



Original Article

THE CRAFT OF RESEARCH: REFLECTIONS FOR FUTURE RESEARCHERS

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ABSTRACT

Reflecting upon everyday life through the lens of common sense constitutes one of the most undervalued yet powerful resources that contemporary science and academia have progressively neglected. A closer examination of the seemingly trivial dimensions of human experience reveals that many of the questions, doubts, and problems that have historically transformed the world did not emerge in isolated or extraordinary contexts, but rather within the ordinary and habitual environments inhabited by researchers. This article seeks to unveil the routine and often overlooked nature of research and scientific inquiry by drawing on a series of ethnographic experiences grounded in lived reality. Its central aim is to emphasize that research is not an exclusive or exceptional activity reserved for specialized domains, but a fundamental and continuous human practice that unfolds throughout the entire life cycle—from birth to death. In this sense, all individuals can be understood as researchers within their own experiential worlds. Furthermore, the paper argues that the potential to formulate transformative questions—and even to envision answers capable of reshaping reality—is not confined to institutional academia. Instead, it resides within the imaginative and reflective capacities of any individual willing to engage critically with their surroundings. Ultimately, this work invites readers to reclaim research as an everyday practice and as a space for intellectual and existential aspiration, where dreaming and inquiry converge.

Keywords: Research, Scientific Method, Everyday Life, Academia, Imagination

INTRODUCTION

Andersen (1977) is commonly credited with publishing in 1837 the tale *The Emperor's New Clothes*, also known as *The Naked King*. Although it is often classified as a children's story, such a categorization is misleading. Rather, it is a narrative addressed to adults—particularly those willing to recover a childlike disposition toward doubt and questioning. The story foregrounds two key insights: first, that what the majority thinks and proclaims is not necessarily true; and second, that no question is inherently foolish. I deliberately refrain from summarizing the tale, inviting instead the curious reader to engage with it directly and to either converge with or dissent from the arguments developed in this article.

These two insights structure the central concern of this text. Notably, the scientific method, in its dominant formulations, has tended to privilege the first—skepticism toward majority opinion—while marginalizing the second: the epistemic value of questioning itself. This omission is significant, as it overlooks a fundamental premise: all human beings, whether consciously or not, have historically engaged in forms of inquiry that resemble what is institutionally recognized as research. Through the observation

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of natural or social phenomena, individuals formulate hypotheses and seek their validation through forms of experimentation that yield results.

Admittedly, this characterization entails a reductionist account of both research and the scientific method. However, most readers with basic education in disciplines such as physics, chemistry, or biology will recall having encountered more elaborate explanations regarding its stages, limitations, and advantages. Those who do not may easily access extensive information through digital search tools within seconds.

A persistent issue lies in the limited epistemic empathy that often characterizes scientific communities toward non-specialists who engage in discussions about science and research. It is frequently argued that non-scientists fail to practice objective scientific critique. Simultaneously, fields such as Philosophy of Science and Science and Technology Studies are sometimes dismissed as excessively abstract, preoccupied with marginal issues, or disconnected from the practical realities of laboratory work. Sociological, anthropological, and political analyses of science tend to be undervalued—perhaps because they challenge the implicit assumption of scientific infallibility by demonstrating that scientists, like all humans, are fallible.

The purpose of this article is to foreground the everyday and common-sense substratum that underlies all forms of research. Echoing Andersen's tale, it argues that scientific communities are not immune to error, and that no question—when properly formulated—is trivial. On the contrary, any well-constructed question constitutes a legitimate research problem, potentially addressable through systematic inquiry.

As an initial heuristic, I propose that research be understood analogically as the process of preparing a preferred dish. It begins with an idea—what one intends to cook—which is subsequently defined and projected. One determines how it will be executed, establishes objectives, and imagines possible outcomes. Resources and time are calculated, and even minor details must be anticipated to avoid failure. With this planning in place, one enters the kitchen—here conceived as a social laboratory—and executes the predefined steps. Once completed, the dish is plated and presented to an audience, who may appreciate it, question it, critique it, refute it, or suggest improvements for future iterations. This process closely parallels the procedural logic of research.

This analogy seeks to situate research—whether qualitative, quantitative, or mixed-method—within the domain of human experience, marked by error, uncertainty, confusion, regret, and even frustration. Such dimensions emerge both within and beyond formal laboratory settings: in undergraduate or graduate theses, during fieldwork, or in the writing of a first scientific article.

The invitation advanced here is to “profane” the scientific method—though strictly in an academic sense. This entails demonstrating to students, researchers, and any individual interested in inquiry that engaging with the scientific method, and even identifying as a scientist, constitutes one of the most compelling ways of reflecting upon everyday life and common sense. This perspective does not deny that each discipline establishes its own specific protocols, objects of study, and techniques. However, all disciplines share a basic structural pattern, which provides the foundation for the reflections developed in this text.

