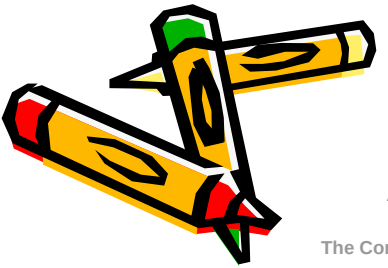
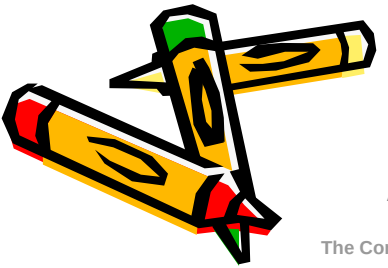
Literature Review



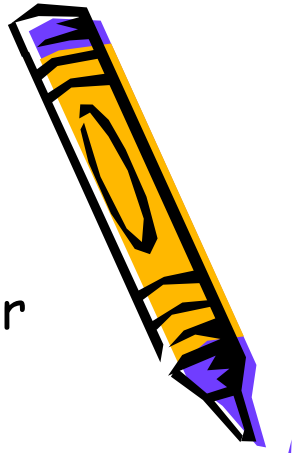
Finding What Has Come Before

If you do not know what has come before your study, what constructs have already been investigated, what methodologies have proven most effective, and in what ways the research in the field has been criticized, the likelihood of producing a high-quality "next-step" in the field is remote.

Therefore, searching and reviewing the literature are probably the most important aspects of developing a study that adds to the literature in unique and substantive ways



What is Literature Review?



A literature review is a critical analysis of the literature, or research, related to a specific topic or research question

A ***literature review*** is "an extensive critical review of the extant literature on the research topic".

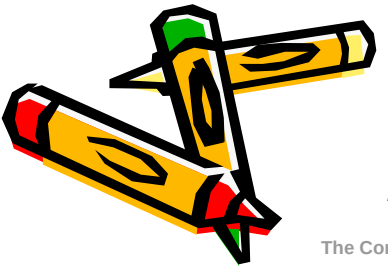
(Clare & Hamilton, 2003, p. 8)

A ***literature review*** "provides the reader with a picture...of the state of knowledge and the main questions in the subject area being investigated".

(Bell, 1999, p. 93)

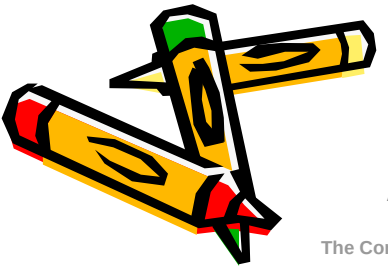
A ***literature review*** "contains a critical analysis and the integration of information from a number of sources, as well as a consideration of any gaps in the literature and possibilities for future research".

(Manalo & Trafford, 2004, p. 45)



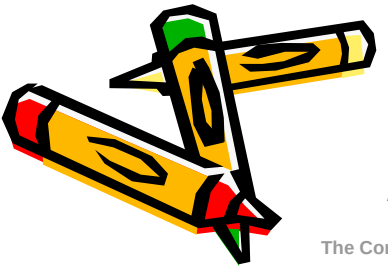
What is Literature Review?

- It is actually the reading of the works of others before commencing on our own research work.
- Literature review can pave the way for better research.
- It avoids repetitions



Questions to be answered by the "Literature Review"

- What do we already know in the immediate area concerned?
- What are the characteristics of the key concepts or the main factors or variables?
- What are the relationships between these key concepts, factors or variables?
- What are the existing theories?
- Where are the inconsistencies or other shortcomings in our knowledge and understanding?
- What views need to be (further) tested?
- What evidence is lacking, inconclusive, contradictory or too limited?
- Why study (further) the research problem?
- What contribution can the present study be expected to make?
- What research designs or methods seem unsatisfactory?

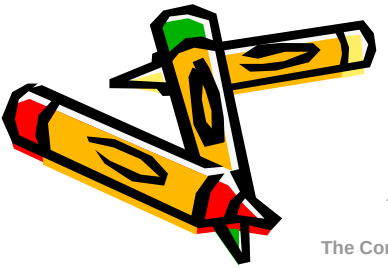


Literature Review: Example

Topic: Coastal erosion and the resulting beach profiles.

