.

Choosing Appropriate Research Tools

The first step in choosing appropriate research tools is to visit the database page on an academic library's website. "Even though the databases are grouped by subject and there are links to scope and coverage notes, (users) often do not choose the correct database for their research topic" (Chapman, Pettway, & Scheuler, 2002/2003). Many users tend to click on the first full-text database they see and neglect to consider its appropriateness, currency, or coverage. Therefore, it is important that reviewers spend time familiarizing themselves with the database page—paying close attention to subject groupings and database descriptions.

Public search engines, such as Google Scholar, are also excellent research tools for conducting literature reviews. "An important feature of Google

Scholar is that researchers can use it to trace interconnections among authors citing articles on the same topic and to determine the frequency with which others cite a specific article, as it has a *cited by* feature" (Noruzi, 2005, p. 170). Unlike periodical databases, Google Scholar provides researchers with access to documents posted on the Web. "Since several authors post preprints to their Web sites much earlier than the articles appear in printed journals, researchers may find more current information than they would through commercial databases" (Noruzi, 2005, p. 174).

Despite providing access to current information through a user-friendly interface, Google Scholar has its disadvantages. Searches conducted through this search engine can sometimes lead researchers to resources that are not considered scholarly, such as PowerPoint presentations, technical reports, and library guides. Also, Google Scholar provides links to journal articles that are not free; resulting in researchers paying for articles they may be able to access free-of-charge through their academic libraries' database subscriptions. Therefore, it is important that researchers use Google Scholar in conjunction with a variety of periodical databases in order to conduct a thorough and cost-effective search of relevant literature.

After reviewers have identified several possible tools for their research, the next step is to begin accessing these databases to search for sources.

Searching for Sources

The Association of College and Research Libraries [ACRL] (2000) stresses the importance of search strategies that enable scholars to access resources effectively and efficiently. The ACRL suggests:

1. Developing a research plan appropriate to the investigative method
2. Identifying keywords, synonyms, and related terms for the information needed
3. Selecting controlled vocabulary specific to the discipline or information retrieval source
4. Constructing a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
5. Implementing the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
6. Using investigative protocols appropriate to the discipline. (pp. 9–10)

For example, if a reviewer is interested in researching diversity and inclusive practices in early childhood education, formulating a research question is the first step. According to Agee (2009), "good questions do not necessarily produce good research, but poorly conceived or constructed questions will likely create problems that affect all subsequent stages" of the research process (p. 431). Research questions typically emanate from a problem that a reviewer identifies through professional literature and/or experience (Meadows, 2003).

Perhaps the reviewer has read or observed that early childhood educators are not being trained to implement inclusive practices in their classrooms. As a result, he/she might ask, "How can teacher preparation programs educate preservice teachers to embrace diversity and institute inclusive practices in early childhood education?" After developing a research question, the reviewer should identify keywords which will be used to construct a search string. In the aforementioned research question, possible keywords include: *teacher education, inclusion, diversity,* and *early childhood.* Therefore, the reviewer's search string (in an advanced search using Boolean operators) might read, "teacher education" AND "diversity" AND "inclusion" AND "early childhood." Limiters may also be used to narrow a search. For instance, the review might be limited by date (e.g., the last five to ten years) or by journal type (e.g., scholarly, peer-reviewed journals). After examining the result list produced by a search, the reviewer may find that the search string needs to be modified because the search produces an overwhelming amount of hits, too few hits, or articles that are not answering the research question.

Locating Search Terms and Additional Sources

The following database tools may be used to locate more appropriate search terms or additional articles:

- *Database-suggested search terms*—These words pop up as users type search terms in the search boxes. They represent the most commonly-searched terms in relationship to the term the user is typing. For instance, if the reviewer were to begin typing "early childhood" into a search box, he/she would also be presented with the terms *early childhood development, early childhood education, early childhood special education,* and *early childhood teacher.* By using one of these suggested terms, the user may access more relevant articles.
- *Thesaurus*—This is a list of the preferred subject terms used by the database; the thesaurus also suggests related terms and broader or narrower subject headings. Based on the search string "teacher education" AND "inclusion" AND "early childhood," the thesaurus might list preferred subject terms such as *teachers—training of,* re-

lated terms such as *students with disabilities,* broader subject headings such as *classrooms,* and narrower subject headings such as *teachers—attitudes.* Using one or several of these terms may help the reviewer broaden or narrow a search.

