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Limits and Possibilities to Combine Quantitative and Qualitative Approaches

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<http://dx.doi.org/10.5772/intechopen.68195>

Abstract

This essay analyzes the main characteristics of quantitative and qualitative approaches to empirical social and human research, showing the extent to which they leverage each other, the advantages of their shared use and the limitations of this relationship. This theoretical and practical work discusses the principles of each strategy and its possible cooperation, proposing, in a didactic way, this gathering. It builds on more than 20 years research experience of the author, who, jointly with her group, has combined these approaches. This text concerns only empirical research, and, due to the limited space, focuses only on some classic authors and references with their seminal theories. It is organized as follows: (1) analysis of the different rationales of quantitative and qualitative approaches, (2) principles supporting cooperation between them, (3) prerequisites for articulation, and (4) proposed operationalization of such cooperation.

Keywords: qualitative approach, quantitative approach, social sciences, humanities, epistemology

1. Introduction

This essay discusses the epistemological and practical issues of the relationships between qualitative and quantitative approaches, that is, one of the methods used to close in on social reality. It proposes a pathway of possibilities in which the two terms can meet, overcoming dichotomies and, from a quantitative standpoint, the milestones of positivism, as well as, from a qualitative viewpoint, the restrictions on the magnitude of phenomena and social processes. This is not a simple task [1], neither in theory nor in practice, and this text shall address both the limits and the reasons for overcoming them.

From the point of view of understanding or explaining social phenomena, there is no doubt that the choice of one or the other term is not only an act of will of the researcher. A good theoretical-methodological perspective will always be one that allows the proper construction of information and helps us to reflect on reality and to theorize it intelligibly and comparably with the already consolidated body of knowledge on the subject at hand. Therefore, we understand that quantitative and qualitative approaches must be both valued and relativized. For it is only when used within the limits of their possibilities that they can make an effective contribution to the development of theories and the collection of hypotheses.

The articulation between quantitative versus qualitative must be understood as a research dynamic that integrates the explanation of a certain phenomenon [2] and its comprehension [3], thus, joining two philosophically different and opposing rationales. *Explaining and understanding* are the focus of objective and subjective integration of research processes that, on the one hand, address the magnitude of study objects and, on the other hand, the subjectivity of social stakeholders in their establishment [4, 5].

The ethics underlying this dialogical opposition of terms draw on the principles of communicative philosophy [6], since a work that shows the magnitude of a problem to interlocutors, calls them to express their opinions, beliefs and attitudes towards it. This turns them into participants in the information generated and proposals for social change, usually found in social sciences and humanities studies, albeit at the local or micro-social level.

When talking about collaboration between quantitative and qualitative approaches, the central theme is the method, that is, the “how to,” while the practice of research is always embedded by theory, either relative to the object of study — what should be handled in a specific way and is not the object of this reflection — or to the very research work. It is therefore important, before dealing with this activity, to briefly analyze what distinguishes them.

This text is organized as follows: (1) analysis of the different rationales of quantitative and qualitative approaches, (2) principles supporting cooperation between them, (3) prerequisites for articulation, and (4) proposed operationalization of such cooperation.

2. Opposition between quantitative and qualitative

The differences between quantitative and qualitative in social and human research are not only level-related, as often some researchers would want us to believe, but also of scientific nature and conception. Therefore, before discussing the possible articulations, we believe it is fundamental to describe, although briefly, the specificities of each term. Due to space constraints, we will address empirical approaches in modern science [7], with emphasis on their classical representatives, even knowing that they date back to ancient times. For example, in the first case, the fantastic knowledge built by the astronomers of Babylon and ancient Egypt is well known, not only including prolonged and accurate observation of events but also the ability to distinguish patterns of change. From then on, scientists back then created a sufficiently precise timetable, allowing the development of activities that, in modern times, are the core of agricultural

economy. From a qualitative viewpoint, when Socrates (469–399 B.C.) shows up at the squares, he makes ethical and humanistic reflection the core of the philosophical way of being and living, turning to the inner human being, and seeking in it the “essence of truth” (*aletheia*), which inhabits each soul (*psyche*), using as a method the dialectic of the “discourse of confrontation” of opposites (*aporia*) through systematic questioning.

