



Reviewing the Literature

In: Digital Tools for Qualitative Research

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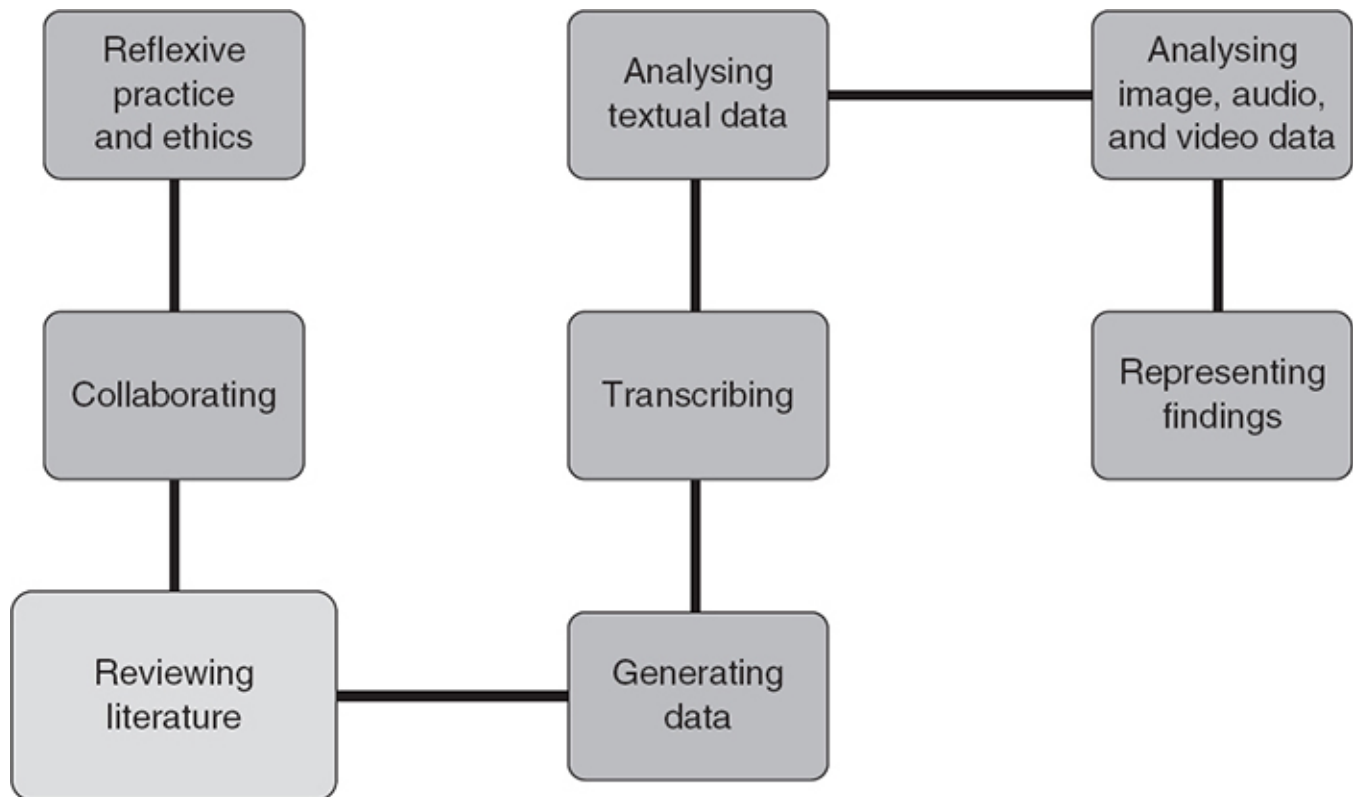
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Reviewing the Literature



Learning Objectives

- Articulate the purpose of a literature review.
- Develop strategies for locating and evaluating relevant sources for the literature review.
- Select and critique appropriate digital tools for locating and retrieving, storing and organizing, reading and annotating, and analysing and synthesizing literature sources.
- Consider the pros and cons of 'going paperless' during the literature review process.
- Have strategies to ensure ethical practices in reviewing the literature.

Introduction

In [Chapter 3](#), we discussed ways that digital tools are changing how we network, meet, share resources and write collaboratively. We described collaboration as *creative conversations* among members of a research

team. In this chapter, we extend the conversational metaphor as we turn to the literature review, which can be viewed as engaging in the larger scholarly conversation of a field. We first discuss the purpose and the nature of the literature review in qualitative work. We then illustrate how the four main phases of the process can be supported by digital tools: 1) to locate and retrieve; 2) to store and organize; 3) to read and annotate; and 4) to analyse, synthesize and critique literature sources.

Literature Review as Joining the Conversation

When we have problems to be solved or questions to be answered in our daily lives, we have a variety of places to turn, such as friends, libraries or the Internet. In our professional lives, ideas for research often emerge from problems that arise in our practice as health-care workers, educators, or in other areas of the social sciences. There, too, we have resources to turn to – colleagues, professional journals and, increasingly, the Internet. Before we conclude that a research study is needed to solve a problem or answer a question, it makes sense to be sure that solutions and answers haven't already been identified by others. Reviewing the literature is in part a search for any existing answers and solutions. Having a thorough understanding of what a field knows or does not know around a particular topic is essential to be able to fully justify the need for additional research.

Reviewing the literature is the process of becoming and remaining familiar with what others have done before us to make sense of the world – be it through generating theories, synthesizing the findings of others or conducting original research. Because the nature of qualitative inquiry is often emergent (starting with a context of interest rather than with a predetermined hypothesis) there is flexibility in the direction a study could take. Thus, the literature is used in ways that may differ from quantitative work. Still, it is important to demonstrate that you have taken the time to understand previous work and to situate your ideas in a discipline's larger context – to identify the conversation that you intend to join through your work.

Research is, in essence, participation in an ongoing conversation amongst a community of scholars, and the only way to become part of that conversation is by immersing yourself in what has been said before. In most qualitative work the literature review provides the overall conceptual framework for the study, defines key terms and situates the study both methodologically and epistemologically. When the literature review is conducted and where it appears in the research report can vary. While some traditions, such as grounded theory (Glaser, 1978; Strauss and Corbin, 1998), suggest waiting until after initial data analysis so as not to be unduly influenced by previous work, most researchers acknowledge that the literature should be reviewed early and often. Realistically, thesis committees, funding organizations and research councils will look to a literature review for justification that the proposed work will make a worthwhile contribution. Reviewing the literature can help guide you in the design of your study as well as the analysis and interpretation of your data (Anfara and Mertz, 2006). Thus, the literature review may appear in the introduction, in a separate literature review section and/or in the discussion of the findings.

Visit Web Resource 4.1 for examples of published literature reviews.

Figure 4.1 is an excerpt from a literature review summary that establishes the need for a study on engaging faculty in reflective practices through online professional development.

Figure 4.1 Excerpt of a literature review summary

Dr Ron Bridges, Pellissippi State Technical Community College

In summary, this section of the literature review has demonstrated that faculty do engage in reflection as part of their teaching (McAlpine & Weston, 2000) and that faculty members engage in different levels of reflection that can potentially lead to transformative learning (Kreber, 2005b; Kreber & Castleden, 2009). It is also clear that levels of reflection can be identified and distinguished within written work (Kember et al., 1999; 2008) and within the online environment (Boyer et al., 2006; Lord & Lomicka, 2007; Whipp, 2003). What remains to be studied is whether Mezirow's (1991) levels of reflection as delineated by Kreber and Cranton (2000) and Kember et al. (1999) can be identified and distinguished within online reflective postings of college professors within a collaborative inquiry professional development experience.