Numerous laboratory experiments and field observations were carried out to illuminate the darkness of the field. The findings and suggestions are reviewed here.

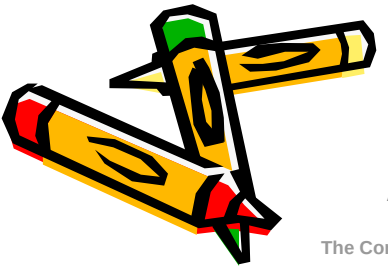
JACHOWSKI (1964) developed a model investigation conducted on the interlocking precast concrete block seawall. After a result of a survey of damages caused by the severe storm at the coast of USA, a new and especially shaped concrete block was developed for use in shore protection. This block was designed to be used in a revetment type seawall that would be both durable and economical as well as reduce wave run-up and overtopping, and scour at its base or toe. It was proved that effective shore protection could be designed utilizing these units.



Literature Review: Example

HOM-MA and HORIKAWA (1964) studied waves forces acting on the seawall which was located inside the surf zone. On the basis of the experimental results conducted to measure waves forces against a vertical wall, the authors proposed an empirical formula of wave pressure distribution on a seawall. The computed results obtained by using the above formula were compared well with the field data of wave pressure on a vertical wall.

SELEZOV and ZHELEZNYAK (1965) conducted experiments on scour of sea bottom in front of harbor seawalls, basing on the theoretical investigation of solitary wave interaction with a vertical wall using Boussinesque type equation. It showed that the numerical results were in reasonable agreement with laboratory experimental data.



Literature Review: Example

Is this a good literature review? Why?

Which of the above questions does this literature review answer?

This literature offers a summary of previous research, so it answers question 1. It simply tells the reader what was discovered in previous research.

Which of them doesn't it answer?

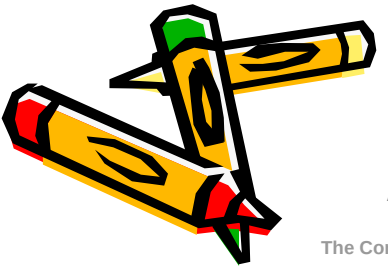
This literature review doesn't answer any of the questions from 2 to 10. It doesn't evaluate the research it summarizes, nor does it show the relationships between the different theories, views and approaches it describes.

Literature Review: Example

Is this a good literature review? Why?

Which method has the writer used to organize the literature review?

The writer has organized this literature review around the researchers, and has presented it chronologically (arranging the work by when it was published). Notice that by organizing it around the researchers (the summaries are listed after the names of the people who did the research) and not around the research (e.g. around key concepts) the writer emphasizes the people and not their work.



Literature Review: Example

Is this a good literature review? Why?

We don't believe that it is a good literature review. It only gives a summary of previous research but it does not use the literature to explain more about the writer's own research problem. Also, it is not critical: after we read it we still do not know which theories or findings are important, which are inconclusive, what the shortcomings are, etc.

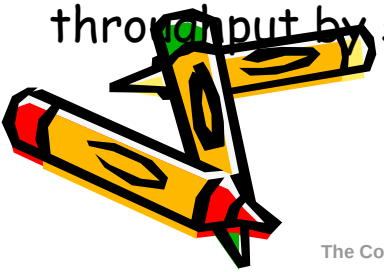
The main problem with this literature review is that it does not show how previous research relates to the writer's own research problem, or the relationship between different research already carried out. Given the organization the writer has used, this literature review could not be effective literature review because there is little scope for showing relationships, drawing comparisons, or making evaluations.

Literature Review: An Example

On the optimal container size in automated warehouses

Y. Roll, M.J. Rosenblatt and D. Kadosh, Proceedings of the Ninth ICPR

Automated storage and retrieval systems (AS/RS) are being introduced into the industry and warehousing at an increasing rate. Forecasts indicate that this trend will continue for the foreseeable future (see [1]). Research in the area of AS/RS has followed several avenues. Early work by Hausman, Schwarz and Graves [6, 7] was concerned with storage assignment and interleaving policies, based on turnover rates of the various items. Elsayed [3] and Elsayed and Stern [4] compared algorithms for handling orders in AR/RS. Additional work by Karasawa et al. [9], Azadivar [2] and Parry et al. [11] deals with the design of an AS/RS and the determination of its throughput by simulation and optimization techniques.