The quantitative: Historically, quantitative approaches in modern science are associated with the positivist philosophy that, to this day, maintains the intellectual ascendancy in the academic field. Its roots go back to the so-called Century of Lights. The father of philosophical positivism is Condorcet [8], an encyclopedist who, in the second half of the eighteenth century, formulated in clear and precise fashion the idea that the science of society should be social mathematics based on thorough, objective, and probabilistic quantitative studies. In the nineteenth century, this way of looking at reality was updated by Comte [9] and by Durkheim [2]. The latter is considered a seminal author, since he applied the same principles to what he called “sociological positivism” and declared to have created a science that he labeled “sociology,” with a strategy for its development, namely, “*The rules of the sociological method.*”

Challenging the spirit of his time marked by political power and Catholic religious interpretation of human events, Durkheim categorically insisted that the causes of social facts should be pursued in other social facts, not in theology or individual behavior. Calling (pre)judgments, (pre)conceptions, (pre)notions against common sense and lay opinions on social reality, Durkheim re-asserted, in all his works, the theoretical principles of positivist sociology: the existence of social coercion which is reaffirmed in the institutions and their functioning; the idea that reality manifests itself in social facts that can be recognized by its regularity, frequency, and collective and objective manifestations; and the conception that there is an objective reality capable of knowledge different from the phenomena that relate to beliefs, values, and emotions that should be excluded from science.

The history of positivism reveals that, from the viewpoint of research, the conception of objectivity is confused with the execution of quantitative, mathematical-based studies that are neutral and free from value judgment and socio-political implications. Under this perspective, we can assume that the social scientist must behave in such a way that nothing can harm his neutrality in explaining the phenomena at hand, always external to him. Following the same path, methods and techniques of statistical research proliferate more than ever, reproducing not only a scientific conception, but certainly, a doctrine that builds on ideas developed in the eighteenth century, consolidated by Modern science from the late nineteenth century and refined to the present day.

While sociological positivism continues to rule social and human sciences, it is subject to several criticisms by other currents of thought but also by many who profess it [1]. The strongest constraint comes from comprehensive theories [3, 10–12], for which human beings are not mere form, size, and movement: they have an inner life (thoughts, feelings, beliefs, and values) and relationships that escape quantitative methods. In the same vein, the issue of neutrality, objectivity, and exteriority of the social scientist in relation to his object of study is being criticized. Epistemologists consider these subjects as being epistemologically incorrect

in the way positivists address them, because they do not take into account the fact that everything that is human crosses subjectivity and is found in any investigation of any discipline. The permanent search for new knowledge stresses, more than the objective truth of science, its approximate character [13].

Internally to those using quantitative approaches, there are also criticisms about limiting the different methods and techniques they use. Some authors [14–17] point out that the more complex an investigated phenomenon, the greater the effort to achieve adequate quantification. In part, because some activities are inherently difficult to measure and quantify, and partly because, to this day, overly complicated mathematical descriptions are extremely intractable and of little practical value.

On the one hand, an accurate description of all known facts, for example, on the evolution of a species, may prevent any useful mathematical representation, but on the other hand, an oversimplification of the mathematical framework used to address a complex problem could be very fruitless, because many relevant facts would have to be omitted. “This is one of the dilemmas found in modern quantitative work as a whole, not limited to, therefore, to social research.” (p. 242)[18].

The qualitative: In contrast to positivism, qualitative approaches work with values, representations, beliefs, attitudes, relationships, behaviors, and practices. They deem that social sciences should understand the socially experienced human reality. In their different modalities as in sociological phenomenology [3], ethnomethodology [19], symbolic interactionism [20, 21], oral history [22] and others, *meaning* is the central concept and *understanding* the main verb. Comprehensive sociology proposes subjectivity as the founder of meaning and advocates that it is part of social relationships, which are the essence and result of human creative, affective, and rational activity. The universe of qualitative research is the daily routine and experiences of the common sense, interpreted and reinterpreted by the subjects who experience them, which is strongly opposed to the positivist sociology that considers such manifestations as “(pre)conceptions.”

In the introduction to his book “Sciences of the Spirit,” Dilthey [23] argues with positivism, stating that human facts are not susceptible of quantification and objectification because each of them has its own sense and peculiar identity, requiring a specific and concrete understanding. Hence, in his perspective, the sociological theories and philosophy of history that see in the description of the unique a mere raw material for later abstractions [23] are false: “*there is no last word in history that contains the true meaning*” (p. 25).