Literature Review as a Critical and Creative Process

Literature reviews demonstrate your ability to critique and synthesize the previous research in such a way that a new perspective is gained (Boote and Beile, 2005). Rather than a simple summary, a literature review should, through critical analysis, articulate a new interpretation of previous work to be shared with the research community. Contrary to how the literature review is often understood, it is a *creative* process 'in which the knower is an active participant constructing an interpretation of the community and its discourse' (Montuori, 2005, p. 375). It is a *construction*, through critical analysis, rather than a mere *reproduction*, through summary, of what has been said before.

Developing the ability to be selective about the sources that you review is critical in this information age. Like qualitative inquiry as a whole, reviewing the literature is an interpretive process, without one 'right' answer. As Charmaz (2006) pointed out, 'Although scholars may don a cloak of objectivity, research and writing are inherently ideological activities. The literature review and theoretical frameworks are ideological sites in which you claim, locate, evaluate, and defend your position' (p. 163). Thus, it is important to consciously reflect on the process. See [Reflexive Practice 4.1](#).

Reflexive Practice 4.1

Literature reviews can have a variety of functions, to:

- distinguish what has been done from what needs to be done
- synthesize and gain a new perspective
- identify relationships between ideas and practice
- establish the context of a topic or problem
- identify the main methodologies that have been used (Hart, 1998, p. 27)

For what reasons and at what point during your study will you review the research literature?

Literature reviews should be considered 'situated, partial, perspectival' rather than comprehensive (Lather, 1999, p. 3). Thus, locating yourself in the review will be important. By continuing to engage in reflexive practice you can take responsibility for the critique you are making of the work you review.

Evaluating Source Quality

Locating relevant literature involves amassing articles and books from a variety of sources that can provide a meaningful contribution to the story you will be telling about the 'state of the topic'. These sources (especially those that are online) must be screened for practical value and methodological quality (Fink, 2010). Major and Savin-Baden (2010) recommended establishing inclusion and exclusion criteria for sources, such as including only studies published after a particular date, with a particular population or using a particular methodology.

First and foremost, sources need to be reputable (e.g. peer-reviewed journals or books from high-quality publishers), recent (unless they represent seminal thinking in the field) and accurate, that is, not highly biased or flawed in their research design. Internet sources must be screened even more carefully, as there is no inherent quality control over materials published online. Fink (2010) recommended noting who funds the online site, who stands to profit from it and the qualifications of the authors.

Cultivating a reference list that presents a variety of positions on the topic is essential so as not to present a distorted view of the state of the field. Along the same lines, relevant sources will not only be found inside your own discipline, but also in related disciplines. Often, several disciplines are working on related problems, so analysing and critiquing those intersections can be valuable to your field.

Visit Web Resource 4.2 to learn about Rachael Gabriel's and Carlos Anguiano's use of a free online tool, Survey Monkey, to do an initial screening of the literature.

Digital Tools to Support the Literature Review Process

Digital tools can assist you in four phases of the literature review process: 1) locating and retrieving; 2) storing

and organizing; 3) reading and annotating; and 4) analysing and synthesizing literature sources.

Locating and Retrieving Sources

The types of literature that you may need to review will vary by topic and field, and should be agreed upon in conjunction with those familiar with your topic area. The timeliness and authoritativeness of your sources will factor into how thorough and useful your final literature review will be. [Figure 4.2](#) provides an overview of resource types organized by recency, authority and the type of information that can be found in each.

Figure 4.2 Types of literature sources (adapted from Machi and McEvoy, 2009, p. 40)

Recency:	Years	Months	Weeks	Days	Current
Authority:	More				Less
	authority				authority
Resource Type	Books, monographs and reference works	Conference presentations and proceedings, journals and periodicals	Popular and trade magazines	Newspapers	Websites and blogs
Content Type	Theoretical foundations, definitions, research, key concepts and constructs	Recent research, theoretical discussion and debate	Current issues, debates, applications, practices and field problems	Current issues, debates and field problems	Up-to-date issues, debates, practices and applications

While books and journals are often considered the most authoritative sources, there is often a long delay between when the work was done and when it is published – in part because the quality of the information is being vetted by experts in the field. Websites, on the other hand, can make information available instantly, but often the information has not yet been checked for accuracy by anyone other than the creator of the site.

Visit **Web Resource 4.3** for a tutorial on the Journal Citation Index.

Once you have identified the types of publication you are looking for, you can conduct keyword searches in academic databases such as those outlined in [Table 4.1](#).

Table 4.1 Examples of databases by discipline (adapted from Phelps, Fisher and Ellis, 2007)

Discipline	Database
Natural sciences	ScienceResearch, Wiley Interscience, Web of Science

Engineering	Engineering and Applied Science Online, Web of Science
Health Sciences	PubMed, Medline
Education	ERIC, Education Full Text, Psych Info
Business and Management	LexisNexis International, Business Source Premier
Social sciences and Humanities	Academic Search Premier, JSTOR, ASSIA
Law	Lawbook Online, LexisNexis, WestLaw
Arts	Art Abstracts, Art Index
General coverage	Proquest, Ingenta Connect, Academic Search Premier

Subject librarians should be consulted early on and often throughout your review process, particularly in terms of identifying relevant databases and accurate keyword or thesaurus search terms. They can assist you in locating hard-to-find materials through services such as interlibrary loan.

Reflexive Practice 4.2

Select a database in your field and do some initial searching on your research topic. What search strategies did you use? Did it turn up the types of articles that you expected?

Searching for literature should be embraced as an ongoing process throughout the course of your study (and your career as a researcher), rather than viewed as an activity to be completed once. Beyond keyword searching, there are additional strategies you can use to keep up with the literature. One strategy is what Banudra, Miskon and Felt (2011) called 'backward' and 'forward' searching. Backward searching entails reviewing the references page of a useful article to identify important articles. Forward searching entails using a tool like Google Scholar to identify more recently published work that cites the article you have found useful. Databases such as Thomson Reuters Social Science Citations Index show who cites particular papers, allowing you to trace publication trajectories over the years.

Visit Web Resource 4.4 for a link to the Social Science Citation Index.

Another strategy is, with your mentor's help or through a citation index, to identify the top peer-reviewed journals in your field and review the tables of contents over a particular period of time (e.g. the past five years) to identify relevant articles that may have been missed in initial searches. This can provide a more holistic sense of the conversations underway in various journals, leading to ideas for where to publish your work. Table of contents alerts directly email you when a new journal issue is released. Similar alerts can be created in Google Scholar – see [Reflexive Practice 4.3](#).

Reflexive Practice 4.3

Set up a Google or a journal search alert specific to your research study. Write an entry in your reflexivity journal about your experience setting it up.

If you have set up your Google Scholar Profile as described in [Chapter 3](#), new recommendations related to your citations will automatically be displayed, as illustrated in [Figure 4.3](#).

Figure 4.3 Example of 'My updates' provided by Google Scholar

The screenshot shows the Google Scholar 'My updates' interface. At the top, it says 'Scholar' and '32 results (0.04 sec)'. Below this, there's a section titled 'My updates' with a sub-header 'Recommended based on My Citations'. To the right of this sub-header are two buttons: 'View:' and 'Top' (selected), and 'All'. The main content area lists four recommended articles, each with a title, author, year, journal, and a brief abstract snippet.

Towards a mobile learning curriculum framework
 A Botha, J Batchelor, J Traxler, I De Waard... - 2012 - researchspace.csir.co.za
 8 days ago - The rapid spread and penetration of mobile devices to every layer of society has confronted the educational community with many new opportunities and responsibilities. As mobile computing and its disruptive aftermath enter the education arena, the challenge ...