- *Subject headings/descriptors/keywords*—This is the controlled vocabulary listed in the record of an article. A *controlled vocabulary* is a carefully-selected list of words and phrases which is used to classify information so that it can be more easily retrieved from a database. By examining the controlled vocabulary assigned to specific articles, reviewers may find more appropriate search terms.
- *Links to similar articles*—This feature enables users to view a new list of articles that have the same subject headings/descriptors/keywords as the article they are currently viewing. Sometimes this link is identified with the words "Find Similar Results" and, by pursuing this, that one "perfect" article located by the reviewer can snowball into several more.

According to Horsley, Dingwall, and Sampson (2011), "another commonly applied strategy is the checking of reference lists of papers and reports already retrieved to identify additional, potentially relevant records" (p. 2). By checking the reference lists of articles in a database result list, reviewers can also trace the history of a theory or argument back to its original source; a strategy that is particularly important for scholars conducting academic research.

Differentiating Between a Research Review and a Research Report

After a variety of suitable articles have been identified, the reviewer needs to distinguish between published literature reviews and reports of empirical research. Although journal articles that present a review of literature summarize and synthesize the work of leading experts in a given field, they do not provide the researcher with a detailed understanding of the methods, limitations, and results of cited studies. To get this information, researchers must locate cited authors' original research reports.

Both research reviews and research reports are published in scholarly journals, and some databases allow researchers to limit their search by document type. When this type of limiter is not available, users can distinguish a research report from a research review with one quick glance. Empirical research reports will contain, at the very least, the following sections:

- Introduction
- Literature Review
- Methodology

- Results
- Discussion
- Conclusion
- References

In addition, the abstract of an empirical research report will mention a study, an observation, an analysis, or a number of participants or subjects (University of La Verne, 2012).

Evaluating Sources

After categorizing the articles as reports of original research or reviews of published research reviews the researcher must critically evaluate those sources for their "reliability, validity, accuracy, authority, timeliness, and point of view or bias" (ACRL, 2000, p. 11). By comparing information from various sources, the reviewer can begin to determine the value of the information, verify the information or identify contradictions, and integrate new information with previous knowledge. Reviewers may critically evaluate a scholarly resource by asking themselves the following questions:

1. Who is the author of the material?
2. When was the information published?
3. Is the material published in an academic article, a newspaper or a textbook?
4. How relevant is the material to the reviewer's research question(s)?
5. What is the author's overall purpose? What led the author to his/her hypotheses?
6. What methods were utilized by the author and why?
7. What results were obtained?
8. Were hypotheses supported?
9. What were the author's conclusions/recommendations?
10. Does the author provide a detailed list of references/bibliography?
11. Has the article, book or website been cited or referred to by other authors? (Lawlor & Gorham, 2004, p. 17)

Working With the Academic Librarian

Despite the reviewer's best attempts at choosing appropriate resources, searching for articles, and evaluating sources, roadblocks may surface. For instance, what should a reviewer do if the database he/she is using does not provide a full-text link to an article? What if the reviewer is having trouble finding

any relevant articles that answer his/her research questions? What if the reviewer lacks the basic technology and information literacy skills required to choose appropriate databases, search for articles, or evaluate sources?

Academic librarians have the knowledge and skill to help reviewers overcome these obstacles and connect them with the scholarly resources they need to develop a high-quality literature review. Today, academic librarians are accessible to users in a variety of settings. Although they are still available at reference desks in many colleges and universities, academic librarians are more accessible than ever before (Aguilar, Keating, Schadl, & Reenen, 2011). They can be consulted through virtual services such as electronic reference forms, chat reference, and those found on Facebook and Twitter accounts. In addition, academic librarians are creating wikis, blogs, YouTube videos and LibGuides that teach library users basic and advanced information literacy skills they need to locate, access, and use information effectively. Academic library websites are the gateway to these services.