Literature Review: An Example

On the optimal container size in automated warehouses

Y. Roll, M.J. Rosenblatt and D. Kadosh, Proceedings of the Ninth ICPR

Several researchers addressed the problem of the optimal handling unit (pallet or container) size, to be used in material handling and warehousing systems. Steudell [13], Tanchoco and Agee[14], Tanchoco et al. [15] and Grasso and Tanchoco [5] studied various aspects of this subject. The last two references incorporate the size of the pallet, or unit load, in evaluation of the optimal lot sizes for multi-inventory systems with limited storage space. In a report on a specific case, Normandin [10] has demonstrated that using the 'best-size' container can result in considerable savings. A simulation model combining container size and warehouse capacity considerations, in an AS/RS environment, was developed by Kadosh [8]. The general results, reflecting the stochastic nature of the flow of goods, are similar to those reported by Rosenblatt and Roll [12]. Nevertheless, container size was found to affect strongly overall warehousing costs.

Literature Review: An Example

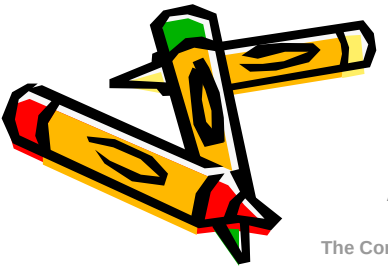
On the optimal container size in automated warehouses

Y. Roll, M.J. Rosenblatt and D. Kadosh, Proceedings of the Ninth ICPR

In this paper, we present an analytical framework for approximating the optimal size of a warehouse container. The approximation is based on series of generalizations and specific assumptions. However, these are valid for a wide range of real life situations. The underlying assumptions of the model are presented in the following section.

Notice how the writers have:

- **Grouped** similar information: "Steudell [13], Tanchoco and Agee[14], Tanchoco et al. [15] and Grasso and Tanchoco [5] studied various aspects of this subject."



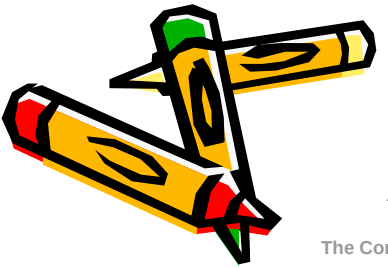
Literature Review: An Example

On the optimal container size in automated warehouses

Y. Roll, M.J. Rosenblatt and D. Kadosh, Proceedings of the Ninth ICPR

Notice how the writers have:

- Shown the relationship between the work of different researchers, showing similarities/differences: "The general results, reflecting the stochastic nature of the flow of goods, are **similar** to those reported by Rosenblatt and Roll [12]."
- indicated the position of the work in the research area history: "**Early** work by Hausman, Schwarz and Graves [6, 7] . . . "
- Moved from a **general** discussion of the research in AS/RS to the more **specific** area (optimal container size) that they themselves are researching i.e. they relate previous work to their own to define it, justify it and explain it.



Characteristics of a Good Literature Review

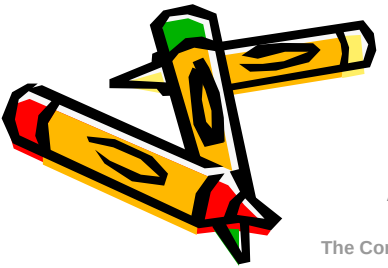
- **Focused** - The topic should be narrow. You should only present ideas and only report on studies that are closely related to topic.
- **Concise** - Ideas should be presented economically.
- **Logical** - The flow within and among paragraphs should be a smooth, logical progression from one idea to the next
- **Developed** - Don't leave the story half told.
- **Integrative** - Your paper should stress how the ideas in the studies are related. Focus on the big picture. What commonality do all the studies share? How are some studies different than others? Your paper should stress how all the studies reviewed contribute to your topic.
- **Current** - Your review should focus on work being done on the cutting edge of your topic.