An international research community
 G Stahl, N Law, F Hesse - ... Journal of Computer-Supported Collaborative Learning - Springer
 18 days ago - The Editors are pleased to announce that the International Journal of Computer-Supported Collaborative Learning was again highly ranked by ISI's annual "Impact Factor" report released several days ago. IJCSCL ranks# 11 of the 203 journals ...

Interacting for learning: digital portfolios for a learning community in a university course
 I Blau, N Mor, T Neuthal - 2012 - Taylor & Francis
 23 days ago - Abstract This study investigates student interactions in a blog-based learning community in a university course. In addition, this study explores the dynamics of group interactions in individual blog-based environments compared with collaborative wiki- ...
 Cites To blog or not to blog: Student perceptions of blog effectiveness for ...

[PDF] USING ASYNCHRONOUS DISCUSSION BOARDS TO TEACH IS: REFLECTIONS FROM PRACTICE
 J Waters, S Gasson - pages.cabrini.edu
 25 days ago - Abstract This study explores how student learning via asynchronous, threaded discussion boards may be managed successful. We examine the elements of course scaffolding on that affect student learning and engagement in discussion. We explore the ...

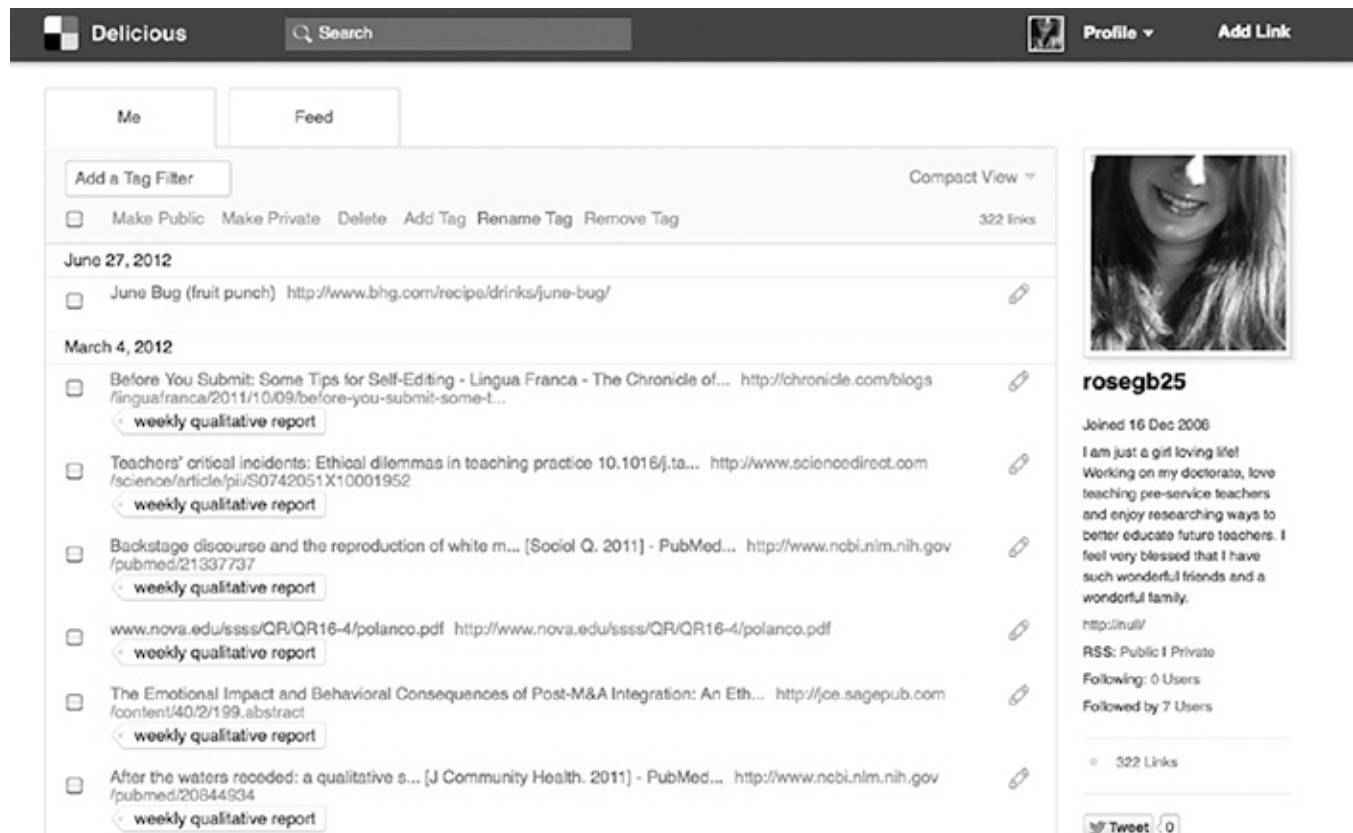
In addition to following specific journals and setting up search alerts, you may want to directly follow the top scholars in your field, through citation indexes or by 'following' scholars through a social networking site like Academia.edu or Google Scholar (described in [Chapter 3](#)). Mendeley (described later in this chapter) can also be useful for this purpose. Keep in mind that you can conduct searches and create search alerts not only by topic area but also by author name.

Another potential source of relevant literature is known as 'grey literature'. Grey literature includes conference proceedings and reports produced by government agencies, research institutes or other organizations that are disseminated outside of traditional publication outlets, usually for a professional audience.

Visit Web Resource 4.5 for links to several databases of grey literature.

Now that more of the grey literature is being made available online, effective Internet searches are particularly important. Delicious, a free social bookmarking site, can help you manage and organize the grey literature and other Internet resources. Figure 4.4 shows the main page of a Delicious account, with the links that have been saved listed in reverse chronological order. Clicking on the link takes you to the online resource.

Figure 4.4 Main view of the Delicious website



Tags can be created for links to help organize them by topic, and the tags can be sorted alphabetically or by frequency of use. Clicking on one of the tags brings up all of the links for only that tag. In this way, Delicious can help you organize online resources (such as grey literature) in a way that is easy to retrieve for your review.

Reflexive Practice 4.4

Set up a Delicious site and explore the various features. How might you use Delicious for your literature review?

It is becoming increasingly important to include a description of your search process, as many choices and interpretations are made along the way. For example, including the keywords, databases and journals that you searched makes your process more transparent. Figure 4.5 is an example of such a description that was submitted as part of a thesis proposal.

Figure 4.5 Example of search strategy description from Anton Reece's thesis proposal**Anton Reece, University of Tennessee**

My search strategy for this literature review on the relationship between faculty-student engagement and first year student retention was comprised of five phases, including conducting searches in Educational Resources Information Center (ERIC), Google Scholar, and Educational Full Text databases using the following keywords: *first year studies, first year seminars, dropout, retention, persistence, freshmen, attrition, first generation, faculty-student engagement, collaborative learning, student to student interaction, and college teaching*. I identified relevant studies in peer-reviewed journals and reviewed the seminal works on faculty-student engagement, teaching excellence, first-year courses, and first-year student retention. Phase one of my search strategy was to review first-year student dropout (Elkins et al., 2000; Freeman et al., 2007) and first-year courses (Barefoot, 2004; Gardner, 1986; Pascarella & Terenzini, 2005). In phase two, I focused on teaching and learning excellence (Bain, 2004; Barkley, 2010; Bruffee, 1999; Chickering & Gamson, 1987). In phase three, I explored in detail faculty-student engagement theories and studies that included contemporary scholars (Berger & Braxton, 1998; Chickering & Gamson, 1987; Kuh, 2003). In phase four, I concentrated on studies that supported and utilized related research on student dropout (Bean, 1985; Durkheim, 1951; Pascarella & Terenzini, 1983; Spady, 1970; Tinto, 1975) and studies that identified limitations of the seminal works (Tierney, 1992). In phase five, I reviewed and explored additional articles on faculty-student engagement in peer-reviewed journals on retention including the *Journal of Higher Education, New Directions for Higher Education, Research in Higher Education, About Campus, Journal of Experiential Education, Research of Higher Education, Journal of Higher Education, Journal of College Student Personnel, Journal of College Student Development*, and national resources such as the National Association of Student Personnel, National First-Year Experience Center, National Student Survey of Engagement, and National Center of Education Statistics. These various resources described the three leading best practices programs focused on retention: first-year studies, supplemental instruction, and learning communities (Barefoot, 2004; Gardner, 1986; Noel & Levitz, 2009).

