

What is a literature review?

Literature = scholarly publications which have been written on a particular topic, such as journal articles, research reports, government reports and text books.

The review = the careful selection of literature relevant to your topic and the presentation, interpretation, classification and evaluation of this literature.

Why do a literature review?

Your literature review becomes an essential link in your research project:

- The literature review provides the reader with all the important background information needed to understand your project.
- It places your project as one link in a chain of research that is developing knowledge in your field.
- To understand where you are going, it is important to understand what came before you.
- It demonstrates to the reader that you are aware of up-to-date and important knowledge on your topic
- It may also be used to justify or provide a rationale for your research question, your research framework or your methodology

A literature review is NOT ...

- **An annotated bibliography**
 - In an annotated bibliography the writer presents a summary and critical evaluation of each article or scholarly resource, one by one.
 - There little or no connection made between the various articles or resources.
- **An essay**
 - Essays and literature reviews have a very different purpose and require different approaches.
 - In an essay a student is given a topic to discuss or a question to answer and the writing is organised around responding to that topic or question.
 - The essay progresses in a linear way, where the student presents his/her first point, followed by an explanation which is supported by the literature.
 - The student then moves on to the second point and so on.
 - So in an essay the literature has a supporting role, whereas in a literature review it is the literature itself which is the subject of discussion.

In the literature you WILL ...

- **NOT** answer a question
- identify a gap in existing knowledge, that is, you will identify what we still need to know about this topic or issue
- **POSE** a question related to this gap. This will be your research question.
- compare and contrast different authors' views on an issue
- note areas in which authors are in disagreement
- highlight gaps
- or identify any particular shortcomings of past research

In this way your literature review becomes a critical discussion of the knowledge or ideas related to your research topic

Structure of the literature review

The body of your literature review will be organised in way that best suits your topic

- **Historically/chronologically** - if you are looking at the evolution of a concept or practice overtime or evaluating whether a concept from 20 years ago holds up today, then a historical or chronological organization might be appropriate.
- **Research questions** - some writers organise their literature review around the research questions.
- **Themes** - a very common way to organise the literature is according to key themes which emerge from the literature in relation to your topic.

Organising your literature

You must demonstrate that you went about your literature review in a systematic and rigorous way. You can include diagrams or tables to show how you have organised your literature.

Example 1

- The authors have summarised the large amount of literature on their topic into a table.
- They categorised the literature according to land use characteristics discussed in the literature, such as distance of residence from the urban centre, settlement size and so on.
- They further organized the literature according to different travel patterns, such as distance, frequency, mode, time and energy consumption.
- As the authors noted, this table allowed them to identify areas the literature has focused on, and any gaps. Also, it allowed them to examine similarities and differences in the literature.
- Further, the table provided a structure for the presentation of the literature review.

Table 1. Studies Classified According to Land Use Characteristics and Travel Patterns

Land use characteristics → Travel patterns ↓	Distance of residence from the urban centre	Settlement size	Mixing of land uses	Provision of local facilities	Density of development	Proximity to main transport networks	Availability of residential parking	Road network type	Neighbourhood type
Average journey distance	Gordon et al., 1989a	Orfeuil and Salomon, 1993		Cervero and Landis, 1992	ECOTEC, 1993				
	Johnston-Anumonwo, 1992 Spence and Frost, 1995			Hanson, 1982 Winter and Farthing, 1997					
Average journey distance by car		Hillman and Whalley, 1983		Cervero and Landis, 1992 Farthing et al., 1997	ECOTEC, 1993 Hillman and Whalley, 1983 Levinson and Kumar, 1997	Levinson and Kumar, 1997		Marshall and Banister, 2000	Crane and Crepeau, 1998
	Travel distance (all modes)	Næss et al., 1995 Curtis, 1995 Stead, 1999	ECOTEC, 1993 Hillman and Whalley, 1983 Stead, 1999	Stead, 1999	Dumphy and Fisher, 1996 ECOTEC, 1993 Hillman and Whalley, 1983 Kenworthy and Laube, 1999 Stead, 1999	Headicar and Curtis, 1994 Stead, 1999	Stead, 1999		Crane and Crepeau, 1998 Rutherford et al., 1996
Journey frequency	Curtis, 1995		Ewing et al., 1996	Hanson, 1982; ECOTEC, 1993 1993	Dumphy and Fisher, 1996 ECOTEC, 1993 Ewing et al., 1996				Berman, 1996 Cervero and Gorham, 1995 Crane and Crepeau, 1998 Friedman et al., 1994 McNally and Kulkarni, 1997

(Stead & Marshall 2001, p. 114)

Writing up your literature review

A brief introduction:

- The decision to include a brief introduction to your literature review will depend on the topic area, length of the project report and any instructions or template provided by your lecturer.
- The length of the introduction will depend on the word requirement for your research project report or paper. It could be just a couple of sentences or it could be several paragraphs.
- Inform the reader of the purpose or focus of the section and to sign post to the reader what is coming up in this section.
- You may want to also inform the reader of how you went about the process of conducting the literature review so that the reader can be assured of the rigor of your process.