In social sciences, Max Weber [10] first established the theoretical-methodological bases of comprehensive sociology, which is geared to the understanding and interpretation of social action, so defined [10]: “*Action is social when, by virtue of the subjective meaning attributed to it by individuals, it takes into account the behavior of others and is guided by them in its realization*” (p.33). Therefore [10], “*seizing the relationship of human action meaning*” (p. 32) is the central task of social sciences and humanities, since society is the result of an interrelationship in which the actions of some are reciprocally oriented toward the actions of others.

In his theoretical clash with positivism, Weber [10] recognizes that values play a prominent role in selecting the object, in choosing the research problem and in the questions asked by the researcher. However, it is incumbent on him to seek ways of ensuring the maximum possible exemption from ideological intrusion in his studies, by the correct use of methods, techniques, and construction of mediating, adequate, and peculiar concepts, in order to increasingly approach the concrete characteristics of historical events and interactions. Assuming that human history consists of “unique constellations” and concrete cases, Weber [10] proposes the elaboration of concrete-historical concepts that make phenomena intelligible and allow them to be sorted and to indicate their articulations and their meaning. His search for “objectivity” coincides with what Minayo [24] calls “objectification”, that is, the systematic work that seeks to ensure theoretical foundations and universal standards already tested in qualitative approaches, respecting the specificity of the object of study.

Comprehensive sociology requires: (a) conducting empirical research that may contribute to confirm or build new theoretical formulations; (b) collecting data from the way of life of social stakeholders, their environments, their relationships and meanings they assign to them; (c) understanding social stakeholders as people that can describe, explain, and justify their actions, motivated by traditional causes, affective feelings or rational motives; and (d) considering language, practices, relationships, and events as inseparable elements of reality to be studied [25]. According to Weber [10]:

“There is no analysis of the absolutely objective culture of social phenomena, independent of special and partial views, according to which, explicitly or tactically, consciously or subconsciously they are selected and organized for expository purposes. All knowledge of cultural reality, as can be seen, is always knowledge from specific viewpoints” [10], (p. 72).

In his reflections, Weber [10] opens space for the articulation of the quantitative and qualitative. He emphasizes that historical singularities are the result of specific combinations of general factors that, if isolated, are quantifiable. But the numerical form of its presentation must be associated with the vision of other elements that provide peculiar arrangements, since everything that is affirmed of a concrete action, its levels of adequacy, meaning, and its comprehensive or causal explanation are hypotheses susceptible of verification, therefore, of scientific approach.

As quantitative studies, qualitative approaches are limited, since they do not fit into large research universes. Their space is much more that of further analysis of the meaning of actions and much less the explanation of the magnitude of the phenomena. There are also problems in the generalization of findings—which must be addressed differently than in quantitative studies [26, 27] and the articulation between theory and empiricism. In practice, they are frequent atomized analyzes of processes and social groups, as if these phenomena constituted totalities reduced to themselves. Furthermore, many empirical works lack further analysis, criticism and contextualization of the historical, cultural and structural problems that always involve any topical event. Focusing on the phenomena, surrounding them as if it was possible to analyze them within themselves is reductionist, since it does not know that there is always a material basis for the symbolic universe and the one who speaks about a certain subject is

socially, historically, and culturally located. The art is to find in data and not outside of them what makes any local problem part of universal issues: its rooting in the world and its transforming possibilities [26, 28].

From the reflection so far referred, we can infer that there are limitations and potentialities in both quantitative and qualitative approaches [1]. Considering the paths of their possible integration is the next step of this text that shows theoretical and practical arguments.

3. Cooperation between quantitative and qualitative

From the methodological point of view, the term traditionally used to show the contribution of qualitative and quantitative methods is “triangulation” a denomination established by Denzin [11] to refer to the use of multiple techniques and different approaches.