Visit Web Resource 4.6 for a link to Readability, a free application that will strip extraneous content from a web page (e.g. advertisements) and download it for offline reading.

Visit Web Resource 4.7 for a link to Diigo, another social bookmarking site that lets you highlight, annotate and insert comments on the web content as you read.

Storing and Organizing Sources

It is likely that many of your resources will have been obtained in a digital format, such as PDF copies of journal articles accessed from an online database. Documents that have been scanned or created as images will need to be converted using optical character recognition (OCR) so that they are searchable and recognizable as text. For example, if you photocopy and digitize or scan a book chapter, it may not initially

be recognizable as text. You can use a program such as Adobe Acrobat Professional, Abbyy FineReader or OmniPage Professional to convert documents to a searchable text format.

Once you have located your sources, always keep copies of your personal library system in multiple places in case of a hard drive failure or other technological catastrophe that may result in loss of data. For example, back up your files on a shared server, external hard drive, jump drive or perhaps in the cloud. Consider adopting a naming convention for your electronic documents – such as author last name and publication date (e.g. Edwards-2007). This allows you to sort your documents in alphabetical order and more easily track references.

Storing a copy of your literature sources in a cloud storage system such as Dropbox (described in [Chapter 3](#)) will allow you to integrate your sources with a citation management system, such as Mendeley, and e-reader annotation systems, such as GoodReader. Instead of lugging around paper copies, you can access your articles from computing devices at home, at the office or on a plane. Google Drive, launched in early 2012, is another option for a cloud-based storage system that can be synchronized with your other Google accounts. More secure options may be to encrypt your files or set up your own server, as described in [Case Study 4.1](#).

Case Study 4.1

Devlin backs up his files using the FreeFileSync synchronization tool which checks whether a file has been updated since the last save. He keeps an encrypted copy of the files (using Truecrypt) on his home server created by Polkast. Copies of really important files are kept on an external drive at work and a further set of DVDs are periodically updated at a third secure location.

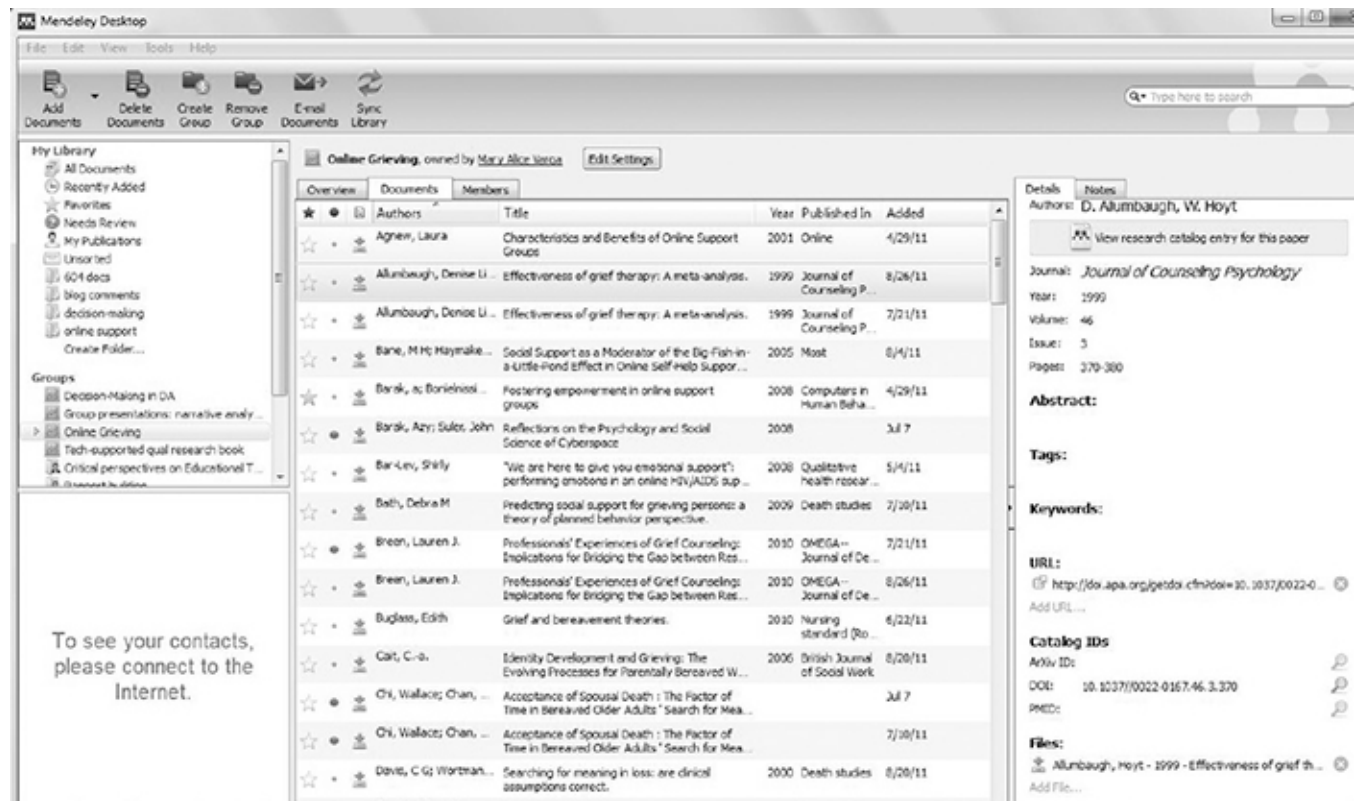
Visit Web Resource 4.8 for links to several encryption software programs.

Citation management systems, such as Endnote, RefWorks and Zotero, can be used as comprehensive electronic document management systems. Most can be used to search academic databases and download relevant articles directly into the program, along with the metadata to assist with generating bibliographies and in-text citations. These systems can help you more efficiently store, organize and manage your literature. In a review of four citation management systems, Mendeley was described as ‘the next generation of citation management software’ (Hensley, 2011, p. 207). A relative newcomer on the scene, launched in 2008, Mendeley is a free program that includes features such as PDF annotation, teamwork support, social networking and synchronized access to your library across mobile devices. Similar to Academia.edu (discussed in [Chapter 3](#)), Mendeley members have profile pages as well as a ‘contacts’ feature for connecting with others.