Another growing trend in academic librarianship is the embedded librarian. Embedded librarians are hired to serve as liaisons between their academic libraries and certain colleges or departments. Such programs can improve the library's relationship with faculty and students; shape a more relevant collection of print, media, and electronic resources that meets curriculum, instruction, and research needs; create opportunities for college/university library collaboration through new programs, team-teaching, and scholarly endeavors; and, most importantly, improve the quality of teaching and learning (Heider, 2010). "Embedded librarianship focuses on the user and brings the library and the librarian to the user, wherever they are—office, laboratory, home, or even on their mobile device" (Kesselman & Watstein, 2009, p. 383). Embedded librarians often have offices in the college or department(s) they serve, making it easier for students to consult with them in person regarding concerns or difficulties they are experiencing with research. In addition, many librarians have formed collaborative relationships with faculty who teach online courses. These relationships have led to librarians becoming embedded in course management systems such as Blackboard, Moodle, and D2L. "Providing academic resources to students working on course-related assignments within their online learning space enables the embedded librarian to work efficiently by customizing materials and tools available from the university library system and making them available immediately to all registered students" (Tumbleson & Burke, 2010, p. 973).

If a student or faculty member is having difficulty conducting a review of the literature, the first step is to determine if their university has an embedded librarian program. Academic library's websites can be very helpful in directing students to librarians who have expertise or experience with research in certain fields (e.g., early childhood education). If such a person exists, the next step is contacting this librarian to set up a consultation,

either in person or online. There are many benefits for students who have access to an embedded librarian. "Whether the student is enrolled in a traditional, off-campus, hybrid, or online course, students are directed to the best library database, electronic collections, and titles as well as given instruction in developing research strategies" (Tumbleson & Burke, 2010, p. 973). Unfortunately, not everyone seeking to review the literature will have access to a librarian who can guide them through the process of conducting a literature review. So, where can these reviewers go for help?

Technology Resources for Reviewers

Fortunately, there are many helpful resources on conducting literature reviews available online as highlighted in Figure 22.4.

When to Quit

Thus, the question arises: "At what point should the process of gathering additional relevant literature end?" Leedy and Ormrod (2012) noted that one common rule of thumb is that the search is near completion when one discovers that new articles introduce arguments, methodologies, findings, authors, and studies with which the reviewer is familiar already. In sum, as Webster and Watson (2001) observed, "you can gauge that your review is nearing completion when you are not finding new concepts in your article set" (p. 16). The next step in the process is drafting the review (Randolph, 2009).

WRITING THE REVIEW

As Reuber (2011) points out,

> It is important to recognize that *doing* a literature review is different from *writing* a literature review. *Doing* a literature review is ongoing and should be wide ranging to allow you to gain and maintain a wide and up-to-date understanding of your subject area and the areas that relate to it, even tangentially. However, *writing* a literature review needs to be tightly focused and purpose driven . . . this means that while much of the prior research you have read will contribute to your understanding of a field, only a subset of it is likely to be included in the literature review of any one individual paper submitted for publication. (p. 106)

Students are sometimes surprised to learn that the literature reviews that earned an "A" at a previous level of study—for example, a doctoral student

Conducting a Literature Review in Education and the Social Sciences	• Type: Tutorial • Content: Organized under four sections: (1) understanding the literature review, (2) identifying sources, (3) finding review and research articles and (4) putting it all together. • Source: Adelphi University Libraries • URL: http://libraries.adelphi.edu/research/tutorials/EdLitReview/
Literature Reviews: An Overview for Graduate Students	• Type: Video (10 minute) • Content: What is a literature review? What purpose does it serve in research? What should you expect when writing one? • Source: North Carolina State University • URL: http://www.lib.ncsu.edu/tutorials/lit-review/
Literature Review Tutorial	• Type: Tutorial with video clips • Content: Organized around the following headings: What is a literature review? What is its purpose? How to do it! • Source: Central Queensland University (Australia) • URL: http://libguides.library.cqu.edu.au/litreview
Literature Review Video	• Type: Video with Narrated PowerPoint (7 minutes) • Content: An introduction to reviewing that emphasizes the conceptualization • Source:University of Maryland • URL:http://www.youtube.com/watch?v=2IUZWZX4OGI

Figure 22.4   Online help with the literature review.

writing a master's student type of literature review—will not suffice. The same holds true for making the transition from a class paper to a publishable literature review; what typically was acceptable as an assignment will not be publishable. Class papers and publishable articles differ from student work along several key dimensions of writing.

- Purpose: The student writer is expected to demonstrate familiarity with the field, collect a sufficient number of resources for the bibliography, and fulfill course requirements; the published author

is expected to make an innovative contribution to the field and to inform, enlighten, persuade, or some combination of these so that readers will choose to read, duplicate, and cite the work.

