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The Research Gap: Types of Literature Gaps, with Examples

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Abstract

Most research proposals are expected to identify a research gap, yet the search for one often stalls because it is conducted as a search for an area of the literature that nobody has studied. This article defines a research gap as an unanswered question or unresolved problem in a field. It describes four common types: the classic gap, in which a topic, or an aspect of a topic, has received little or no study; the disagreement gap, in which studies reach contradictory findings; the contextual gap, in which a well-studied topic has not been examined in a particular population, place or period; and the methodological gap, in which the designs used so far leave a question unanswered. Each type is illustrated with a gap statement quoted from a completed thesis in computer and information technology, psychology, clinical medicine or entomology. The article argues that only the classic gap involves little or no prior research, and that even this can be an unexplored part of a well-studied field. It closes with a two-step procedure for finding a gap in recent literature. It is intended for students and early-career researchers preparing a proposal, and for the educators who teach research design and literature reviewing.

Keywords: research gap; types of research gaps; literature gap; gap in the literature; literature review; research proposal; research questions; open educational resource

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1. Introduction

A research proposal is normally expected to identify a research gap: a question that the existing literature has not yet answered. Gap-spotting of this kind is a common route to a research question. In a review of 52 articles in organization studies, Sandberg and Alvesson (2011) found that the most common way researchers constructed their research questions was to identify gaps in the existing literature and formulate questions from them. They also argued that theory becomes more interesting when it challenges the assumptions underlying a literature, and proposed problematization, which questions those assumptions, as an alternative to gap-spotting.

For a student entering an established field, the task can appear impossible. The field already holds thousands of studies, and none of them looks obviously unfinished. The difficulty usually arises from looking for an area that nobody has studied. A gap need not be such an area. More often it lies within research that already exists, which makes it both easier to find and easier to defend.

This article is written for students and researchers preparing a proposal and for those who teach research design. Section 2 defines a research gap and distinguishes it from a research problem. Section 3 describes four types of gap, each illustrated with a gap statement from a completed thesis. Section 4 sets out a procedure for finding a gap in recent literature.

2. What a Research Gap Is

A **research gap** is a question or problem in a field that the existing literature has not yet answered or resolved. Sometimes that is because little research exists; more often the research exists but is contradictory, confined to particular contexts, or limited by the methods used. Identifying such gaps is widely regarded as a fundamental goal of reviewing the literature (Müller-Bloch & Kranz, 2015).

A hypothetical example shows the contradictory case. Suppose a study aims to identify the cause, or causes, of a particular disease. A review of the literature finds one body of research pointing to cigarette smoking as a key factor, and at the same time a large body of research finding no link between smoking and the disease. Neither side has settled the question, so it remains open. That contradiction is a research gap, and it warrants further investigation.

Several terms are used for broadly the same idea: literature gap, knowledge gap, gap in the literature and research lacuna. This article uses research gap and literature gap interchangeably. In some disciplines, however, knowledge gap is used more narrowly, for example for what practitioners do not know rather than what research has not established, so a researcher should check how their own discipline uses the terms before adopting one.

A research gap is also distinct from a research problem, although the two terms are sometimes used as synonyms (Müller-Bloch & Kranz, 2015). The problem is the issue, in practice or in theory, that needs resolving; the gap is what the existing literature cannot yet say about it. For example, the problem may be that rural clinics are losing staff and need to know which pressures to address first; the gap may be that no study has examined burnout among rural nurses. Most proposals need both, usually in consecutive paragraphs, and typically state the problem first, followed by the gap in what is known about it.

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3. Types of Research Gaps

Research gaps can be classified in many ways. This article uses four types, a practical grouping that covers most of the gaps proposed in student research:

1. **The classic gap:** a topic, or an aspect of a topic, has received little or no study.
2. **The disagreement gap:** existing studies reach contradictory findings.
3. **The contextual gap:** research is missing for a specific population, place or period.
4. **The methodological gap:** the methods used so far leave a question unanswered.

These are not four variants of the same thing. Each is a different pattern in the published literature, which means each is found by looking for something different. Figure 1 shows what the published literature typically looks like for each type; each dot represents one study. Only the classic gap is a space with little or no research. In the other three, the studies already exist.