It is important to clarify the scope of this work. This article does not aim to provide a state-of-the-art review of the scientific method—there is extensive literature that already fulfills that function. Nor does it seek to develop a formal epistemological analysis, or to offer a prescriptive formula for motivating students to conduct research. Rather, it adopts what may be described as a “craft-based” approach to knowledge production. This perspective may provoke resistance among those committed to rigid and formalized accounts of scientific activity. However, the intention is not to undermine established methodologies, but to offer a more accessible and human-centered interpretation of research practices.

The reflections presented here are grounded in a range of ethnographic experiences, including participation in interdisciplinary research projects, teaching engagements with school and university students, informal conversations, and semi-structured interviews with both experienced and novice researchers. Ultimately, this article does not primarily seek to resolve questions about how to conduct research; instead, it aims to expand the horizon of inquiry regarding why research matters [López-Guzmán \(2026\)](#).

RESEARCH QUESTIONS AND PROBLEMS ARE IN MY ROOM

In many academic settings, there has been a persistent tendency to draw a rigid distinction between the social world and the scientific domain. However, such a separation is analytically unsustainable. What is conventionally recognized as “the scientific” is, in fact, the outcome of a series of operations deeply embedded in social reality. Human affairs are not external to scientific production; rather, they constitute its very conditions of possibility. [Latour and Woolgar, \(2007\)](#) argue, the human dimensions of scientific practice are often systematically excluded from the final stages through which scientific facts are stabilized and presented.

When individuals reflect upon their own lives—regardless of social class, ethnic background, sexual orientation, nationality, or educational level—and recall their early years alongside parents, grandparents, or caregivers, a common denominator emerges: curiosity and wonder toward the surrounding world. Doubts and questions functioned as primary tools for making sense of unfamiliar experiences encountered through the senses. As children, we were immersed in a continuous process of questioning. Whether or not those around us were able to provide satisfactory answers, they often initiated—or, in many cases, curtailed—this process. Indeed, institutions such as schools and universities sometimes contribute to what may be described as the suppression of

curiosity and wonder, through responses such as “because it is so” or “that is simply the way things are,” thereby obstructing the innate human desire to know.

From this perspective, problematizing one’s environment becomes a fundamental condition for generating meaningful questions. Teaching how to problematize reality, therefore, entails a set of complex operations. As Sánchez (2014, p. 59) suggests, **this includes**

- Cultivating dispositions such as admiration, surprise, curiosity, and intellectual wonder in the face of observable phenomena, as essential attitudes for the formulation of research questions.
- Emphasizing the importance of a robust and substantive body of knowledge, acquired through careful engagement with scholarly traditions and authoritative sources, and critically assimilated through dialogue with peers.
- Demonstrating that problematization requires the construction of a theoretical framework—or “theoretical locus”—from which phenomena can be interrogated.
- Teaching how to document information systematically, consult experts, and manage research processes through structured mechanisms of data accumulation and organization.
- Explaining how research problems reveal and are anchored in specific theoretical instances or conceptual constellations that underpin the investigation.

If the scientific method depends on the formulation of doubts, questions, or problems to justify its very existence, then it follows that, from childhood, we already operate as incipient scientists. As infants and children, we observed our environment, formulated implicit hypotheses, experimented, interpreted outcomes, and even communicated findings—often inviting others to verify or respond to them. The fact that we did not conceptualize these actions in formal methodological terms does not negate their epistemic structure. One might ask: how often did we pick up objects from the floor, place them in our mouths, manipulate them, and subsequently “report” the results of such interactions to parents or siblings?

If broader publics were able to understand how scientific knowledge is produced—and, crucially, its accessibility—it would become evident that it is not inherently more extraordinary than other everyday human activities. This recognition would recalibrate expectations placed upon scientists, avoiding both the overestimation of their capacities and the tendency to idealize their practices. Such a shift would not only clarify the social position of scientists, but also enhance public understanding of the core aims of science and the processes through which knowledge is constructed [Latour and Woolgar, \(2007\)](#).

Let us consider everyday life as a continuous field of research questions. At this very moment, while reading this text, one might reflect on issues such as personal preferences (favorite foods, animals, or clothing), musical tastes, sports practices, parental education, eye color, nationality, interpersonal attraction, or health conditions. From these domains, a series of researchable **questions can readily emerge**

- Why is this my favorite food and not another?
- Why do I prefer this animal rather than others?
- Why did my parents pursue—or not pursue—formal education?
- Why are my eyes this particular color?
- Why do I suffer from a specific illness rather than being immune to it?

Tracing the answers to such questions would inevitably require engagement with multiple disciplines, including sociology, anthropology, history, biology, chemistry, and medicine. This illustrates that our socio-biological world—our everyday reality—is itself an ongoing research project, continually generating questions and problems to be addressed. In this sense, we are constantly engaged in processes of inquiry.