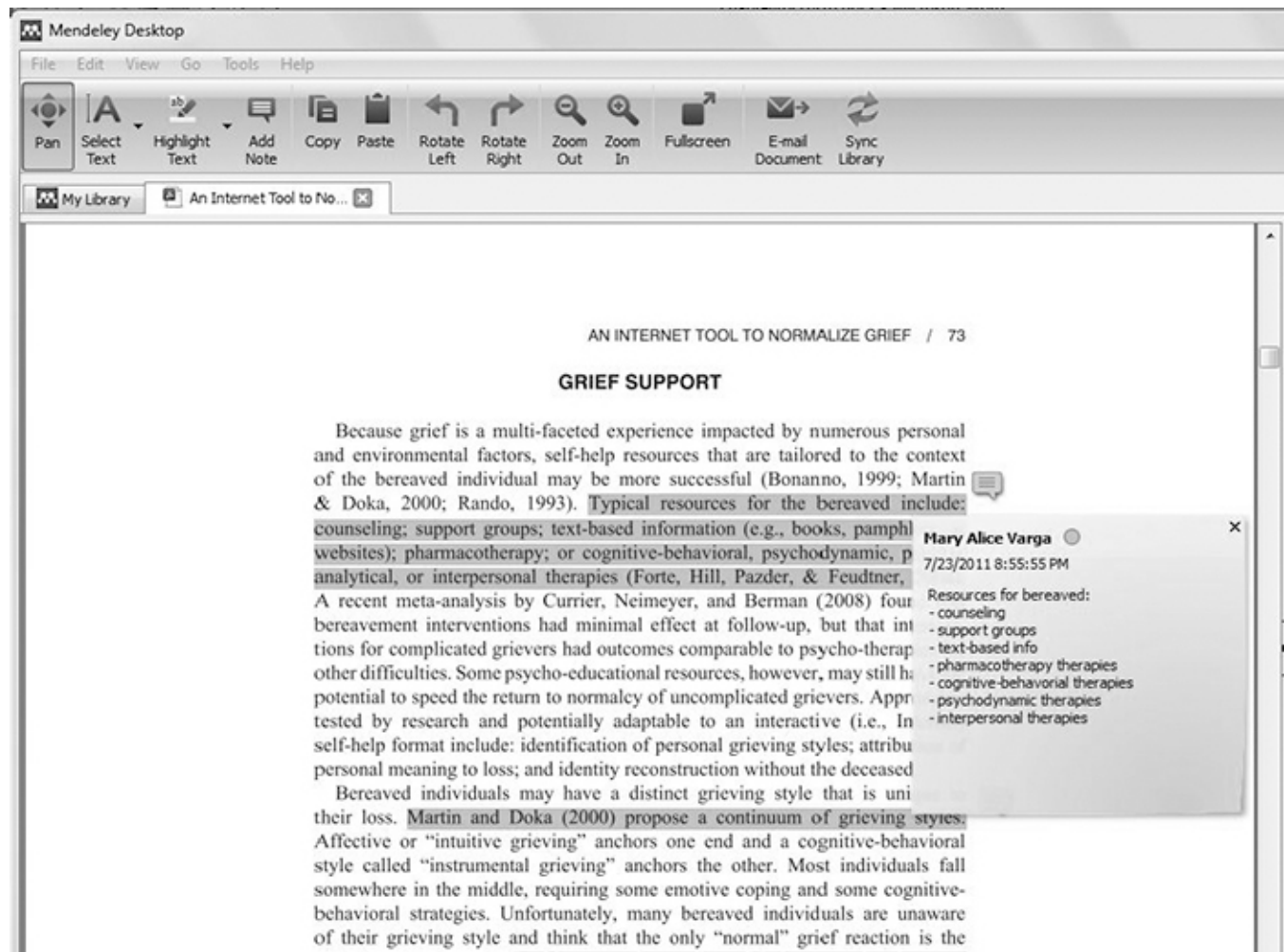
Mendeley serves as its own cloud storage device and is accessible on the web, mobile devices and desktop

computers. Increased storage space is provided with the fee-based version of Mendeley. Figure 4.6 illustrates the Mendeley desktop library interface, with folders and groups listed on the left, documents in the middle and metadata on the right.

Figure 4.6 Mendeley library



References can be organized through folders, subfolders, tags and keywords. Tags and keywords allow organization across themes or areas of interest within multiple folders. One helpful feature of Mendeley is the 'watched folder'. Once you set up a watched folder on your computer, any article that you add to this folder will automatically be imported into Mendeley. Mendeley supports group resource sharing, and all members of the group can view the annotations made on the documents. Annotated files can then be exported, downloaded, printed and/or shared with others on the research team (see Figure 4.7).

Figure 4.7 Mendeley's document annotation features

The ability to automatically generate the reference list is often the citation management system feature that is initially appealing to researchers. It promises an alternative to the tedious task of formatting the reference information according to your discipline's citation style (e.g. APA, MLA, Chicago, etc.). However, the automatic formatting feature can require considerable time and effort 'tweaking' the system before the metadata is properly extracted and accurately formatted.

Visit Web Resource 4.9 to read about Jennifer Lubke's metadata extraction comparison.

Factors besides the reference generator should be considered when choosing a citation management system. These include cost, storage capacity, mobile access, social networking, collaboration support, annotation features and, of course, accuracy of metadata extraction. Take a look at [Reflexive Practice 4.5](#).

Reflexive Practice 4.5

Citation management systems are changing rapidly, with features converging and new features being added. Do some investigating into two or more of the following programs: Endnote, RefWorks, Zotero, and Mendeley.

Find out how they compare on these key features:

- Price
- Storage capacity, location and associated costs
- Synchronization across mobile computing devices
- Social networking features
- Collaboration/team support
- Annotation/highlighting in PDFs
- Ability to customize settings to improve citation format
- Ability to print out annotations or extract them to other software.

Now, take a moment to explore [Reflexive Practice 4.6](#).

Reflexive Practice 4.6

Download one of the citation management systems and explore its features in relation to your own literature review process. Make an entry in your journal about your experiences.

Visit Web Resource 4.10 for Lisa Yamagata-Lynch's description of Zotero, another citation management system.