- Audience: Student writing often is for one faculty member who is likely to be interested in and knowledgeable about the topic (and obligated to read it); published writing has a large audience of unknown professional colleagues who have varying levels of interest in and familiarity with the content (and are free to read something else).
- Voice: Student writing pays homage to the leaders in the field and is relatively silent; a published author is expected to enter into the professional dialogue and speak authoritatively.
- Organization: Student writing typically consists of page after page of unbroken text, often loosely organized; published writing is tightly structured and organization tailored to the specific outlet; it also makes use of visual material (e.g., headings, figures, tables, graphs, examples, illustrations) to break up the text as appropriate.
- Focus: Student writing generally results in superficial treatment of broad topics deemed important by the instructor while published writing has a clear focus on a topic that can be adequately addressed in a short manuscript (Jalongo, 2002).

Given these vast discrepancies, the best advice for scholars is to make the intended publication outlet their "textbook"; in other words, to study the purpose, audience, style, voice, organization, and focus represented in published work rather than relying on their past experiences with writing (Natriello, 1996). Making the transition from beginning writing to published writing will place a high demand on the writer's ability to use higher-order thinking skills of analysis, synthesis, and evaluation. Peer reviewers for professional journals expect a publishable review to go beyond mere reporting and advance thinking in the field. An important part of that process is selecting a topic and focus.

THE PUBLICATION POTENTIAL OF REVIEWS

Expectations for a comprehensive literature review sometimes are steeped in tradition and more grounded in what professors remember from their own doctoral studies than centered on what is best for students. Nationally, the Council of Graduate Schools (2011) notes that no more than 75% of the doctoral students who achieve candidacy ultimately complete the degree. Evidently, the need to produce a wide-ranging, exhaustive review of the literature is one place where doctoral candidates frequently falter. In a focus group study of 272 faculty members in 74 departments across

ten disciplines at nine research universities, respondents were asked to characterize dissertations and their components at our different quality levels—outstanding, very good, acceptable, and unacceptable (Lovitts, 2008). Collectively, this group had 6,129 years of experience, had chaired approximately 3,470 dissertations, and had served on about 9,890 dissertation committees. Many of the markers of quality mentioned had to do with the literature review. In the outstanding category, some commonly mentioned attributes were: synthesizes the literature well and is interdisciplinary; connects components in a seamless way; exhibits mature, independent thinking; has a point of view and a strong, confident, independent, and authoritative voice; displays a deep understanding of a massive amount of complicated literature; and presents an argument that is focused, logical, rigorous, and sustained. By way of contrast, dissertations in the "Acceptable" category were described as: somewhat pedestrian and not very original, significant, exciting, or interesting; a chore to read; and knows the literature but is not critical of it or does not discuss what is important. In the "Not Acceptable" group, inadequacies of the literature review were glaring: contains errors or mistakes; plagiarizes or deliberately misreads or misuses sources; does not understand or misses relevant literature; and has a weak, inconsistent, self-contradictory, unconvincing, or invalid argument.

A hotly debated issue in reviewing the literature is whether a wide-ranging review is the best approach. Is it feasible, through a more focused review, to accomplish the four objectives of a literature review identified by Neuman (2009)—(1) demonstrating a familiarity with a body of knowledge and establishing credibility, (2) showing the path of prior research and how a current project is linked to it, (3) integrating and summarizing what is known in an area, and (4) learning from others and stimulating new ideas? Some argue for a focused review (Maxwell, 2006) while others contend that a narrower scope is less scholarly and less likely to result in original insights (Boote & Beile, 2005; Beile & Boote, 2006). Nevertheless, some consideration needs to be given to the long-term outcomes of literature reviews produced by graduate students. As many journal editors will attest, referring to a manuscript as "thesis or dissertation style" is a prime reason for rejecting manuscripts (Hartman, Montagnes, & McMenemy, 2003; Luey, 2002, 2007). This raises the question of whether assignments—including the traditional dissertation—have outlived their usefulness.