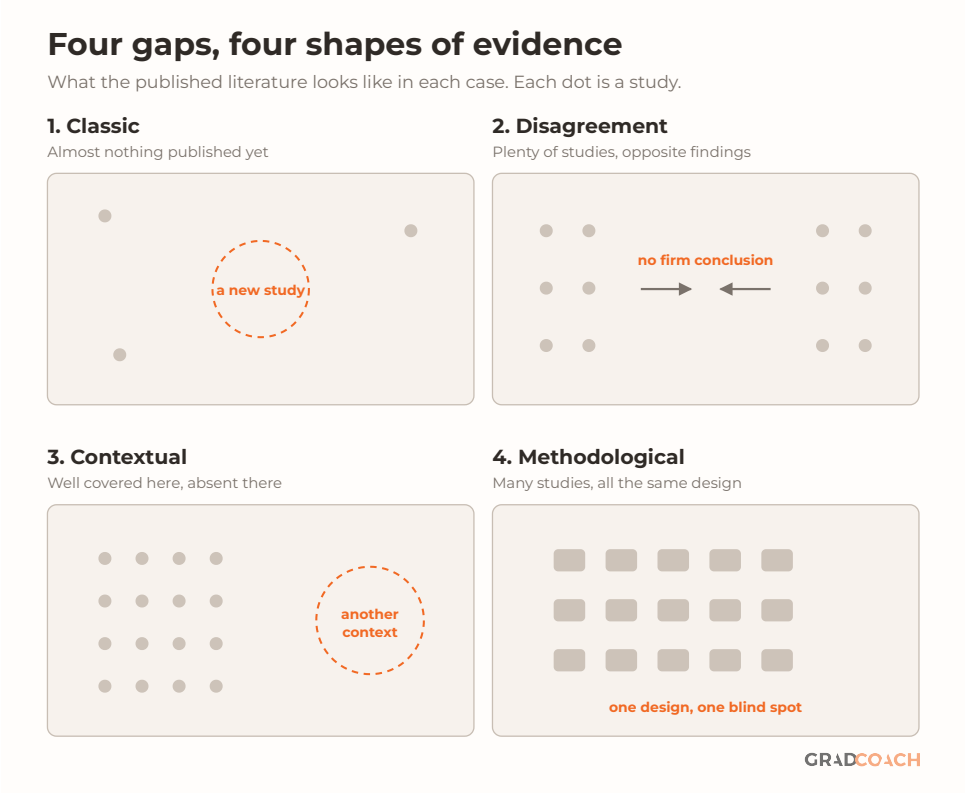


Figure 1. What the published literature looks like for each type of research gap.

The four types are not a fixed taxonomy. Other frameworks divide gaps differently. Müller-Bloch and Kranz (2015), for example, derived six types from an analysis of 40 literature reviews in information systems research, among them contradictory evidence, knowledge voids and methodological conflicts. Where a program prescribes a particular typology, that typology should be used. The labels matter less than showing what is missing and why it is worth addressing.

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3.1 The classic gap

A classic gap arises when a **topic, or a specific aspect of one,** has been studied little or not at all. New concepts and phenomena are the most obvious source. When a social media platform launches, for instance, there is an opportunity to study its effects on users, its use in marketing and its wider social consequences. The same applies to new technologies and to new modes of communication and transportation.

Classic gaps offer genuinely new ground, but they carry a drawback: because few existing studies relate directly to the topic, the literature review must draw on adjacent literature, that is, research in neighboring fields. Where knowledge is missing from the field itself, it may exist in a related research domain, and the researcher may need to draw on that domain's theories and literature (Jacobs, 2011, as cited in Müller-Bloch & Kranz, 2015). Drawing on adjacent literature is manageable, but it is harder than it appears for a first-time researcher, and the scope of such a study should be set with care. The following extract, from a master's thesis in computer and information technology, states a classic gap within a well-studied field:

> Although machine learning techniques have been applied in network intrusion detection, encoding IP addresses as a feature of network intrusion detection has not been discussed.
>
> Shao (2019, p. 7)

The extract does not claim that machine learning in intrusion detection is unstudied, which would be false and easy to disprove. Its claim is narrower: one specific choice within a well-studied field, encoding the IP address as a feature, has not been addressed. A classic gap does not require an empty field, only an unexplored part of one, and a gap statement is strongest when it names that part rather than the whole field.

3.2 The disagreement gap

A disagreement gap arises when existing research reaches **contrasting or contradictory findings** on a specific research question or set of questions. The hypothetical example in Section 2, concerning the causes of a disease, is a disagreement gap. Müller-Bloch and Kranz (2015) describe the corresponding category, contradictory evidence, as follows: "Results from studies allow for conclusions in their own right, but are contradictory when examined from a more abstract point of view" (p. 8).

For this type of gap, the opposing findings need to **carry comparable weight**. Weight depends on study quality and size as much as on number: a few rigorous studies can contest a larger body of weaker ones, but a single outlying result against a consistent literature is usually an anomaly to explain rather than a disagreement in the field. It is difficult to quantify how much weight each study should carry, but the researcher must at least show that each side rests on more than a single result. The following extract, from a doctoral thesis in psychology, states a gap of this kind:

> The result is a patchwork of directly contradictory findings, for example, three dimensions of the Big Five have been found to correlate with the susceptibility to anchoring positively, negatively, and not at all (for an overview see Cheek & Norem, 2019).
>
> Röseler (2021, p. 6)

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The extract names the disagreement precisely: the same personality traits have been found to raise, lower and leave unchanged susceptibility to anchoring, the tendency to rely heavily on an initial value when making a judgment. The anchoring effect itself is not in dispute; Röseler describes it as among the most robust findings in social psychology (p. IV). The subtitle of the thesis, *Resolving the Contradictions of Personality Moderator Research*, names the gap directly. Before claiming a disagreement, a researcher should establish what the field does agree on, because a contradiction reads as a gap only against a settled background.