A further example can be drawn from intimate relationships. Suppose one attempts to contact their partner and receives no response. Questions immediately arise: Why are they not answering? Who are they with? What are they doing? At this stage, a research question has already been formulated. If one proceeds to investigate the situation—seeking explanations or gathering information—this constitutes the establishment of a research objective. If, moreover, one formulates a tentative explanation (e.g., “they must be busy” or “they are ignoring me”), this functions as a hypothesis, which can later be confirmed or refuted upon obtaining reliable information.

This example illustrates the everyday dimension of inquiry and the spontaneous application of elements commonly associated with the scientific method. Scientific activity is often perceived as mysterious or inaccessible, partly due to representations that confine it to specialized actors—figures in white lab coats, operating in controlled laboratory environments, possessing advanced degrees and employing highly technical language. Such representations obscure the fact that science, through research, can be demystified and rendered intelligible. It is possible to understand what science is, what it is for, and how it is practiced—and, more importantly, to recognize that individuals engage in forms of scientific reasoning without explicit awareness.

The relational example also demonstrates how individuals act as investigators within their immediate environments: they formulate questions, explore possible explanations, test alternatives, and arrive at provisional conclusions. In both academic and **everyday contexts, some of the most common forms of research questions include**

- What? (diagnostic orientation)
- Why? (explanatory or justificatory orientation)
- How? (procedural or process-oriented inquiry)
- Where? (spatial analysis)
- When? (temporal analysis)

In daily life, individuals frequently encounter situations that provoke curiosity—within families, among friends, in educational settings, or in the workplace. This curiosity may lead to informal investigation—colloquially described as “gossip,” but analytically comparable to exploratory inquiry. Sometimes this curiosity dissipates without resolution; in other cases, it intensifies, prompting individuals to seek additional information from reliable sources, such as relatives, partners, teachers, or supervisors. These practices can be interpreted as forms of engagement with primary, secondary, or tertiary sources, analogous to those employed in formal research.

From this standpoint, one of the most valuable lessons a teacher can offer is the systematic validation of doubt and questioning. Doubt may be understood as the point of rupture within orthodox academic frameworks, while questioning operates as a strategy for reconstructing established knowledge. Together, they enable reflection on the multiplicity of possible answers through which certainties are constructed and realities are shaped. To affirm doubt and questioning is, therefore, to affirm the fundamental processes through which human beings understand and interpret the world [López-Guzmán \(2026\)](#).

Consequently, when individuals aspire to become researchers within formal academic and scientific frameworks, their curiosity expands beyond everyday concerns to encompass broader biological, social, political, psychological, economic, legal, and religious phenomena. This expansion generates questions related to issues such as climate change, abortion, racism, poverty, xenophobia, corruption, war, capital punishment, and suicide, among many others. The emergence of such questions depends on contextual conditions, personal interests, desires, and even fears. Importantly, these questions arise spontaneously and do not require prior academic training; rather, they demand attentiveness to the dynamics of one’s environment and the wider world [Fernández et al. \(2019\)](#).

I TOOK THE WRONG PATH AND DO NOT KNOW HOW TO RETURN: THE IMPORTANCE OF RESEARCH OBJECTIVES

Through the use of highly specialized and technical language, scientists often contribute—intentionally or not—to representing science as a separate, opaque, and abstract domain accessible only to a limited group of experts. This perception contrasts with the possibility of understanding scientific activity as an intelligible and meaningful way of engaging with the world. Hyper-specialization is a concrete manifestation of this issue. For instance, when a patient consults a general practitioner for a specific condition, they are frequently referred to a specialist; if no solution is found, they may be referred to an even more specialized expert within the same field. This process not only reinforces the proliferation of technical language, but can also result in situations where specialists themselves struggle to fully understand one another.

For readers currently engaged in research—or considering entering this field—it is essential not to become overwhelmed by this apparent complexity. Conceptual clarity regarding the direction of one’s inquiry significantly reduces confusion. In particular, clearly formulated research objectives function as a stabilizing axis within the investigative process. When objectives are coherently defined and aligned with the purpose of the study, neither technical language nor the procedural demands of scientific activity should constitute insurmountable barriers.

From a formal standpoint, research objectives are typically expressed using verbs in the infinitive form (e.g., to describe, to analyze, to evaluate). Moreover, these verbs can be organized hierarchically according to their level of cognitive and analytical **complexity** [Fernández et al. \(2019\)](#)

- Basic level: objectives such as to describe or to identify, focused on outlining characteristics or conditions of a phenomenon.
- Intermediate level: objectives such as to define, to exemplify, or to narrate, which require a more focused and structured engagement with the subject matter.
- Advanced level: objectives such as to argue, to explain, or to compare, oriented toward understanding underlying causes, processes, and purposes.
- Highly advanced level: objectives such as to analyze, to synthesize, or to evaluate, which presuppose previous levels and aim to establish relationships, integrations, or critical judgments.