Authors such as Denzin and et al. [11, 18, 29–31] have technically studied methodological triangulation, showing that their principles resound within a long tradition of social sciences. Samaja [30], for example, in his paper, *Metodología y Dialéctica del Trabajo Interdisciplinario* (free translation: Methodology and Dialectics of Interdisciplinary Work) demonstrates that integration occurs for practical reasons, especially when it comes to processing and analysing data produced through different tools and from the perspective of different disciplines. However, this author emphasizes that search for integration happens also for epistemological reasons, as there is an effort to try to overcome the dichotomies between quantitative and qualitative, between disciplinary and interdisciplinary approaches and between objectivism and subjectivism. Samaja [30] goes on to say that, whether explicitly or implicitly, the research process has always used concepts and notions of both the so-called positivist and comprehensive-based theories, even without realizing it, without, therefore, an epistemological barrier as definitive as one often hears in advocating one or another method.

Jick [29] finds a universal value in methodological triangulation, when he argues that each method alone does not have enough elements to answer the questions that a specific social investigation elicits. Denzin [12] emphasizes the methodological contribution as a tool for lighting reality from various angles. This author shows that this practice provides greater theoretical clarity and allows further study of an interdisciplinary discussion in an interactive and intersubjective way.

One of the most important reflections on triangulation is found in some of Kant's ideas [32], developed in the “*System of All Principles of Pure Understanding*” in [30] “*Transcendental Mathematics*” that is part of his work “*Critique of Pure Reason*.” Kant [32] says that the understanding of reality builds on four basic principles: in the axioms of intuition; in anticipation of perception; in the analogies of experience; and in the postulates of empirical thought in general. The two initial principles are defined in this text. The first is based on the fact that intuitions are extensive quantities in time and space, which can only be apprehended by the composition of multiple homogeneous and by the consciousness of the synthetic unity of the manifold. The phenomena, according to Kant, are extensive quantities represented by homogeneous and successive parts that form a whole.

The second principle refers to the existence of an intensive quantity that occurs in the perception of the phenomena. Kant [32] argues that this perception is the simultaneous empirical consciousness of intuition and sensation. It is the understanding that phenomenal objects are not only extensive quantities from which one has an external view. On the contrary, they also contain a subjective representation. Put in another way, the subject is affected and experiences existentially the phenomenon that he lives: this constitutes a unity of the system of understanding. Therefore, the phenomenon, on the one hand, has a quantitative extensiveness, but on the other hand, carries a singularity that is formed by the infinite sequence of increasingly smaller degrees (from one to zero).

Kant [32] points out that *“the possibility of experience is offered by objective reality to all our a priori knowledge”* (p. 115). In turn, experience builds itself up in the synthetic unity of phenomena, in the synthesis of the two concepts (extensiveness and intensiveness), without which action would not turn into knowledge. Thus, concrete action underlies universal principles and rules concerning *unity in the synthesis* of phenomena, whose objective reality can be shown by experience [32]: *“it is in the object itself that the synthetic unity of concepts reveals an objective reality”* (p. 116).

That is, there are different degrees of living an experience, since it contains simultaneously both extensive quantities and intensive amounts. Kant [32] called the intensive amount of *“quality”* of the sensations, pointing out that the experience of this quality is always empirical and, therefore, cannot in any way be shown *a priori*. In quantities, we can only recognize one quality *a priori*: its continuity. In quality, there is only one extensive quantity: its degree of uniqueness that can only be measured from one to zero: [32] *“I will call mathematicians, to the two preceding principles, both of which are constitutive of the same phenomenon”* (p. 123).

The philosophical ideas of Kant [32] are fundamental for the search of integration between the quantitative and qualitative studies that combine approaches of the magnitude of the phenomena and their understanding. This reflective process points to the overcoming of pure objectivism, due to the wealth of knowledge that can be added to the valuing of interaction, intersubjectivity, meaning and intentionality always found in any human and social phenomena. A dialectic attitude leads to an understanding that subjective data (meanings, intentionality, interaction, intersubjectivity, and participation) and objective data (indicators, frequency distribution, and others) are interdependent. Such a view allows us to break down and dissolve several dichotomies that are held as truths, enabling the enriching combination of quantitative information and views that social stakeholders have about them (quantitative versus qualitative) between the magnitude of the phenomena with their variables—which are nothing more than some qualitative attributes that accompany them—and their conception located in some specific topic; between the external observer typical of quantitative studies and the coexistence and interlocution that are established in field experiences and are not a bias to be avoided, but a *sine qua non* of qualitative approaches. Finally, the false dilemma between subject and object is dissolved when any social or humanistic study—whether quantitative or qualitative—is based on intersubjective knowledge, since the object with which one works is also subject and already brings to the setting of research an interpreted reality [3, 33, 34].