3.3 The contextual gap

A contextual gap exists when there is already a substantial body of research on a topic, but an **absence of research in specific contexts**. Robinson et al. (2011) include the population and the setting among the elements by which a research gap is characterized. Research may be lacking, for example, for:

- **A specific population,** such as a certain age group, gender or ethnicity.
- **A geographic area,** such as a city, country or region.
- **A certain time period,** where most of the studies took place years or decades ago and the landscape has since changed.

The contextual gap is a common choice for dissertations and theses, especially for first-time researchers, because it allows them to build on a **solid foundation of existing literature** and potentially to reuse existing survey measures.

A contextual gap needs a **reason why the new context matters**: either a plausible reason to expect different results there, or a practical need for evidence specific to that context, such as a national prevalence figure that health services must plan around. Proposals based on a contextual gap often fail at this point: the context is genuinely new, but nothing explains why that matters. The following extract, from a doctoral thesis in clinical medicine, states a contextual gap defined by country:

> In Hungary, only a few studies have focused on antenatal and postnatal depression, thus no accurate information is available about its prevalence in the entire population [19].
>
> Hompoth (2020, p. 3)

Antenatal depression is heavily researched worldwide, so the gap is not the topic but the country. The sentence follows directly after a passage of prevalence figures from a meta-analysis: the author establishes that the wider evidence exists before identifying where it runs out. A contextual gap statement is most persuasive when it follows the same order.

3.4 The methodological gap

A methodological gap arises when the **research methodology or design** of existing studies leaves a question unanswered. The argument is that the methods used so far have a specific limitation or exclude a perspective that another method could provide. Müller-Bloch and Kranz (2015) put the logic simply: “If literature on a certain topic always uses the same research approach, most likely there is a research gap in the direction of methodology” (p. 11).

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Two arguments are typical. If most existing research on a topic has taken a quantitative approach, it may lack the depth of understanding that a qualitative study could provide. If existing studies have mostly been cross-sectional, they provide only a snapshot, whereas a longitudinal design could show how constructs or variables change over time. The following extract, from a doctoral thesis in entomology, states a gap of this kind in a single sentence:

> This hypothesis has been supported by theoretical models, although it has not been empirically tested (Pie et al., 2004).
>
> Valdes (2025, p. 4)

The hypothesis is that the architecture of a bumble bee nest shapes how disease moves through the colony. Theoretical models predict the effect, but no study has measured it, and the experiments in the thesis's third chapter follow directly from that one sentence. Read as a methodological gap, the shortfall is that only one approach, theoretical modeling, has been applied. In the six types of Müller-Bloch and Kranz (2015), the same gap is an evaluation void, in which propositions still need to be evaluated or empirically verified (p. 8). A gap that cannot be stated this plainly has probably not been found.

4. Finding a Research Gap

Finding a gap involves two steps, and most of the work lies in the first.

Step 1: Map what already exists. The search begins with as many literature reviews, systematic reviews and meta-analyses as can be found on the area of interest, followed by the most recent journal articles, to establish where the field now stands. Systematic reviews are a recognized source of gaps: Robinson et al. (2011) developed a framework for determining from a systematic review where the current evidence falls short and why. Recent dissertations and theses are equally valuable, especially doctoral ones, because a doctoral candidate has already carried out this search and recorded what was found to be missing. EBSCO Open Dissertations and CORE are both free to search, and many university libraries provide access to ProQuest. The search should concentrate on recent work, ideally from the last year or two. A gap identified five years earlier has often been filled since, and discovering this after the proposal is written is costly.

Step 2: Read the sections in which authors state what remains to be done. Two sections are usually the most productive. The first is the section on further research, in which researchers state directly where more studies are needed. The second is the limitations section, which is a useful source of methodological and contextual gaps, because a limitation that one study reports is often a question that a later study could answer.

These two steps establish the current state of research, which is the foundation for spotting a gap in it. From there, a researcher can draw up a shortlist of candidate gaps and evaluate each as a possible topic.

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5. Conclusion

A research gap is an unanswered question or unresolved problem in a field. Of the four types described here, only the classic gap involves little or no prior research; the disagreement, contextual and methodological gaps are patterns within literature that already exists, which makes them easier to find. In each case, a gap statement works best when it is narrow and specific, naming the part of the field that is unexplored rather than the whole field. A contextual gap additionally requires the researcher to establish that the wider evidence exists and to explain why the new context matters. The most direct route to a gap is through the further-research and limitations sections of recent reviews and theses, where authors state plainly what remains to be done.

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