Everyday life can be understood not only as a field of questions but also as a domain structured by objectives and purposes. Although these may initially appear complex or difficult to achieve, they provide a pathway toward obtaining meaningful answers—

provided that they are appropriately formulated. It is important to avoid the assumption that answers are immediate or readily available. Achieving them requires systematic inquiry, methodological design, and sustained engagement. In this sense, methodology refers to the structured set of procedures through which research objectives are pursued and research questions are addressed.

Returning to the earlier relational example: when an individual seeks to understand why their partner has not responded to a call, they implicitly formulate a research objective—such as to analyze or to investigate the reasons behind this behavior. While these verbs may correspond to different levels of complexity, their function remains the same: to define the purpose of the inquiry. The resolution of the research problem depends directly on the coherence between objectives, hypotheses, and methodological choices.

At this point, it is necessary to introduce a critical clarification. The original analogy risks oversimplifying methodological rigor by equating everyday actions (e.g., calling acquaintances) with formal research techniques. While such examples are pedagogically useful, in academic research, methods and techniques must adhere to explicit ethical and procedural standards. For instance, if a qualitative approach is adopted—such as an ethnographic design—data collection techniques (e.g., semi-structured interviews) require prior definition, methodological justification, and ethical consideration. Therefore, while everyday inquiry resembles scientific reasoning, it does not automatically meet the criteria of systematic research.

That said, the underlying principle remains valid: research objectives are intimately linked to the formulation of the problem and the construction of hypotheses. The general objective derives directly from the research problem and expresses the overarching purpose of the study. In turn, specific objectives are derived from the general objective and delineate the concrete steps required to address the problem and, where applicable, to test the hypothesis.

It is also important to recognize that research objectives should aim for analytical neutrality. Although complete objectivity is unattainable—given that researchers inevitably bring their own perspectives and value judgments—there must be a deliberate effort to minimize bias and maintain conceptual clarity. At the same time, it should not be overlooked that every research objective ultimately originates from a question rooted in everyday experience.

In sum, the formulation of research objectives represents a critical moment in the investigative process. It is here that diffuse curiosity is transformed into structured inquiry, and where the direction of the research is defined with precision. Without clearly articulated objectives, research risks becoming disoriented—much like taking the wrong path without knowing how to return.

I DO NOT EVEN KNOW WHY I AM CONDUCTING RESEARCH: REFLECTIONS ON JUSTIFICATION IN RESEARCH

The impulse to move beyond states of doubt and questioning gives rise to the construction of beliefs regarded as true—beliefs that enable individuals to justify their actions within the social world and to make sense of what initially appears incomprehensible. From an evolutionary perspective, human beings have developed cognitive and cultural tools that allow them to interpret their environment and establish provisional truths that facilitate adaptation and survival. In this process, individuals seek to answer not only why phenomena occur, but also for what purpose, thereby generating justificatory frameworks that connect questions, hypotheses, and objectives.

Within the context of research, this process is formalized as justification: the rationale that explains why a given study is necessary, relevant, and worth undertaking. Every well-formulated research question implicitly calls for justification, particularly insofar as it is linked to a hypothesis that requires argumentative and evidentiary support.

However, in practice, students and novice researchers frequently encounter significant difficulty when attempting to articulate this component. Research proposals and projects typically require a clearly defined justification as part of their evaluation criteria or structural design. It is precisely at this point that one of the most common obstacles in the research process emerges: the inability to answer, with sufficient clarity and rigor, why one is investigating a particular issue and whether the proposed study contributes something meaningful to the disciplinary field(s) in which it is situated.

This difficulty can lead to problematic outcomes. Some researchers abandon their initial topics in favor of those that appear easier to justify; others gravitate toward heavily documented subjects, where the abundance of existing literature allows for superficial engagement—sometimes limited to uncritical compilation rather than genuine knowledge production. This tendency reflects not only a methodological weakness, but also a deeper epistemic issue: the confusion between reproducing information and generating insight.

A well-conceived research project should anticipate its potential contributions. This anticipatory exercise is not merely rhetorical; it is central to constructing a robust justification. To that end, the following guiding questions can be analytically useful

- Why is this research important?
- What new knowledge does it aim to produce?
- What problems does it seek to address or clarify?
- What is its relevance within the disciplinary or interdisciplinary field in which it is situated?

Through such questions, justification moves beyond a formal requirement and becomes an epistemic commitment: it demonstrates that the research is not simply reiterating what is already known, but is oriented toward the production of new, relevant, or reinterpreted knowledge.