Sample introduction:

<p>Traditionally the approach to infrastructure planning and decision-making is highly directive and strongly organized in stages. Such an approach can help progress of a project or a process by defining manageable pieces (Cooper 1972; Prahabkar 2008). A more overarching approach to lifecycle integration, which looks into the possibility and potential added value of tailoring and integrating separate initiatives, is currently absent. To investigate its potential in practice, it is crucial to gain insight into recently obtained experiences of public and private parties with separate integration initiatives. Therefore this literature review aims to firstly provide greater insight into public and private experiences with various lifecycle integration initiatives in practice, and, secondly to explore the potential of integrating these initiatives throughout the planning cycle. Thereby, this review specifically focuses on experiences with integration initiatives in projects exhibiting a high degree of complexity. The outline is as follows. Firstly the review provides a <i>(section omitted)</i></p>	<p>Context, setting the scene</p> <p>The 'problem'</p> <p>Purpose</p> <p>Outline, structure</p>
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(Adapted from Stead & Marshall 2001, p. 114)

The body sections:

- Lead the reader through your various ideas and understandings.
- Have clear sections and subsections to your literature review.
- Ensure that each paragraph has one clear idea.
- Use sign posting, transitioning and linking language to connect ideas and to move from one paragraph to the next.

Sample body section:

2.1 Vehicle fires

2.1.1 Impact of vehicle fires

In 2006, the NFPA **reported** that roughly 490 civilians died in vehicle fires. These 490 civilian deaths represent 13.7% of the total deaths associated with fire for 2006, including residential and non-residential structures. Also in 2006, vehicle fires accounted for \$1.3 billion in property loss (National Safety Council 2006). **Additionally**, 1200 civilian injuries **were reported** (National Safety Council 2006).

These numbers indicate that, while survivability of automotive accidents has increased substantially in the last few decades due to advances in vehicle safety, vehicle fire safety is still a major concern. The numbers of deaths in accidents has decreased while the number of fire deaths in accidents has remained relatively constant. Until recently, little research **has been conducted** concerning the problem of fire safety; in recent years, the U.S. motor vehicle industry has spent nearly \$14 million per year researching the problem of motor vehicle fire safety (Tewarson, Quintiere & Purser 2007).

This research by the U.S. motor vehicle industry has unveiled some major issues related to fires and their victims; the most compelling results are the statistical data concerning the topic. An analysis of vehicle fire data from 1994 to 1998 **was conducted** by NFPA 556. Table 2.1 shows fire losses for passenger road vehicles in the U.S.A. between the years of 1994 and 1998; it **has been reproduced** from the original table in NFPA 556, which contained fire losses from all vehicles (including air, rail, water, and road freight). Passenger road vehicles are all vehicles, which travel on public roads or highways.

(Adapted from Patronik 2008, p. 5)

Topic sentence

this first sentence tells the reader what the focus of the paragraph is

Signposting, linking language

this connects the different literature, builds discussion

Interpretation

the writer interprets the literature and highlights the significance of the information as it relates to the topic

Connecting paragraphs

this adds cohesion and flow to the review

Verb tense

Notice the past tense or past perfect tense are used to report on previous studies

Concluding your literature review:

- Summarise the main focus of the literature review.
- Highlight the gap in the literature.
- Make a connection between your literature review and your research questions.

Sample conclusion:

<p>3.5 Outcomes of the literature review</p> <p>This review of relevant aspects of the literature points to the significance of the professional skills already possessed by part-time students in relation to the development that all engineering students must undergo in developing from students to engineers. It sets out the context in which students may act as mentors for fellow students. It provides confirmation that composition of groups can have an effect on aspects of group project work. No close equivalents of the initiatives involving part-time students carried out at Coventry have been found in the literature and this confirms the validity and interest of the research questions posed for this investigation:</p> <ul style="list-style-type: none"> • How do the full-time students learn from part-time students? • What are the benefits and problems in creating this contact? 	<p>Summary</p> <p>Gap</p> <p>Gap</p> <p>Link to research questions</p>
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(Davies & Rutherford 2012, p. 358-359)

Grammar

Your job as the writer is to explore past research and ideas and theories related to your topic and then present your interpretations or evaluations of this literature. One way in which we situate research, ideas and theories is through the use of grammar.

Verb tense	Purpose/function
Simple present tense	used when talking about an idea or theory that is constant
Simple past tense	to describe actions or events in the past that are completed
Present perfect tense	to describe actions or events in the past that are connected to the present
Passive voice	to focus on the action, rather than the person doing the action; it is understood or implied who is doing the action without stating this

Example of grammar:

<p>Flame and heat propagation into the passenger compartment are deadly occurrences and have been investigated by a number of researchers. According to one study, in nearly two thirds of vehicle fire deaths, the swift advance of fire and the ensuing incapacitation of passengers were contributing factors (United States Fire Administration 2002). In a full scale vehicle test, the engine compartments took between 10 to 25 minutes to reach full involvement (Tewarson, Quintiere & Purser 2007; Santrock n.d.). Once the engine compartment was fully involved, flames spread into the passenger compartment in as little as one to six minutes, resulting in occupant death in 1 to 3 minutes due to the coinciding effects of heat, burns, and toxic gases (Tewarson, Quintiere & Purser 2007). These results should be considered in relation to emergency response times. For example, in rural accidents, it could take more than half an hour before an emergency response team arrives (Bahouth 2004).</p>	<p>Simple present Present perfect</p> <p>Simple past</p> <p>Simple past</p> <p>Simple past</p> <p>Passive voice</p> <p>Simple present</p>
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(Adapted from Patronik 2008, p. 9)

References

Davies, JW & Rutherford, U 2012, 'Learning from fellow engineering students who have current professional experience', *European Journal of Engineering Education*, vol. 37, no. 4, pp. 354-365.

Patronik, EA 2008, *An analysis of vehicle fires and potential methods to reduce their severity through more stringent material standards*, ProQuest, UMI Dissertations Publishing.

Stead, D., & Marshall, S. (2001). The relationships between urban form and travel patterns. An international review and evaluation. *European Journal of Transport and Infrastructure Research*, 1(2), 113-141.