How can I write a "Good" literature review

Misconception

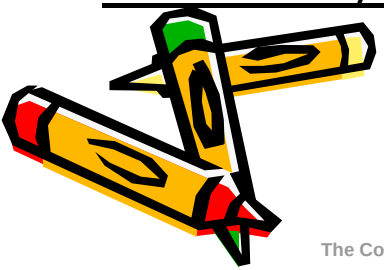
Thoroughness is proportional to the number of artilces you study or used in the Bibliography

Thoroughness has little to do with the number of articles



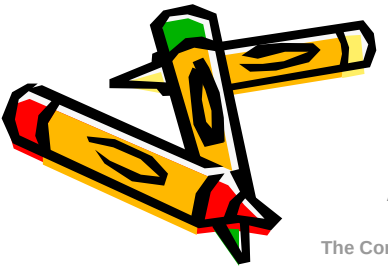
How can I write a "Good" literature review

Remember the purpose: It should answer the questions we looked at above. Look at how published writers review the literature. You'll see that you should use the literature to explain your research - after all, you are not writing a literature review just to tell your reader what other researchers have done. You aim should be to show why your research needs to be carried out, how you came to choose certain methodologies or theories to work with, how your work adds to the research already carried out, etc.



How can I write a "Good" literature review

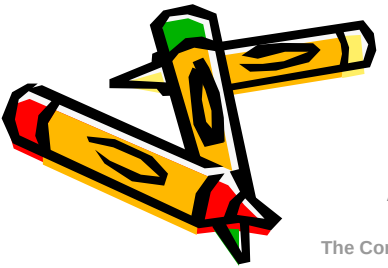
Read with a purpose: You need to summarize the work you read but you must also decide which ideas or information are important to your research (so you can emphasize them), and which are less important and can be covered briefly or left out of your review. You should also look for the major concepts, conclusions, theories, arguments etc. that underlie the work, and look for similarities and differences with closely related work. This is difficult when you first start reading, but should become easier the more you read in your area.



Literature review is a highly non-linear process

How can I write a "Good" literature review

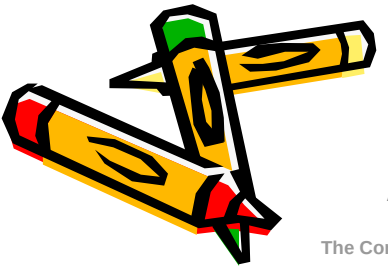
Write with a purpose: Your aim should be to evaluate and show relationships between the work already done (Is Researcher Y's theory more convincing than Researcher X's? Did Researcher X build on the work of Researcher Y?) and between this work and your own. In order to do this effectively you should carefully plan how you are going to organize your work.



How can I write a "Good" literature review

Points to remember:

A lot of people like to organize their work chronologically (using time as their organizing system). Unless developments over time are crucial to explain the context of your research problem, using a chronological system will not be an effective way to organize your work. Some people choose to organize their work alphabetically by author name: this system will not allow you to show the relationships between the work of different researchers, and your work, and should be avoided!



How can I write a "Good" literature review

Points to remember:

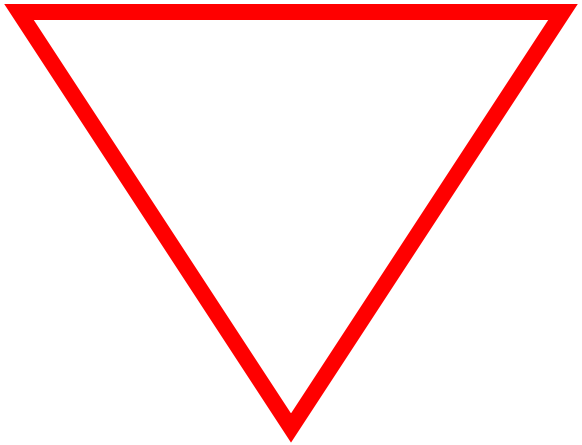
When you read for your literature review, you are actually doing two things at the same time (which makes things more difficult for you!):

1. You are trying to define your research problem: finding a gap, asking a question, continuing previous research, counter-claiming;
2. You are trying to read every source relevant to your research problem.