4. Prerequisites for quantitative-qualitative integration

The articulation of quantitative and qualitative approaches relies on two essential conditions. The first is practical. It consists of the existence of a team composed of professionals from the areas who are willing to work cooperatively. While some researchers are able to make a theoretical and methodological crossover about an object from several angles, this practice shows that people specialize in certain disciplines and methods. Addressing them cooperatively will require a dialogue between themselves that involves the rationale and concepts of each area and the ways of operationalizing them. Therefore, methodological triangulation's work relies on people emotionally and mentally willing to dialogue and experimentation of possibilities that snatch them from the nest of their unidisciplinary comfort.

The complementarity between different methods and disciplines is a specific intellectual movement required for the study of an empirical object. As Kant [32] points out, the *object is the third term*, before which the quantitative and qualitative approach will produce the synthetic unity of the manifold and the unique. Further reflections around the object allow us to understand it and to explain it simultaneously in its multiple dimensions.

Thus, the research team—with people working with quantitative and qualitative methods—in a dialogical effort should participate in all phases of research, from conception to presentation of results. The success of group work of “different” people requires the ability to discuss, differentiate, and relate fragments of theories, concepts, notions, and methods that broaden and further analyze the understanding of reality. The result of this process is the overcoming of the *a priori* hierarchy, of the hegemony of one scientific field over the other, by means of a cooperative and dialectical vision among them [35].

The second condition for the success of a work combining the quantitative and the qualitative approach is, paradoxically, the disciplinary competence of each component of the group. The disciplinary safety enables the theoretical-methodological further analysis of the object, since inexperienced or ill-educated people who come together interdisciplinarily do not produce a quality work. It is necessary to be clear that dialogue between disciplines is a reflexive, dialogical and critical work on specific concepts that can counteract and enrich the understanding of the object, because, at the same time, we work on the dialectic of integration of opposites and the distinction between them. For when they come together, the theoretical-methodological specificities do not dissolve. They continue to exist, dealing with questions that require one or another approach, as shown by Kant's transcendental mathematics [32]; studies by Minayo and Sanchez [18]; Minayo [24]; Samaja [30]; Minayo et al. [31]. Regarding the relationships between disciplines and methods, Samaja [30] warns that their combination is always unequal; in practice, one discipline prevails over another. This asymmetric power tends to have different reasons ranging from (1) historical reasons that demonstrate greater scientific consolidation of a given discipline in relation to the other; (2) greater experience of some researchers in a given area in relation to the topic at hand; and (3) the intended objectives of a given study, which may be to produce information of magnitude on the problem when qualitative knowledge has a supporting role; or vice versa, when the scope is to show the stakeholders' views on a given issue, their population size, for example, is treated as contextualization.

For successful articulation between opposites, which takes place in the concomitant distinction and integration between theories and methods and in the dialogue between specialists of diverse disciplines, researchers working on such approaches need to take into account some increasingly consensual findings in social sciences and humanities: the complex causality of phenomena, which opposes the view of linearity and unidisciplinarity; the relationships between specificity and concreteness of the object and their implications for history and the wider context [26]; the fact that there is always room for unpredictability, creativity, and re-elaboration, even in a well-delineated and constructed object, and, consequently, the awareness that even the most perfect integration between quantitative and qualitative approaches has boundaries, contradictions and is a work in progress. From the researcher's standpoint, it is essential to take into account that the role of the external and rational observer must be complemented by the role of investigator-interlocutor who has empathy and emotion to interview people be with them in the field and understand their dramas that are expressed not in scientific concepts, but in common sense, experiences, perceptions, and actions.

5. Practical steps for quantitative-qualitative cooperation

From a practical point of view, the combination of quantitative and qualitative approaches is a cooperative staged activity. An instructional proposal to unfold them in seven steps is made as follows: (1) formulating the main object or question that will guide the entire research process; (2) choosing key theoretical and operational concepts; (3) choosing the reference bibliography and other sources of information, studying further the theoretical framework and formulating hypotheses or assumptions; (4) building tools for the collection of information and preparation for empirical work; (5) organizing and conducting fieldwork; (6) analysing information obtained; and (7) preparing the final research report.