At this point, a critical clarification is necessary. The original formulation tends to equate justification primarily with novelty; however, in rigorous academic contexts, novelty alone is insufficient. A strong justification must also articulate theoretical relevance, methodological coherence, and, where appropriate, social or practical significance. Research may be justified not only by introducing entirely new topics, but also by revisiting established problems through new perspectives, methods, or contexts.

From a pedagogical standpoint, it is reasonable to encourage researchers to adopt an ambitious intellectual posture. Interdisciplinary, innovative, and unconventional approaches should not be dismissed a priori. Nevertheless, this ambition must be balanced with argumentative rigor. Proposing a “different” study is not, in itself, a sufficient justification; what matters is the capacity to demonstrate its relevance, feasibility, and contribution.

The relationship with research supervisors or advisors also plays a decisive role in this process. While guidance is essential, it is important to avoid uncritically assuming that all academic authority is epistemically definitive. Supervisors, like all researchers, operate within particular frameworks, limitations, and biases. Therefore, their feedback should be engaged critically rather than passively accepted. However—and this is an important corrective to the original argument—changing advisors should not be treated as a default solution to disagreement. Instead, intellectual negotiation, clarification of expectations, and refinement of the research design should be prioritized.

Revisiting the insight associated with Hans Christian Andersen, it is indeed valid to question dominant perspectives and to recognize that consensus does not guarantee truth. Likewise, no question is inherently trivial. Yet in academic and scientific contexts, not all questions are equally viable: their relevance depends on how they are constructed, justified, and situated within broader fields of knowledge.

In sum, the justification of a research project constitutes a critical juncture where curiosity must be transformed into argument. It is not enough to ask questions; one must demonstrate why those questions matter. Without a well-founded justification, research risks becoming directionless, repetitive, or epistemically weak. Conversely, a strong justification provides the foundation upon which meaningful and rigorous inquiry can be built.

HOW DID I DISCOVER THAT WATER GETS THINGS WET? CONSTRUCTING THE THEORETICAL FRAMEWORK AND THE STATE OF THE ART

For any research endeavor—regardless of discipline—information sources constitute a foundational resource. They provide data, evidence, argumentative support, and, crucially, a space for engaging with and challenging prior scholarship. A recurrent issue among novice researchers is the assumption that their topic is entirely novel or unprecedented. However, the absence of a systematic and rigorous review of bibliographic and research databases is one of the most significant weaknesses in early-stage research. Such a review enables the researcher to determine whether a topic has already been examined, how it has been approached, and what its documented limitations and contributions are. For this reason, it is essential that researchers define a theoretical orientation and identify authors whose work is aligned with—or critically opposed to—their own research interests.

As a practical reference, the following academic search engines and databases are commonly used in research processes:

- Google Scholar
- Redalyc
- RefSeek
- SpringerLink
- SciELO
- Dialnet
- Academia.edu
- BASE (Bielefeld Academic Search Engine)
- Questia (formerly HighBeam resources)

Returning to the earlier analogy of research as the preparation of a preferred dish, one might argue that a rigorous approach would involve examining how others have prepared that same dish—from expert chefs to amateur cooks. This exploration would reveal a diversity of recipes and techniques. In this analogy, selecting a particular “recipe” resembles the construction of a theoretical framework, while examining the range of existing preparations corresponds to developing a state of the art. However, this comparison requires an important qualification: in academic research, one does not merely “choose” a theory based on preference, but rather justifies its selection in relation to the research problem, questions, and objectives.

At this point, it is necessary to clarify the distinction between these two components:

- The theoretical framework refers to the set of concepts, categories, and theoretical perspectives that underpin the analysis of the research problem. It provides the interpretive lens through which the phenomenon is understood.
- The state of the art (or literature review, in broader terms) refers to the systematic examination of prior research directly related to the topic, problem, or objectives. Its purpose is to identify what has already been studied, how it has been studied, and where gaps or tensions remain.

A productive way to structure these components involves at least two stages:

- 1) **Theoretical Framework:** This stage entails a detailed exposition of the theories and concepts that will guide the research. It requires precise use of terminology, contextualization of key authors, and explicit articulation of how these concepts relate to the research problem and hypothesis. Rather than merely compiling quotations, the researcher must demonstrate analytical coherence and conceptual integration.
- 2) **State of the Art:** This stage involves a systematic synthesis of prior studies relevant to the research topic. It may be organized chronologically, thematically, or geographically, depending on the research objectives. The goal is not only to summarize existing work, but to identify patterns, debates, limitations, and unresolved questions within the field.

An important epistemological implication follows: there is no single, definitive way of interpreting the reality under study. Multiple—and often competing—theoretical perspectives coexist. Researchers may align themselves with certain authors due to affinity, or engage with them critically due to disagreement. Both positions are valid, provided they are rigorously argued. It is not uncommon to encounter theoretically opposed frameworks that nevertheless hold equal academic legitimacy. This plurality is not a weakness of research, but one of its defining strengths.