Naturally, until you have defined your problem, you will find that there are hundreds of sources that seem relevant. However, you cannot define your problem until you read around your research area. This seems a vicious circle, but what should happen is that as you read you define your problem, and as you define your problem you will more easily be able to decide what to read and what to ignore.

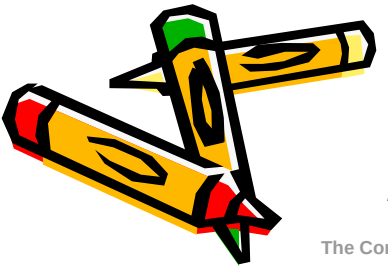
Organization of literature review

- A general organization looks like a funnel
  - Broader topics
  - Subtopics
  - Studies like yours



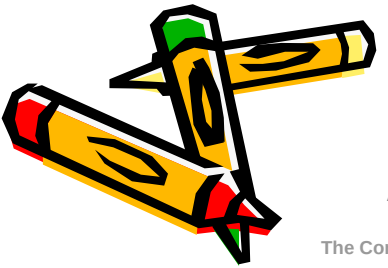
How to organize studies

- Chronological
  - By publication date
  - By trend
- Thematic
  - A structure which considers different themes
- Methodological
  - Focuses on the methods of the researcher, e.g., qualitative versus quantitative approaches



Avoid the "Traps"

Trying to read everything! As you might already have discovered, if you try to be comprehensive you will never be able to finish the reading! The idea of the literature review is not to provide a summary of all the published work that relates to your research, but a survey of the most relevant and significant work.



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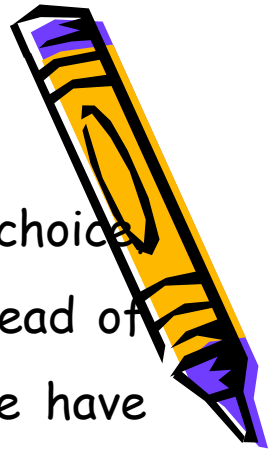
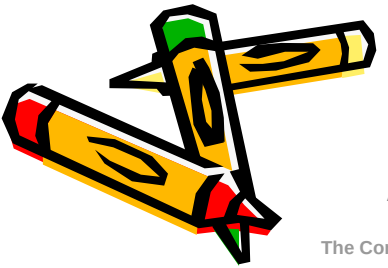
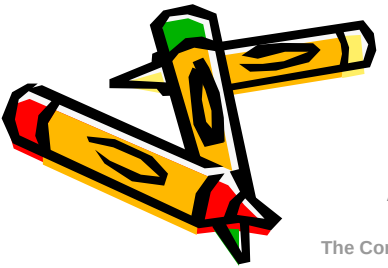


Reading but not writing! It's easier to read than to write: given the choice most of us would rather sit down and read yet another article instead of putting ourselves in front of the computer to write about what we have already read! Writing takes much more effort. However, writing can help you to understand and find relationships between the work you've read, so don't put writing off until you've "finished" reading - after all, you will probably still be doing some reading all the way through to the end of your research project. Also, don't think of what you first write as being the final or near-final version. Writing is a way of thinking, so allow yourself to write as many drafts as you need, changing your ideas and information as you learn more about the context of your research problem.



Avoid the "Traps"

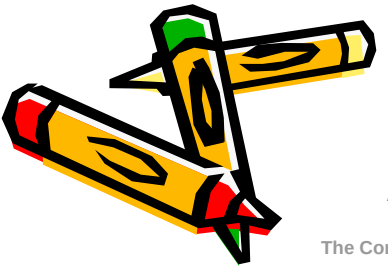
Not keeping bibliographic information! The moment will come when you have to write your references page . . . and then you realize you have forgotten to keep the information you need, and that you never got around to putting references into your work. The only solution is to spend a lot of time in the library tracking down all those sources that you read, and going through your writing to find which information came from which source. To avoid this nightmare, always keep this information in your notes. Always put references into your writing.



Suggestion

Develop a list of authors who have been important contributors to the area and track their works

Example: Associate Editors of some good journals in your area of research



Suggestion

- Keep a record of the literature you collect
- Record where and when you retrieved the information
- Use a citation manager program like EndNote