1. For the formulation of the main research object or question, practitioners from the various disciplines must come together. Together, they also build the work's general and specific objectives, the schedule of activities, the administrative adjustments, and methods to resolve conflicts and theoretical and practical problems that will always arise. In this stage of definitions, decisions regarding work distribution, the coordination that needs to include people from both approaches, the administrative processes, a schedule of tasks to be performed and meetings are made. It is also recommended that, from the outset, an executive body be established that, together with the coordination of the research, solves operational and logistical issues throughout the research process, particularly, those related to fieldwork. Its function is to manage work schedules and agendas of researchers and all social stakeholders involved, scheduling meetings, interviews, focal groups, application of questionnaires, availability of material, spaces, administrative authorizations, and respect for the ethical standards for research with human beings.
2. This second step should also occur by means of joint reflections. Operationally, the study coordination team can anticipate the collective meeting, drawing up a proposal and opening a wide-ranging discussion on it. It is time to select main concepts and notions that will be the goals for the construction of empirical knowledge. Nominating concepts and

notions and clarifying them allows for an interdisciplinary and even transdisciplinary articulation, as they will become theoretical units constructed collectively and from various viewpoints. The alignment of theoretical and practical devices is not an easy task, since the same terms may refer to different things in different disciplines. Therefore, it is time to clarify some fundamental points for the dialogue between quantitative and qualitative researchers: how an area defines a given term, how it can be appropriated by the other and what mutual enrichment this appropriation would bring; what are the concepts that cross the areas; and what are the constraints to a given field that must be respected and applied in only one of the approaches, focusing on the central question of research. This process is an essential part of mediation between the main question and research tools. The place of operative concepts corresponds to what Kant [32] called in his *"Transcendental Mathematics"* (p. 123), *"synthesis between thought and reality,"* or what Samaja [30] refers to as *"representation of a procedure"* (p. 166). According to this last author, every scientific data link a concept to what is actually happening through the execution of a procedure applied to one or more observational or interactional dimensions in the field. Two observations are important here: it is not the disciplines in their totality that are discussed, but disciplinary fragments that fit the theorization of the object, on the one hand. On the other hand, we must recognize that articulation between them is a pathway of possibilities but not always a possible operation.

3. The third step occurs through task distribution among all team members who must always interact with each other. It is the analysis and further study of various sources of information: review of national and international papers, possibly existing books and documents, including those dealing with historical aspects, focusing on the terms selected in the second stage of the work; reports, pictures, and other materials about the group or issue under study. Investing in existing knowledge is a fundamental step in making the object a scientific construct. In the case of exploratory investigations, where there are no studies on the subject at hand, it is necessary to refer the object with sources that approach it and can help to understand it better. We understand that in the first and second steps, the object was only mentioned, but not scrutinized, since its definition does not lie in the question itself, but in its clarification and contextualization through theorizing. That is what makes it a scientific fact. Once the sources have been analyzed, researchers must formally meet and agree on the theoretical framework to be used, working on the consensus regarding the concepts, categories, and notions already studied from bibliography. This is also the time to establish, collectively, the hypotheses or assumptions that will guide the investigation and which already existed as intuition in the initial inquiries.
4. The fourth step addresses the definition and elaboration of research tools as a technical task. Teams organize themselves in a disciplinary way in their construction, since the logic of a questionnaire and of a qualitative script and the criteria of sampling in each of the approaches are entirely different, as pointed out in the theoretical part of this text. Quantitative tools and techniques point to the magnitude of the problem. The qualitative ones are appropriate to scrutinize history, to understand the relational dynamics, the representations, the symbols and the evasive elements of social life that cannot be contained in formal means. This time of separation of research subgroups does not prevent permanent communication

between quantitative and qualitative researchers. We wish to emphasize that there are moments in which total gathering is indispensable, and there are others in which separation by specificity and peculiarity of methods in the process of integration must prevail. However, once the research tools are outlined, the group must again work collectively, with a view to socializing, criticizing, and adapting them. At this point, knowledge and inquiries from side to side are shared, criticized, improved, and mutually enriched.