Revisiting the culinary analogy, one might encounter two chefs who prepare the same dish using different ingredients or techniques. These variations may be shaped by cultural background, geographic context, or training. Such differences do not negate the identity of the dish; rather, they illustrate the diversity of knowledge production. Similarly, theoretical diversity reflects the multiplicity of ways in which reality can be interpreted and explained.

Consequently, when researchers engage with their questions and objectives, they must recognize that no social or natural phenomenon admits a single, final interpretation. Explanations are shaped by ideological positions, political contexts, biographical trajectories, and academic training. Over time, these interpretations may be validated, revised, or refuted. This dynamic process challenges the notion of fixed truths and instead emphasizes the provisional and evolving nature of knowledge. In this sense, research should move away from dogmatic assertions and instead engage with historically and culturally situated claims that remain open to transformation in light of new evidence and theoretical developments [López-Guzmán \(2026\)](#).

SO, HOW DO I ACTUALLY CONDUCT RESEARCH? THE ROLE OF METHODOLOGY IN MY STUDY

No research project can be sustained by motivation alone. Beyond the initial desire to investigate, it is necessary to design a structured set of procedures—conceptualized as pathways or routes—that enable the researcher to address the research question, objectives, and, where applicable, hypotheses. This structured design is referred to as methodology. It is important to note that different disciplines develop their own methodological traditions, methods, and techniques. However, rather than focusing on these disciplinary particularities, this article emphasizes the common structural logic that underlies all research processes.

Returning to the earlier analogy of preparing a dish, it is not sufficient to know what one wants to cook; one must also know how to prepare it. This involves organizing ingredients appropriately, determining proportions, selecting suitable tools, and following a sequence that leads to a coherent outcome. In research terms, this corresponds to methodological planning: the design of an effective and efficient route that allows for the optimal use of time and resources—typically formalized through a research budget and a timeline.

Although methodology fundamentally responds to the question how is the research conducted?, it encompasses a broader set of elements that provide coherence and validity to the entire investigative process. A robust methodology must be aligned with the type of study, the formulation of the research problem, and the theoretical framework underpinning the analysis. In other words, methodology is not an isolated component, but a relational structure that integrates all dimensions of the research design.

As a general guideline, the methodological section of a research project should address the following components:

- The processes and activities involved in data collection.
- The techniques and instruments employed (e.g., interviews, surveys, observations, document analysis).
- The procedures for organizing, systematizing, and analyzing the collected data.
- The selection and characterization of participants or units of analysis (i.e., the study population).
- The sampling strategy, including inclusion and exclusion criteria.

At this point, a conceptual clarification is necessary. While it is common to state that “each discipline has its own method,” this claim should be treated with caution. In contemporary research, especially within interdisciplinary and transdisciplinary contexts,

methods are increasingly shared, adapted, and recontextualized across fields. For example, ethnography—traditionally associated with anthropology—can be employed in education, sociology, or even organizational studies, depending on the research problem.

However, this flexibility does not imply methodological arbitrariness. The selection of methods and techniques must be justified in relation to the research question, objectives, and theoretical framework. In other words, methodology is not simply about choosing tools; it is about constructing a coherent strategy that ensures the validity, reliability, and relevance of the findings.

Thus, methodology fulfills several interrelated functions: it defines how the research will be conducted, how information will be collected and processed, and which instruments will be employed. More importantly, it establishes the conditions under which the research can be considered systematic, transparent, and replicable—or, in qualitative terms, credible and analytically robust.

In sum, methodology is the operational core of research. It transforms abstract intentions into concrete procedures, ensuring that the transition from question to answer is not arbitrary, but structured, justified, and methodologically sound.

BEYOND A TENTATIVE ANSWER: WHAT IS A HYPOTHESIS?

Within the research process, the hypothesis occupies a central—though not universal—role. It is commonly understood as a tentative answer to a research question: a provisional statement proposed by the researcher that can later be examined, supported, refined, or refuted through systematic inquiry. Its primary function is to establish a direction for analysis and to articulate an expected relationship between elements of the phenomenon under study.

It is important to clarify, however, that hypotheses are not required in all types of research. While they are fundamental in many quantitative and explanatory designs, in qualitative or exploratory studies the research process may instead be guided by sensitizing concepts, guiding questions, or emergent propositions. Therefore, the use of hypotheses depends on the epistemological orientation and methodological design of the study.

When a hypothesis is employed, its refutation should not be interpreted as a failure of the research. On the contrary, falsification indicates that the inquiry has generated new understanding, revealing that the initial assumption did not adequately account for the phenomenon. In this sense, research advances not only by confirming expectations, but also by challenging them.

