

LITERATURE REVIEW

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- It justifies your research question and the choices you make in your study.
- Its position and length depend on the dissertation brief and discipline.

Review approach and scope

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- A narrative review selects relevant literature to develop a critical argument.
- A systematic review uses explicit methods to identify, appraise and synthesise evidence for a defined question.

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- **The aim is not necessarily to find as much literature as possible, but to choose an appropriate review method and use it rigorously to answer the research question.**

A focused review question

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- Focused question: How does green-roof performance in reducing runoff vary with rainfall intensity and maintenance?
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- Check whether your question is answerable within the available evidence, time and dissertation scope.

A focused review question

- **The research question should guide the literature search, rather than allowing the literature search to determine the research question.**

Concepts and alternative search terms

- Intervention: "green roof" OR "green roofs" OR "vegetated roof" OR "living roof".
- Outcome: runoff OR stormwater OR "stormwater management".
- Context: urban settings, rainfall conditions and maintenance.
- Use OR within a concept and AND between concepts. Test whether adding every context term excludes useful studies.

A transparent search strategy

**("green roof" OR "green roofs" OR "vegetated roof")
AND (runoff OR stormwater)**

OR groups alternatives within a concept.

AND combines concepts.

Quotation marks and truncation rules vary by database.

Refining a search

Too few relevant results

- Add synonyms with OR.
- Check spelling, fields and phrase rules.
- Remove an unnecessary concept.

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Too much irrelevant material

Check AND / OR grouping.

Try more precise concepts or fields.

Apply only justified eligibility limits.

The search audit trail

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- You should be keeping a clear, organised and transparent record of your literature search.
- Searching for academic literature is not simply a case of finding a few useful papers; you need to be able to explain how you found your sources, why you selected them and how you used them to develop your argument.

The search audit trail

- Record the database, platform, search date and exact search string.

Search activity: a worked example

My research question:	How effective are green roofs at reducing urban surface-water runoff?			
Places to search for information:	Scopus, Web of Science, Google Scholar and reference lists of relevant papers.			
List of sources searched	Date of search	Search strategy used, including any limits	Total number of results found	Comments
Scopus	26 Oct 2026	("green roof" OR "vegetated roof") AND (runoff OR stormwater) Titles, abstracts and keywords. 2016–2026.	86	Starting search. Check whether it retrieves known relevant papers.
Web of Science	26 Oct 2026	("green roof" OR "vegetated roof") AND (runoff OR stormwater) Topic search. 2016–2026.	64	Export records and remove duplicates across databases.
Google Scholar	26 Oct 2026	"green roof" "urban runoff" 2016–2026. Screen the first 50 results, sorted by relevance.	210 estimated	Record the screening limit. A partial screen may miss relevant studies.
Reference lists	27 Oct 2026	Check references in two relevant review papers. No date limit.	12 records	Check relevance and duplicates before including records.

Illustrative teaching example only. Dates and counts are fictional, not live search results. Adapt syntax and justify limits.

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Judge each source against the claim you want it to support.

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Who produced it, and why?

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What limits its use in other settings?

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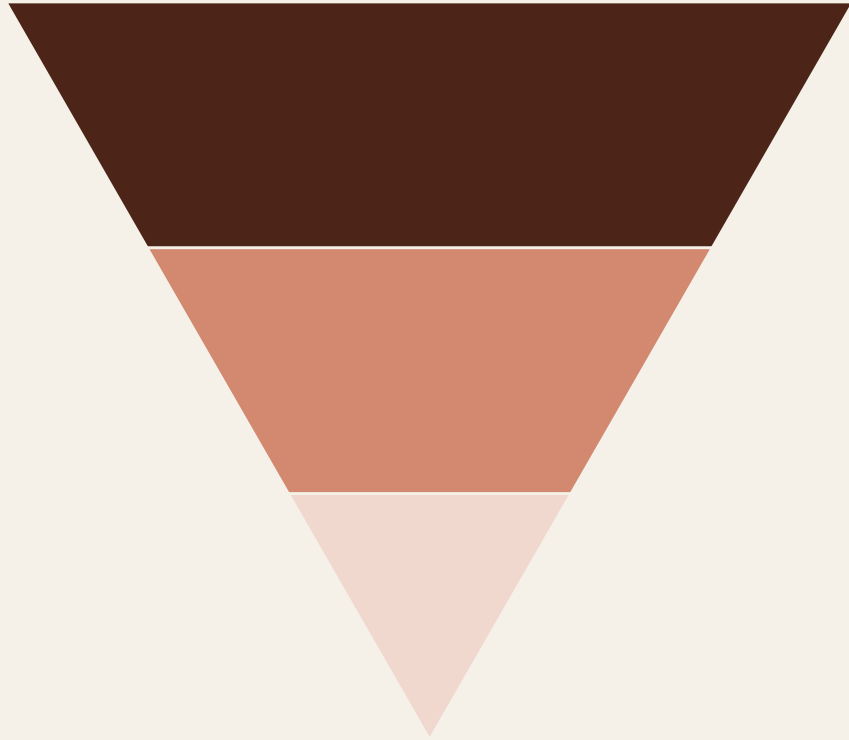
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Source type alone does not establish fitness for purpose.