5. The fifth stage refers to the empirical work and its operationalization, requiring adequate training both for the application of quantitative and qualitative tools. The process of empirical investigation is a very delicate action, because when not properly informed, many interlocutors may feel judged and confronted with questions or conversations. Those who master the technique must perform the implementation of questionnaires (main quantitative device). Interview scripts, field observations, focal groups, and other approaches also require specific skills. It is important that, in both cases, field researchers have knowledge and mastery of the whole research proposal, as if their success depended only on them. Briefly, experience shows that conducting an interdisciplinary research and combining methods requires: (1) adequate management that favors the proper use of time and relationships with people involved in the work, through executive coordination; (2) field investigators cannot be mere executors. On the contrary, it is fundamental that they understand research and its theoretical and practical purposes. That is why they have to be trained so that they have an adequate relationship with people, to observe the environment and to apply tools. Qualitative approaches, for example, require researchers with experience, training, empathy, sensitivity, and the ability to mediate conflicts.
6. Following the empirical work, it is time to sort, classify, and analyze the data. At this stage, two distinct moments emerge. First, researchers split quantitative and qualitative information to produce an initial report on field results. From the quantitative standpoint, researchers work according to the design and the models used and begin to tabulate, type, categorize, produce simple statistics, and cross-link, gradually achieving a more refined analysis of empirical data. They follow well-established rules that accompany the work from its initial stage, when the first tests are conducted to safeguard the standardization of information. The same is true of qualitative data. Researchers begin to sort and classify the different modalities of empirical material such as interviews, discussion groups, observation notes, historical, and institutional information collected in the field. In a dynamic that goes from the reading of the different data, they create analytical and empirical categories, establishing the understanding bases of the reflexive unit that is the object of study. Then, researchers from both approaches work together to match the results and promote the drafting of a single document in which the findings of some interfertilize the findings of others. The search for dialogue in this stage of work aims at the construction of a single report reflecting the possibilities of quantitative-qualitative articulation rather than the presentation of juxtaposed information. In doing so, the differences do not cancel out; they contribute to evidence and further analyze the understanding of a certain object. Experience shows that quantitative data are sometimes the best evidence of certain aspects of the object, but in others, qualitative information helps to understand more clearly certain social processes that numbers conceal.

7. The preparation of the final report deserves special attention. In short, it should contain the object of study; the goals; a theoretical synthesis of the concepts and notions that theoretically structured the work and the analyzes; the respective approach methodologies; the contextualization of the object; the description of the various processes studied from the perspective of stakeholders, heard in both research strategies, and a synthesis containing [36] “the designed concrete” (p. 35) in the form of results and conclusions. From the perspective of a combination of quantitative and qualitative methods, the report is not and will never be a sum of disciplinary results, but rather the construction of a collective research. Research may contain chapters that are historical, others of a statistical nature and others yet that emphasize the meanings of actions, but each is enlightened and interfertilized by the contribution of others.

6. Conclusions

In this text, we tried to evidence that it is possible to combine quantitative and qualitative approaches without making this process a panacea or disrespecting the theoretical-methodological distinctions of each one. As was said initially, particularly, the practical proposals were formulated from the experience of the researcher who signs this paper and her working group. The text reinforces the conviction that in order to make important advances in the interdisciplinary, methodological and technical combination, a team of researchers must accept the challenge of cooperative work. From a theoretical-practical perspective, the success of this process lies in three opposing and complementary positions: (1) a deep respect for the disciplinary fields; (2) the ability to perceive and relativize the individual fragmented visions; and (3) the researchers’ dialogical capacity before theoretical and methodological proposals that confront their usual research routines.

This triangulation of perspectives also contributes to the enrichment of theories, analyzes, and publications of the original field of knowledge of each researcher. That is, once a research is performed by a combination of methods, a researcher can and must publish papers and other forms of scientific communication whose background is marked by collaborative activity. However, experience shows that the so-called “disciplinary” scientific production resulting from the effort to share an interdisciplinary and methodologically collaborative reflection will never be equal to the result of the monological effort of the individual and solitary researcher. In the proposed collaboration between areas, methods and techniques, everyone receives the influx of knowledge interfertilization that, to a certain extent, breaks down epistemological, theoretical, and practical barriers.

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