Returning to the earlier relational example: when an individual attempts to explain why their partner has not responded to a call, multiple tentative answers may emerge—ranging from plausible explanations (e.g., a depleted phone battery or a work meeting) to more speculative ones (e.g., infidelity). Each of these constitutes a potential hypothesis that can later be examined through the collection of information. However, while this example is pedagogically illustrative, it also exposes a limitation: everyday conjectures do not necessarily meet the criteria of scientific hypotheses, which require explicit formulation, conceptual clarity, and methodological testability.

From a formal perspective, a hypothesis typically involves three key components [López-Guzmán \(2026\)](#):

- 1) Units of analysis (or observation): The entities under study—such as individuals, groups, institutions, or social phenomena—that delimit the scope of the research.
- 2) Variables: The attributes, properties, or characteristics—either qualitative or quantitative—associated with the units of analysis. These constitute the core elements being examined.
- 3) Logical relationship: The statement that specifies the expected relationship between variables within the defined units of analysis (e.g., causal, correlational, or comparative relationships).

A well-formulated hypothesis should be clear, concise, and coherent with the research question, objectives, justification, and methodology. Crucially, it must also be testable—that is, it should be possible to examine it empirically using the available methodological tools. A hypothesis that cannot be operationalized or evaluated within the research design lacks scientific utility.

At this point, a critical issue arises: the role of subjectivity. Hypotheses are often influenced by prior beliefs, dominant perspectives, or widely accepted assumptions—even within scientific communities, which are not immune to error. For this reason, the construction of a solid theoretical framework and a rigorous state of the art becomes essential. These components provide the analytical grounding necessary to move beyond mere speculation and toward informed, defensible propositions.

Revisiting the insight associated with Hans Christian Andersen, it is important to remain cautious of claims presented as unquestionable truths. Expertise and academic authority do not guarantee infallibility. Scientific knowledge is historically contingent and subject to revision. This is particularly evident in the social and human sciences, where objects of study—such as social relations, cultural practices, and political dynamics—are inherently dynamic and evolving. Nevertheless, even in the natural and exact sciences, long-standing theories have been revised or replaced in light of new evidence.

In conclusion, the formulation of a hypothesis requires both intellectual autonomy and methodological discipline. Researchers—supported by mentors or advisors—should engage critically with existing knowledge while remaining attentive to their own interests and perspectives. Selecting an appropriate hypothesis involves navigating a vast body of information and identifying a proposition that is both meaningful and analytically viable. At the same time, it requires recognizing that reality is neither singular nor fixed, but open to multiple interpretations and continuous transformation [López-Guzmán \(2026\)](#).

QUESTIONS THAT KEEP ME AWAKE: WILL THIS COST ME? HOW LONG WILL IT TAKE?

Designing a research project requires the researcher to outline a structured set of pathways and decision-making processes that enable the most viable and effective achievement of the proposed objectives. This involves not only theoretical and methodological choices, but also the development of planning instruments such as timelines, resource allocation schemes, and funding requirements. These components are typically formalized as the research timeline and the research budget. Although they are often drafted toward the final stages of a proposal, they are by no means secondary; rather, they are essential to the feasibility and execution of the study.

Returning to the analogies used throughout this text—research as cooking, and research as a relational process—the relevance of these elements becomes evident. In the culinary example, preparing a preferred dish requires a set of ingredients, consumable materials, and tools. Each of these has an associated cost, which must be assumed by the individual undertaking the preparation. This corresponds to the research budget: a structured estimation of the financial resources required to carry out the study [López-Guzmán \(2026\)](#).

At the same time, the preparation process unfolds over a sequence of stages—from the selection and combination of ingredients to the final presentation of the dish. Each stage requires a specific duration to ensure an optimal outcome. This sequence constitutes the timeline, which organizes activities over time and ensures that the process unfolds in a coherent and manageable manner.

In undergraduate research, timelines and budgets are often constructed hypothetically and with limited attention to detail. As a result, projects frequently exceed their anticipated duration due to unforeseen contingencies, such as delays in accessing information, institutional disruptions (e.g., student strikes), or external factors such as environmental or political events. Similarly, the budget is often treated as a mere formal requirement, particularly when research is conducted without external funding and relies primarily on basic resources such as library access, internet connectivity, personal computers, printing services, and storage devices.

However, this perception can be misleading. In many cases, students and researchers may receive funding through scholarships, institutional grants, or external support. In such scenarios, the budget must be developed with precision and accountability. It should clearly specify categories of expenditure—such as personnel, materials, data collection, travel, and dissemination—and justify each item in relation to the research objectives and methodology.

At this point, it is necessary to introduce an additional dimension that is absent in the original formulation: risk management. A robust research design does not merely outline ideal conditions; it anticipates potential obstacles and incorporates contingency strategies. This includes identifying critical stages of the project where delays or failures may occur and proposing alternative courses of action.