In some regions of the world, notably the United Kingdom (Badley, 2009), Scandinavian countries, and North America (e.g., Vanderbilt University, Utah State University, University of Alberta, Canada, and DePaul University) institutions have challenged the assumption that students should generate reams of writing that would need to be completely restructured and rewritten in order to be publishable. In response, they have given doctoral students the option of a multipaper dissertation; in other words,

published work in peer-reviewed scholarly publications *is* the dissertation (Duke & Beck, 1999; Thomas, Nelson & Magill, 1986). The assumption here is that "if students publish in their formative years, they are more likely to do so as established academics or informed professionals in their chosen careers" (Kamler, 2008, p. 292). Questions persist about what form the literature reviews that are required of graduate students should take. In any case, a literature review has far greater potential as a publication when it exemplifies a high level of conceptualization, sets forth a logical argument, and is grounded in inquiry. Indeed, Machi and McEvoy's (2008) book, *The Literature Review,* regards a fundamental stance of inquiry and openness to discovery and learning as the single most important aspect of literature reviews. They describe the "inquiring researcher" as one who knows how to set aside personal biases, comes to the research with an open mind, is capable of seeing both the details and the big picture, weighs all the evidence for veracity and value, proceeds with diligence, reflects deliberately and continually, and works ethically.

CONCLUSION: THE FUTURE OF REVIEWING

Each time the communication environment is modified by technological advances, it changes our interests (what we think about), it changes the symbols and tools we use (what we think with), and it alters the nature of our communities (how we interact) (Innis, 1951). Whether it is the introduction of the clay tablet or an electronic one, the communication environment is forever changed. Although instant access to information has changed the communication environment for scholars in many positive ways, it also can facilitate academic dishonesty in scholarly writing and publishing including plagiarism, purchasing papers, and "salami science" (shaving many pieces from one piece of work). A more fundamental question has to do with why people would make these bad decisions and take the associated risks in the first place. Perhaps enabling students to see a real purpose for a literature review and supporting them in producing more skillful literature reviews may be one way to counteract such acts of desperation. If, for example, graduate students were carefully guided in producing literature reviews with greater publication potential then their work could have practical value that extends beyond completing class assignments and program requirements. Such issues also have to be considered in the long term. Ordeals associated with the literature review surely can have the unintended effect of causing former students and current faculty members to avoid writing and therefore erode the goals of scholarship.

Misconceptions about reviewing are another issue that merits close attention. Too often, novice and experienced researchers assume that they

know how to review; doctoral students may believe that they "learned that already" during their master's degrees programs, faculty that they mastered it during their doctoral programs, and so forth. Yet literacy in general and information literacy in particular are moving targets. Back when students and researchers were almost entirely reliant on brick/mortar libraries and print sources, it was not unusual to seize upon the opportunity to physically return to a library where the researcher had used the resources extensively (e.g., a former doctoral student returning to use the library of the degree-granting institution). The fact that much of what we need to use is now in digital form does not obviate the need for that familiarity, however. Each academic institution has its own nuances and scholars would be wise to attend a real or virtual orientation periodically to update their skills. Graduate program faculty definitely should not assume that all of their students are fully oriented to search processes in general or the ones specific to their institution; they also should not assume that their students or even themselves have completely mastered all of the skills of reviewing, given the constantly changing nature of search strategies and the controversies about various types of reviews (e.g., focused vs. wide ranging approaches). In a study of 33 dissertation advisors' practices in preparing doctoral candidates to review the literature, Zaporozhetz (1987) found that professors ranked the traditional Chapter 2 the lowest of the five dissertation chapters, both in terms of their expertise and the amount of time they invested; they assumed that their advisees already would have doctoral-level reviewing skills when some of them did not. This led the researcher to conclude that explicit instruction in the work of reviewing—on par with research methodology instruction for doctoral candidates—was necessary. Even vastly experienced authors sometimes need advice concerning how to conduct the review, data bases outside the usual choices, or the latest technological advances.

We began this chapter with a definition of the literature review and used higher order thinking skills to form a foundation for the chapter. Then, we examined overarching purposes for literature reviews and proposed a typology for literature reviews that includes their theoretical foundations. Next, we offered research-based advice on the process of conducting reviews and discussed both human resources and technological advances for those engaged in the work of reviewing. Finally, we discussed described ways to enrich and enlarge the work of reviewing that plays such a pivotal role in various scholarly endeavors. If the literature review in early childhood education is to transcend its reputation as high-stakes homework and realize its potential to truly *re*view—to see anew, with fresh eyes, and improved perspectives—then everyone engaged in the process, including students, teachers, faculty members, librarians, readers, peer reviewers, and editors will need to be fully socialized into the values of scholarship and committed to the advancement of the field.

NOTE

1. George Boole, an English mathematician in the nineteenth century, developed "Boolean Logic" in order to combine the truth values, true or false, of individual algebraic formulas. Boolean searching combines certain concepts and excludes certain concepts using the words AND, OR, and NOT.

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