Reading and Annotating Sources

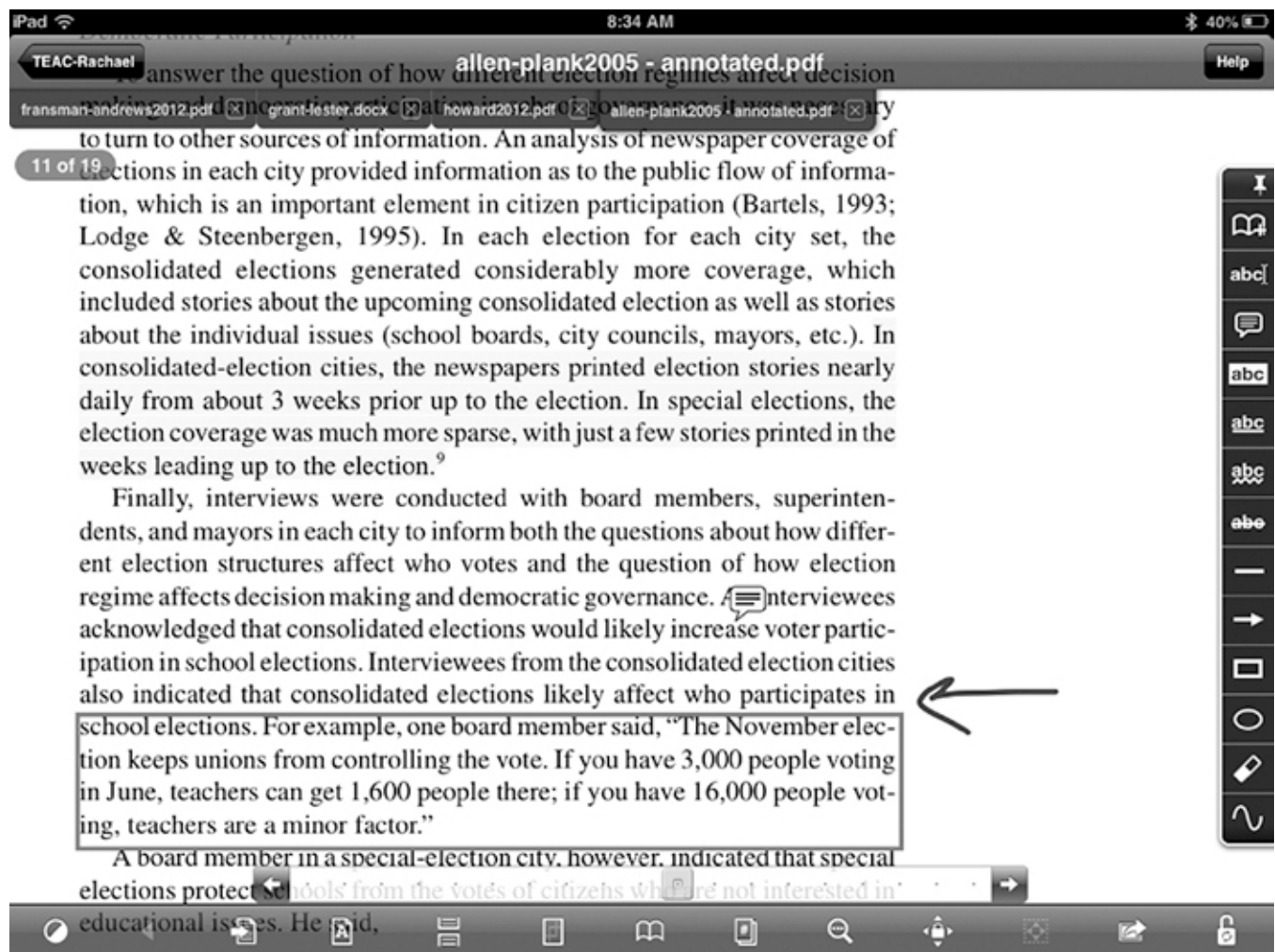
It is often during the reading and annotation phase of the process that the question of whether to read and take notes on paper or on screen becomes particularly relevant. Advances in mobile technologies are encouraging more academics to 'go paperless' in their academic work. While reading on paper is more familiar, easier on the eyes and doesn't rely on battery or computer power, going paperless can be a more efficient way to do your academic work. Electronic articles and books are more portable and searchable, and afford the ability to copy and paste text elsewhere. Those with long commutes may find it helpful to be able to listen to their academic books and articles and speak their notes into a handheld recording device. The 'read out loud' command in Acrobat Reader does just that: turns a PDF into an audio file by reading it out loud.

Yet even researchers who have digital sources and electronic storage systems may end up printing out hard copies – either for safe keeping (in case of computer failure) and/or to be able to read and annotate the

articles by hand. Often, the more important the document, the more likely it is to be printed out (Hillesund, 2011). Reading, annotating and writing are at the heart of our work as researchers, and changing these processes is akin to changing the essence of how we think. The desire to be comfortable, to curl up with an article or book, and to be able to mark up the text by hand is, not surprisingly, very important to academic readers (Rose, 2011).

Visit Web Resource 4.11 to read articles comparing onscreen and on-paper reading.

However, a variety of new tools is beginning to make going paperless for academic reading more feasible. Mobile computing devices such as tablet computers (e.g. iPads) and smartphones are more portable, lightweight and support new applications which are better suited to embodied habits of reading. Still, even mobile computing devices are limited in their ability to recreate the experience of having many articles open at once on your desk, enabling you to flip back and forth to compare passages. It can be difficult to overcome the 'screenness' that comes with reading on an electronic device (Rose, 2011). However, strategies like using multiple screens (e.g. dual monitors) can make the process more comfortable. One of the simplest ways to experiment with reading onscreen is by using the free software Adobe Reader X, which offers basic highlighting and annotation features. For a more robust tool, there are an increasing number of e-reader applications designed specifically for tablet computers, such as GoodReader (see [Figure 4.8](#)). Multiple articles can be open at once and a variety of annotation tools are available (highlighting, arrows, free-hand writing, etc.). Documents can also be zoomed in and out for easier reading.

Figure 4.8 GoodReader annotation tools

In [Vignette 4.1](#), Ginny Britt shares her journey to becoming entirely paperless in her academic work through the use of a tablet computer and the GoodReader application.

Vignette 4.1 The Paperless Literature Review

Ginny Britt, University of Tennessee

In my early years as a graduate student, I found myself spending time each week downloading articles, printing them out, taking notes and highlighting in preparation for class. With the introduction of mobile devices, such as smartphones and tablets, I knew that there had to be a way to eliminate my need for printing and amassing piles of paper. After acquiring an iPad, I decided to test out the e-reader program GoodReader and create my own 'paperless literature review' process.

The 'paperless literature review' process started by locating articles through keyword searches of academic databases, after which I would download a PDF of the relevant article and store it in a Dropbox folder. I designated this folder as a 'watched folder' so that any time I added a new article it was automatically entered into Mendeley. I also synchronized the Dropbox folder with GoodReader so that I could access and read, highlight and take notes on the articles. I could then return the annotated articles to Dropbox where they could be accessed from my laptop and imported into ATLAS.ti for analysis.

The GoodReader application is easy to use and synchronizes well with other programs. Some of its weaknesses, however, include the inability to annotate Microsoft Word Documents or PDFs that have not been converted to text with an OCR converter.

One potential disadvantage of shifting to onscreen reading and annotation is the flip side of an advantage – the ease with which you can copy and paste text from original sources. This could lead to unintentional plagiarism. To avoid this, it's even more important to include the author, year and page number citations alongside any direct quotes that you copy out of a source. Take time to consider the questions posed in Reflexive Practices 4.7 and 4.8.

Reflexive Practice 4.7

Plagiarism can happen unintentionally. What are some of the ways that you can check to make sure you avoid plagiarizing within your literature review and broader research study? How might being transparent about how you conducted your literature review help you avoid plagiarism?

Reflexive Practice 4.8

Select an annotation program (e.g. GoodReader, Adobe Acrobat or Mendeley) and annotate a document specific to your research study. Make an entry in your reflexivity journal chronicling your experiences.

Analysing and Synthesizing Sources

Beyond reading and annotating, a literature review requires being engaged in analysing, critiquing and

ultimately synthesizing the sources to tell the story about your topic. Finding a way to systematically, rigorously, transparently and even collaboratively analyse and critique the literature can be challenging. The purpose of your literature review will inform how you approach analysing your sources, and there are several excellent resources that can guide you in this process (Fink, 2010; Hart, 1998; Machi and McEvoy, 2009; Major and Savin-Baden, 2010). We provide here some general guidance on how you might approach the analysis process with the support of digital tools.

Onwuegbuzie, Leech and Collins (2012) pointed out that in many ways an analysis of literature is similar to the analysis of qualitative data, so techniques such as constant comparative analysis, domain analysis or theme analysis could be used. Computer-assisted qualitative data analysis software (CAQDAS, described in more detail in [Chapter 7](#)) can be used to systematize the literature review process, much as they do the data analysis process. Learning a CAQDAS program during the literature review process can even give you a head start on being ready to use it later for data analysis.

The code and retrieve feature of CAQDAS tools can make the literature review process more efficient. In [Vignette 4.2](#), Joshua Johnston describes his use of ATLAS.ti during the literature review process.

Vignette 4.2 Using ATLAS.ti for Literature Reviews

Joshua Johnston, University of Tennessee

I have found ATLAS.ti to be a helpful tool for reviewing the literature around teacher identity as part of my dissertation work. While using software does not necessarily speed up the process, it does add a sense of order that can help as you move into the actual writing.