Thus, both the timeline and the budget should be understood not as bureaucratic appendices, but as analytical tools that contribute to the internal coherence and practical viability of the research. They allow the researcher to align expectations with available resources, to anticipate constraints, and to maintain control over the progression of the study.

In sum, questions such as *How much will this cost?* and *How long will it take?* are not peripheral concerns, but integral components of the research process. Addressing them rigorously transforms research from a purely intellectual exercise into a structured and feasible project.

Table 1

Table 1 Example Research Budget				
Category	Item	Quantity	Unit Cost (USD)	Total Cost (USD)
Personnel	Research assistant	1	500	500
Materials	Office supplies	1	100	100
Equipment	Audio recorder	1	150	150
Data Collection	Transportation	10 trips	10	100
Data Collection	Printing (surveys, guides)	100 copies	0.2	20
Software	Data analysis software	1 license	80	80
Miscellaneous	Internet / communication	1	50	50
Total				1,000

Continuing with the previous example, when attempting to analyze or investigate why one's partner does not respond, it is essential to establish a timeline of activities in order to achieve the research objectives and address the research question and hypothesis.

Although most research projects are typically planned over a 12-month period—from the initial document search to the final submission or defense—this is not always the case. Projects funded by external institutions may extend over longer periods, depending on their nature, available resources, and defined objectives.

In this regard, the following model can be considered as a basic structure for a research timeline:

Table 2

Table 2 Example Research Timeline						
Activity	Month 1-2	Month 3-4	Month 5-6	Month 7-8	Month 9-10	Month 11-12
Literature review	✓	✓				
Problem definition & objectives	✓	✓				
Theoretical framework		✓	✓			
Methodological design		✓	✓			
Data collection			✓	✓		
Data analysis				✓	✓	
Writing of results					✓	✓
Final revision & submission						✓

CONCLUSIONS

This article has argued that research should not be understood as an exclusive, distant, or inaccessible activity reserved for a select group of specialists, but rather as a fundamentally human practice rooted in everyday life. By revisiting ordinary experiences—such as curiosity in childhood, interpersonal relationships, or routine decision-making—it becomes evident that the basic structures of scientific inquiry are already present in the ways individuals interact with and interpret their world.

Throughout the text, a central claim has been sustained: that the processes traditionally associated with research—questioning, problematizing, defining objectives, justifying inquiry, constructing theoretical frameworks, designing methodologies, formulating hypotheses, and planning resources—are not external impositions of academia, but formalized expressions of cognitive and social practices that humans perform continuously, often without explicit awareness. In this sense, research is less a specialized rupture with everyday life than a systematic intensification of it.

At the same time, the article has critically examined the ways in which scientific activity is often represented as opaque and hyper-specialized. While disciplinary rigor and technical language are necessary, their uncritical use can contribute to excluding broader publics from meaningful engagement with knowledge production. Recognizing the accessibility of research does not imply diminishing its complexity, but rather re-situating it within a broader epistemic horizon where inquiry becomes intelligible and participatory.

A key implication of this perspective is the revaluation of doubt and questioning as foundational elements of knowledge production. Far from being obstacles, they constitute the starting point of any rigorous investigation. However, this article has also emphasized that curiosity alone is insufficient. For inquiry to become research, it must be articulated through coherent objectives, grounded in theoretical frameworks, supported by methodological design, and justified in relation to its relevance and potential contributions.

In this regard, the research process emerges as a dynamic and non-linear trajectory. Hypotheses may be confirmed or refuted, methodologies may require adjustment, and initial assumptions may be transformed. Such transformations should not be interpreted as failures, but as integral to the advancement of knowledge. Research, therefore, is not a process of certifying pre-existing truths, but of engaging with uncertainty in a structured and reflective manner.

Furthermore, the article has highlighted the importance of maintaining a critical stance toward epistemic authority. Scientific communities, while central to knowledge production, are not infallible. As suggested through the recurring reference to Hans Christian Andersen, consensus does not guarantee truth, and no question should be dismissed a priori. Nevertheless, this critical posture must be accompanied by methodological rigor and argumentative responsibility, avoiding the risk of equating all perspectives without analytical grounding.

Ultimately, this work invites readers—students, novice researchers, and even experienced scholars—to reclaim research as a space of intellectual autonomy and creative engagement. To investigate is not merely to apply procedures, but to cultivate a way of seeing, questioning, and interpreting reality. It is to recognize that knowledge is always situated, provisional, and open to revision.

In conclusion, if research begins with a question, it is sustained by method, guided by theory, and justified by its relevance, then its deepest value lies in its capacity to expand the horizons of understanding. To investigate is, in this sense, not only to seek answers,

but to learn how to ask better questions—and, perhaps, to recover that original disposition of curiosity that once defined our first encounters with the world.

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