Literature Reviews: Using a Matrix to Organize Research

A literature review is not a sequence of summaries of research articles you have read. Instead it is a *synthesis* of ideas from the literature, and its purpose is to answer a research question. Reading one author will not give the answer to a research question. But when you read many authors, experts in the field, who are addressing the same issue, you can weigh and compare what they say in order to arrive at an informed answer. (Sometimes the answer is *the literature does not provide a clear answer.* Then your paper is about why the literature failed to provide the answer.)

The task becomes complicated when the authors are numerous. How will you keep track of the information? One way is to develop some sort of graphic organizer that lets you see how authors' ideas (at least those that pertain to your question) relate to other authors' ideas. One kind of organizer is called a *literature review matrix*, of which an example is provided below. There is no one "right" way to create such a matrix, but good matrixes have common characteristics.

Limitation. Good matrixes limit the amount of information you have to work with to write your paper. In a 15-page article, maybe only a few paragraphs pertain to your research question. Don't bother highlighting or writing down the rest of the information. On your matrix make note only of the ideas that address your research question, which you will write at the top of your matrix as a reminder to keep yourself on track.

Comparison. Besides limiting the number of ideas and amount of text, the placement of notes on your matrix will give you a bird's eye view of how the authors' ideas relate to other authors' ideas. By labeling the ideas that pertain to your question, you can see where authors agree and disagree—and where other authors ignored an idea altogether. (You may want to find out why.) As you fill out your matrix, themes will start to emerge: where do disagreements arise, which ideas seem to gain consensus among authors, and so on.

Discovery. You can anticipate what ideas will emerge and label those in advance of your reading. But do leave some blanks for surprises—those times when authors bring up ideas you haven't thought about before. What will you do with those "loner" insights—the ones mentioned by only one author? Are they worth including as you attempt to provide a thorough answer to your question? How will you decide?

Location. You will create a reference list as you read your articles. That is easy to do if you keep track of citations as you find the sources in electronic databases or on the Internet. (Read Copy/Paste from SuperSearch.) When you are finished, remove from the reference page any articles you did not cite in the paper. Your matrix will alert you to the sources you plan to cite. If you place page numbers in the matrix boxes along with your notes, you will never have to search twice for the supporting evidence you want to cite.

The sample matrix below is designed for a literature review whose purpose is to analyze a problem (trauma in emergency workers) and propose solutions.

Labeling. The names of the first authors of each study appear across the top of the matrix. The names can easily be related to the full citation information. The labels in the left column of the matrix are proposed themes. (If you don't know what your themes will be, leave these blank until you read the research, and fill in as you go.) The matrix has been shaded to show you how the themes in the example group themselves into (a) study type, (b) definition, (c) effects of trauma, (d) prevention and treatment. You do not have to shade your matrix. *You do not have to group your themes this way. You may have more, fewer, or different themes than those on the example matrix.*

Notetaking. As you read the research make brief notes in the blank cells about ideas that address your research question. Do include page numbers. Do not include information that does not address your question in some fashion. As you fill in the cells, you may find that some of the authors provide little useful information. You can drop those authors from your references. At other times you will uncover themes that you want to pursue father (as long as it relates to your research question). If that is the case, you may want to look for more research. Keep adding and deleting sources until you see a pattern of ideas emerging that will help you answer your research question.

Expanding. The matrix will need to be expanded as you review more studies. You can expand by adding pages. If you like you can tape pages together to create a spreadsheet. If you are proficient with Excel, you can create your matrix in Excel. You can even draw your matrix on poster paper.

When you have finished, think about what you have learned and how you would reply to your research question, based on the literature you read. The reply to your question will become your Conclusion section. You will use the headings in the left column—the themes and subtopics—to create your APA headings. Under those headings you will identify the themes you uncovered in your research, and explain how they relate to your question.

Synthesizing the information from a literature review is not an easy task. The matrix won't do the thinking for you. However, the matrix should be a useful tool for helping you relate and organize the information and for enabling you to keep track of your sources for citation purposes. Change the matrix as you need to in order to make it work for your unique question.

Example Matrix

Research Question: *How does vicarious trauma affect emergency care workers in disaster zones?*
Corollary Question: How can negative effects be prevented, reduced, and treated?

	Baird 2006	Bell 2003	Campbell 2007	Devilly 2006	Horman 2005
Type of Study					
Location					
Situation					
Definition of *vicarious trauma*					
Idea 2: Anxiety Effect					
Idea 3: Fatigue Effect					
Idea 4: Physical Effect					
Idea 5: Another Effect?					
Idea 7: Prevent Effect					
Idea 8: Reduce Effect					
Idea 9: Treat Effect					

Sources

Baird, K. & Kracen, A. C. (2006). Vicarious traumatization and secondary traumatic stress: A research synthesis. *Counselling Psychology Quarterly, 19*(2), 181-188. doi: 10.1080/09515070600811899

Bell, H., Kulkarni, S., & Dalton, L. (2003). Organizational prevention of vicarious trauma. *Families in Society, 84*(4), 463-470.

Campbell, L. (2007). Utilizing compassion fatigue education in Hurricanes Ivan and Katrina. *Clinical Social Work Journal 35*(3), 165-171. doi:10.1007/s10615-007-0088-2

Devilly, G. J., Gist, R., & Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the work place and after disasters. *Review of General Psychology, 10*(4), 318-345. doi: 10.1037/1089-2680.10.4.318

Hormann, S. & Vivian, P. (2005). Toward an understanding of traumatized organizations and how to intervene in them. *Traumatology 11*(3), 159-169. doi:10.1177/153476560501100302

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