Reflections on Imaginative Methodology in Research

Jose Luis Turabian*
Health Center Santa Maria de Benquerencia, Regional Health Service of Castilla la Mancha (SESCAM), Toledo, Spain

Abstract

There are no contributions, directed to the novice researcher, that show the imaginative practical elements of the research and that are relevant to generate new knowledge. This article shows some of these elements on which the researcher must reflect. These elements are: 1) To think that the most important thing in a study are the research methods. Thus, from its real practice the researcher could afford the option of any subject / objective; 2) To think that another important aspect to choose the investigation is to focus on the problems that have been pending solution. A good scientific work is a good source of scientific information, and also an effective reactive of our own brain energies; 3) To think about how much bibliography should be known before starting the investigation; 4) To think about the subject of the study. Being with the open eyes, look for inspiration in nature and in daily work; from practice; 5) To think about the assumptions or hypotheses; 6) To think about statistical methods; 7) To think about the results. The interesting thing in the investigation is not the average or more common result, but the unusual; 7) And finally, remember that the truth is not only behind the experiment, but also behind the simple and fruitful observation.

The fundamental aspect of research is to generate new knowledge that is sufficiently consistent so that its consequences have a fundamental effect on the nature of day-to-day practice [1]. But there are missing contributions that show imaginative and relevant practical elements for the novice researcher. Some of these elements on which the researcher must reflect are:

1.- To think that the most important thing in a study are the research methods. The research methods and designs may be over if we do not know what we want to investigate, because they only recover their true meaning when we have clarity about our research objects. The initial question "What method or design to use in the study?" is not correct. The question must be: "What do I need to know and why?" Only when we have an answer for the question, what is the best way to collect that information? And after, when I have that information, what will I do with it? I can decide the method or the design. The methods are selected because they provide the data that is needed to complete the study. That is, the method that best suits the particular purpose of the study (and that is feasible) is chosen.

But, in real life there are barriers and opportunities that modify these orthodox laboratory considerations. It may be easier to find the method / design (accessible, useful, and possible) than the objective of the study. Thus, the researcher, starting from the real context of his work where the study will be developed -from its real practice-, could choose the option of any subject / objective [2].

Further, it must be recognized that there are different forms of evidence, and that initial work is necessary before the investigation itself to identify the most appropriate methods to generate evidence, including the assessment of safety, acceptability, adequacy, quality, and effectiveness.

2.- To think that another important aspect to choose the investigation is to focus on the problems that have been pending solution. A good investigation must have a "suggestive virtue". To think that the study not only shows the ideas deliberately exposed by the researcher, but other totally new, and even different for each reader, that spring from the conflict between the background of the reader's representations of the study and the concepts expressed in the study. So, a good scientific work is a good source of scientific information, and also an effective reactive of our own brain energies [3].

3.- To think about how much bibliography should be known before starting the investigation. Avoid being saturated with what has been written, so as not to lose the invaluable gift of independence of judgment and to find something completely original. But, at the same time, do not start any research without looking at all the bibliographic background, to avoid the painful disenchantment that comes from knowing that we have wasted time rediscovering known things and neglecting the study of the true gaps in the subject.

4.- To think about the subject of the study. Being in search of a new fact is often the fruit of patient and tenacious observation; of the experience on the chosen subject. Being with the open eyes; look for inspiration in nature and in daily work; from practice. It is like saying, to practice curiosity from observation, that it gives us surprise, enthusiasm and emotion, which are propelling forces of the constructive imagination [4-6].

And it is good to follow our first thoughts, and not the second ones. As J. S. Mill said: "When there is not time for real deliberation, it is generally safer, to act on our first thoughts than on our second. For the first thoughts are likely to turn on the greater probabilities and more important points of the case; the second on some minor matter which qualifies and limits the former." [7]. On the other hand, when we find ourselves in the presence of several equally favourable and fruitful topics, we will choose the one whose methodology is perfectly known to us and for which we feel more sympathy. Further, let's not

*Correspondence to: Jose Luis Turabian, Health Center Santa Maria de Benquerencia, Regional Health Service of Castilla la Mancha (SESCAM), Toledo, Spain, Email: jturabianf@hotmail.com

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be megalomaniacs. Be humble from the beginning; First of all, address the small issues, to tackle later, if success smiles and forces grow, the big ones [3].

5.-To think about the assumptions or hypotheses. Hypotheses make statements about relationships between variables and provide guidance to the researcher on how the initial idea or hunch can be tested. Some Rules of the hypothesis would be: that they are obligatory, that is to say that there is no other possibility to explain the phenomenon; that are verifiable; that are easily imaginable, that is, that can be transformed to practice; and that they to suggest investigations and controversies.

6.-To think about statistical methods. There are three strategies to replace the null hypothesis statistical significance testing approach in research: (a) visual representation of processes and predictions, (b) visual representation of data distributions and choice of the appropriate distribution for analysis, and (c) model comparison. It has been proposed to combine the three strategies and use them not only as analytical and reporting tools but also to guide the design of research [8]. Also, remember that when the results are obvious, a lot of statistics is not necessary. For example, Jenner’s work with the smallpox vaccine in the eighteenth century (where he used a single subject) or Lind’s experiment related to scurvy that only had 12 subjects [9].

7.-To think about the results. The interesting thing in the investigation is not the average or more common result, but the unusual. It is possible that there is more to discover about that small 5% that goes out of the average than of the rest. It is the concept of summit experience. Also think that what is sought in research studies is “something that serves to understand something”: an imaginative core. Remember that when you want to think clearly, you have to start by writing your arguments for and against, as did Robinson Crusoe [10].

8.-And finally, remember that doctors who after many years of professional practice have not found a single new detail to add to those who discover the usual books, or the surgeons, with copious statistics of patients of all kinds, who have not seen, in the experiment that is each operation, nothing more than what the others had seen; to those practitioners who have not thought of changing an instrument or inventing a new one or giving a different bias to this or that operative detail, they lack a primary duty, they are abusive usufructuaries’ of science. They can excuse themselves with the usual sound, “they have not contributed to the truth because they have not been able to investigate”. But the truth is not only behind the experiment, but also behind the simple and fruitful observation [11].

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