For any non-electronic literature sources, I typed up notes as a new text document in ATLAS.ti., and I imported electronic copies of articles that I already had as PDF or .doc files. I named each of these 'primary documents' (as ATLAS.ti calls them) using an author-and-publication-year convention (e.g. Richards and Curtis 1972) so that I could sort the sources alphabetically within ATLAS.ti.

I began my review by coding the bibliographic information at the top of each primary document by document name. Because all my notes include citations to the major studies and theorists cited in the source, these codes created a network of influences. In other words, not only do I have quick access to 'Richards and Curtis 1972' within ATLAS.ti, but I can also connect that source with all the other sources that cited it. Attaching a memo to this code with a brief description of the source and its major claims allowed me to refresh

my memory any time I encountered a connection between sources. I also used document families to organize the sources by type of article (e.g. empirical study, concept piece, practitioner article), type of study (e.g. experimental design, discourse analysis, survey) and theories (e.g. communities of practice, cooperative learning, narrative identity). This allowed me to, for example, search for relationships between claims made in the studies and the type of studies they were.

I then broadly coded each source for what it claimed about teacher identity. I initially used descriptive codes to capture ideas with subtle distinctions. It is much easier to combine codes later if two codes are approximately equal than it is to separate a category that was too general to begin with. In this way I created nearly 80 unique codes following the format 'identity as X' (e.g. situated, contextual, social). Only after coding all of the sources did I merge these codes.

Once all the coding was completed, I could easily see which codes were most salient by sorting these codes by the ones that I had used most frequently. I then began with the code I used most often, retrieved all of the text I had coded in that way and began constructing my arguments about what the literature says about teacher identity.

Figure 4.9 is taken from our own literature review that we did using ATLAS.ti in preparation for writing Chapter 8 of this book. It illustrates some highlighted text from an article (called a 'quotation') that has been coded as 'advantages and limitations of visual methods'. The smaller box on the right shows the eight quotations that have been coded this way. By clicking on each, the quotation is pulled up in the context of the larger document for further analysis.

Figure 4.9 Codes in ATLAS.ti

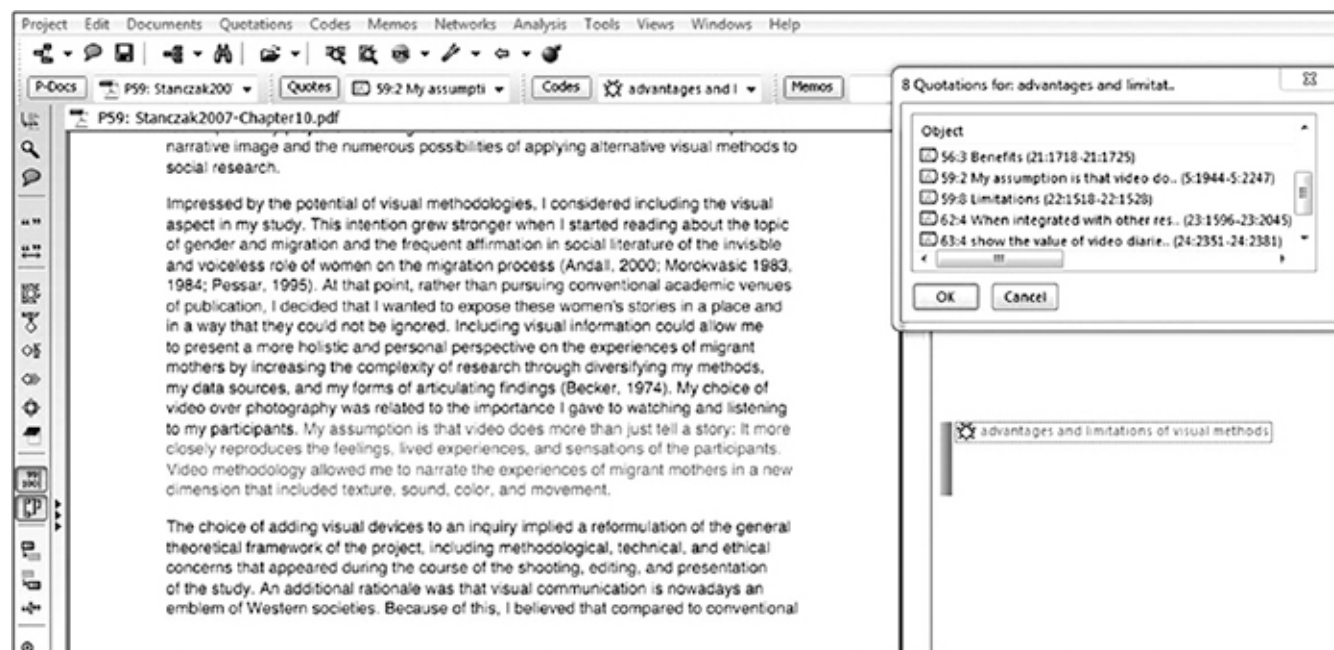
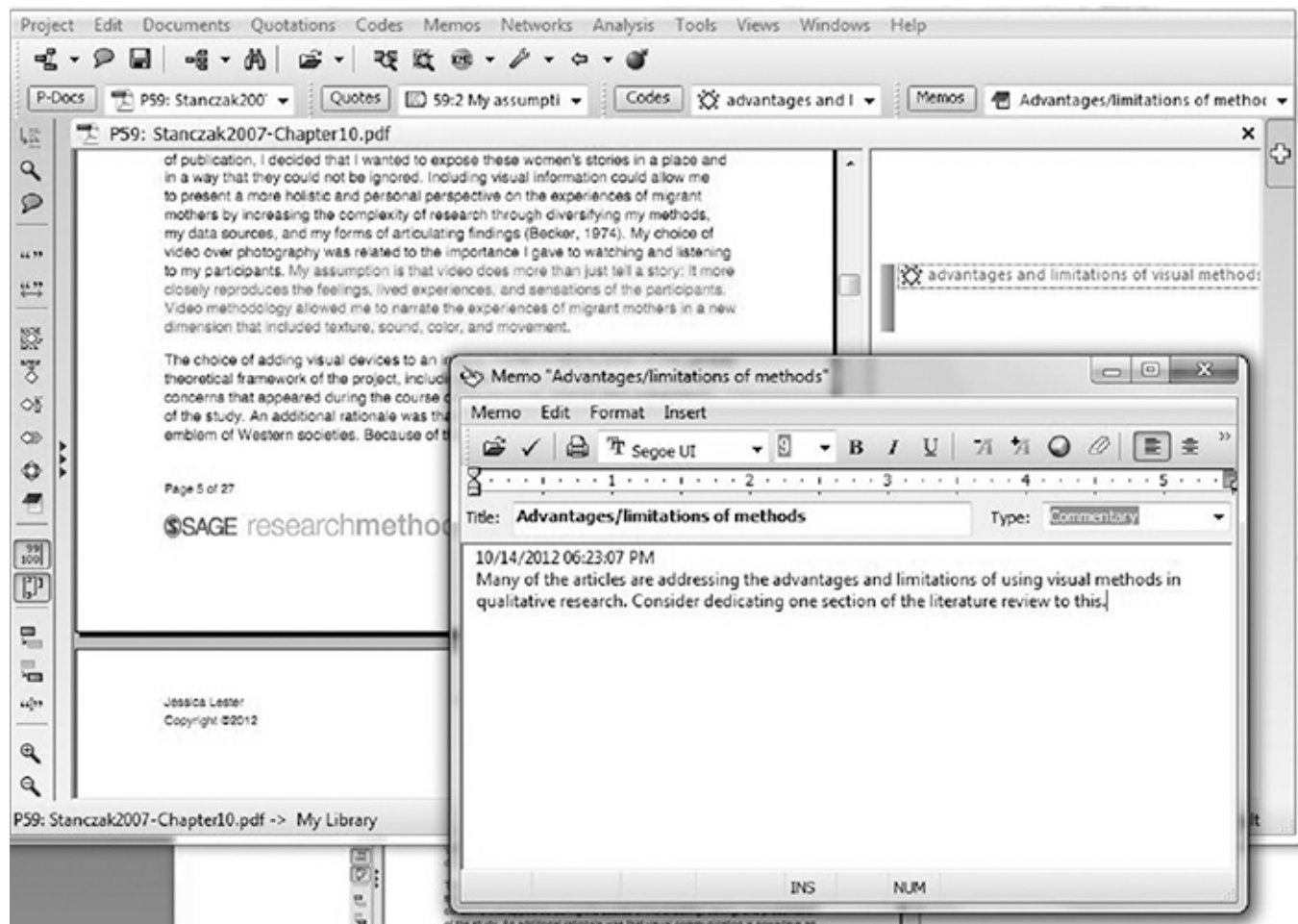