A structure that develops your argument



Context

Define the problem and key concepts.
Explain the relevant theories.

Themes and debates

Compare findings within each theme.
Explain agreement and disagreement.

Research focus

Identify the remaining uncertainty.
Justify your question and approach.

Annotated bibliography and synthesis

- An annotation records a source's purpose, method, findings and limitations.
- Add how the source informs your own research question.
- A thematic review connects evidence across sources to develop an argument.
- Use annotations as working notes, then group them by theme or debate.

Citation Info	Summary of Key Points	Method	Important Figures / Information	References to Follow Up on	Other Notes
Liu, W., Feng, Q., Chen, W., Wei, W. and Deo, R.C. (2019). The influence of structural factors on stormwater runoff retention of extensive green roofs: new evidence from scale-based models and real experiments. <i>Journal of Hydrology</i>, 569, pp. 230–238. https://doi.org/10.1016/j.jhydrol.2018.11.066	• Green roofs can reduce stormwater runoff and delay the onset of drainage. • Substrate material had the greatest influence on runoff retention, followed by substrate depth, roof slope and vegetation. • Lower-intensity rainfall generally resulted in greater runoff retention than heavy rainfall. • The moisture content of the substrate before rainfall significantly influenced retention performance. • Green-roof design needs to account for both physical characteristics and local rainfall conditions.	• Experimental research using scale models of extensive green roofs. • Four structural factors were investigated at different levels. • Simulated rainfall experiments were conducted to examine runoff retention under different conditions. • Statistical analysis was used to assess the relative influence of design factors and rainfall conditions on runoff retention.	• Average runoff retention was approximately 23.0% and 33.2% across the two rainfall categories • Substrate material was identified as the most influential factor. • Greater retention was generally observed during low-intensity rainfall events • The study found that existing substrate moisture negatively influenced runoff retention and the time before runoff began	• Stovin, V. (2010). The potential of green roofs to manage urban stormwater. <i>Water and Environment Journal</i>, 24(3), pp. 192–199. • Alfredo, K., Montalto, F. and Goldstein, A. (2010). Observed and modeled performances of prototype green roof test plots subjected to simulated low- and high-intensity precipitations in a laboratory experiment. <i>Journal of Hydrologic Engineering</i>, 15(6).	• Further investigation could explore how green-roof performance changes over time as vegetation develops, substrates settle and drainage systems become blocked. • The study provides evidence for the importance of green-roof design, but scale-model results may not fully represent full-size roofs under real weather conditions. • Further research could examine the effects of maintenance, seasonal variation and prolonged rainfall on runoff retention.

The anatomy of a synthesis paragraph

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Useful drafting frame

“Evidence across [sources] suggests [claim]. However, [difference or limitation] reduces confidence in [inference]. This leaves uncertainty about [focussed issue].”

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- A good literature review develops an argument supported by multiple sources.
- You should explain not only what the literature says, but also why the evidence matters, where it differs and how confidently it answers your research question.

A defensible research gap

What the literature supports

Define the established finding.

Show the evidence and its limits.

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What remains uncertain

Specify a limitation in method, context or explanation.

Explain why resolving it matters.

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Research question

What focused and feasible study would address this
uncertainty?