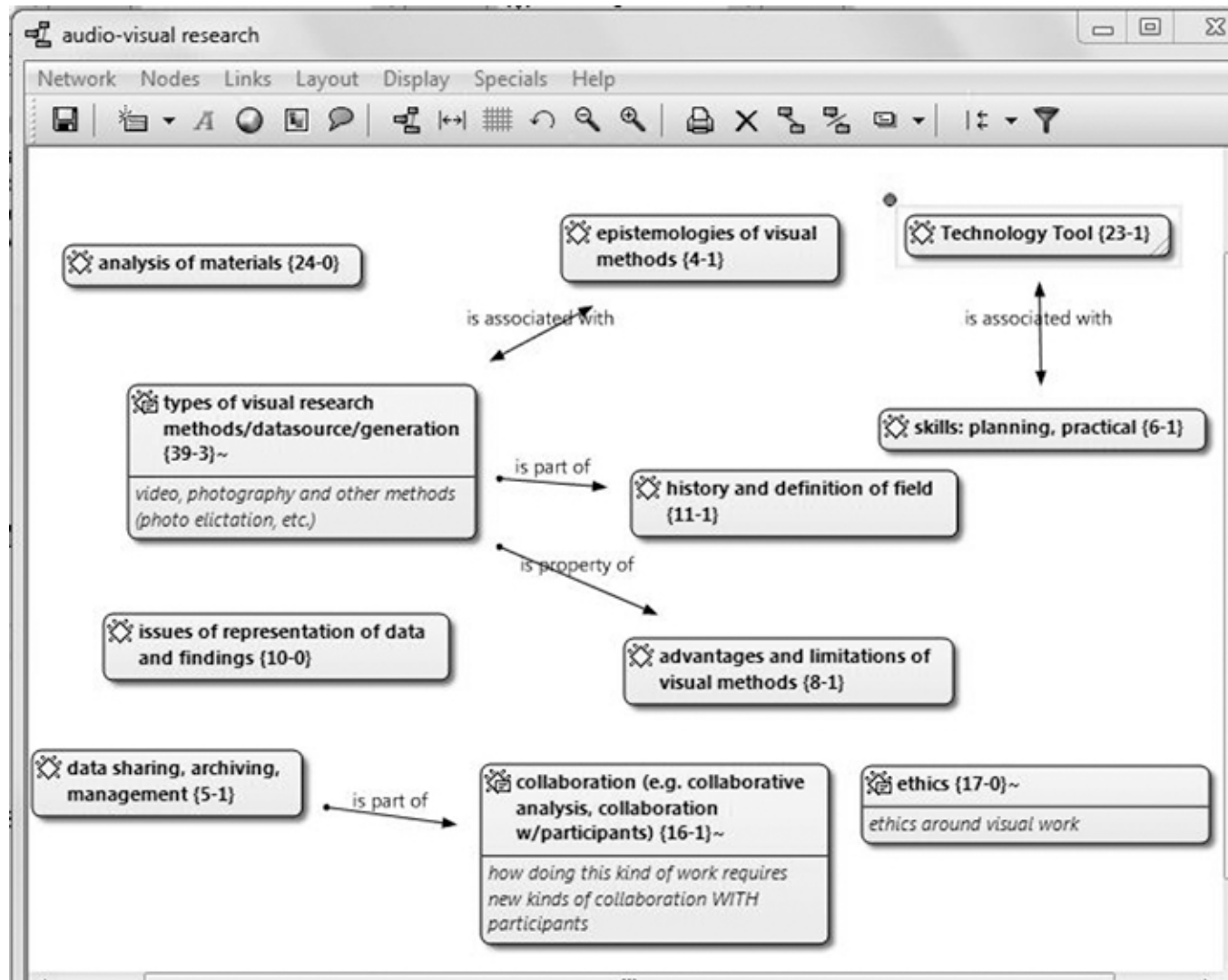
Figure 4.10, again from our literature review for Chapter 8, shows the memoing feature that can be used for annotating literature. The memo makes note of a common theme across the literature, in this case about the advantages and limitations of visual methods, that should be considered in subsequent analysis. These memos can be directly linked to the quotations in the text for easy retrieval and review.

Figure 4.10 Memoing feature of ATLAS.ti for literature reviews



In addition to coding the literature during the review for themes or categories, you may also want to analyse the arguments present in or across the literature. Here, using *mapping techniques* can help you identify claims, evidence and warrants made in the arguments. There are a variety of mapping techniques to assist with this process, such as feature maps, tree constructions and concept maps (see Hart, 1998; Machi and McEvoy, 2009 for details on mapping types). ATLAS.ti can support mapping through its 'networks' feature. In Figure 4.11, all of the codes used in the initial review of the literature for Chapter 8 have been imported into a 'network view' to provide a graphical display. By visualizing the codes in this way, we could rearrange the images and draw connections between them as we worked to make sense of the overall structure of the arguments we were making about the use of audio and visual data.

Figure 4.11 Network view in ATLAS.ti



Other CAQDAS packages offer similar features and you may find them just as helpful for the literature review.

Visit **Web Resource 4.12** for articles and a webinar on using NVivo for literature reviews and how it integrates with the citation manager Endnote.

Final Thoughts

While literature reviews are an iterative and ongoing part of your research work, be careful not to get stuck in the reading phase. The only way to fully interpret what you are reading is by writing. You must not only read, but also critique and analyse through the writing process – telling the story of what is known about your research topic, what is not yet known, and how you plan to engage in the academic conversation around your topic. Understanding your audience and the expected format of your literature review is important – the final length may vary from a few references in a conference presentation to an entire chapter in your dissertation, grant application or final report. Remember, too, to ensure ethical practices by avoiding

unintentional plagiarism when working with digital sources and to store sources in a secure location.

Chapter Discussion Questions

1. What will be the purpose and goals of your literature review?
 2. What are some strategies you can use for locating and evaluating relevant sources of literature for your review?
 3. How could using digital tools promote a more systematic, transparent and collaborative literature review process?
 4. What are some of the pros and cons of 'going paperless' in your academic reading endeavours?
 5. How can you ensure ethical practices as you review the literature for your research study?
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Suggestions for Further Reading

For an excellent overview of how to critique the quality of literature reviews, see Boote and Beile (2005). Hart (1998) provides thorough guidance on how to analyse arguments in published work, as well as a comprehensive treatment of how to conduct literature reviews at the graduate level. O'Dochartaigh (2012) is packed full of search strategies for identifying relevant resources, and Phelps, Fisher and Ellis (2007) provides many useful organizational tips for managing the overall research process, with several chapters dedicated specifically to the literature review process.

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