TÓPICOS ESPECIAIS EM METODOLOGIA DA PESQUISA – 2009.1

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TEXTO INTRODUTÓRIO I

Extraído do livro: Neutens, J. N. & Rubinson, L. Research Techniques for the Health Sciences. Capítulo I, What is Research? Boston: Allyn and Bacon, 2a edição, p. 2-3, 1997.

Using Science in the Quest for Knowledge

Knowledge may be gained or accumulated in many ways. Cohen and Manion (1994) classified ways of knowing into three broad categories: experience, reasoning, and research. We are concerned with the scientific method, or science, and how this science helps us know.

To satisfy our doubts, ... therefore, it is necessary that a method should be found by which our beliefs may be detained by nothing human, by some external permanency, by something upon which our thinking has no effect.... The method must be such that the ultimate conclusion of every man will be the same. Such is the method of science. Its fundamental hypothesis ... is this: There are real things, whose characters are entirely independent of our opinions about them. (Buchler, 1995, p. 42)

Scientists, in their quest for knowledge and truth, use self-correcting devices that serve as built-in checking methods to assure that the conclusions they may reach are factual. Hypotheses are formulated but so too are alternate hypotheses to test the objectivity of the experiment and experimenter. In addition, by publishing the experiment and its results scientists allow for others to replicate and inspect their work.

Each scientific field (physics, engineering, psychology, health) has a method of arriving at knowledge, which will be discussed later as the scientific approach. Science can be considered a method to solve problems or answer questions that investigators find to be of interest. Scientists acquire specific attitudes that enable them to think and act in a scientific manner. These attitudes are best described by Ary, Jacobs, & Razavieh (1990, p. 14).

1. Scientists are essentially doubters, who maintain a highly skeptical attitude toward the data of science. Findings are regarded as tentative and are not accepted by the scientists unless they can be verified. Verification requires that others must be able to repeat the observation and obtain the same results. Scientists want to test opinions and questions concerning the relationships among natural phenomena. Furthermore, they make their testing procedures known to others in order that they may verify, or fail to verify, their findings.
2. Scientists are objective and impartial. In conducting observations and interpreting data, scientists are not trying to prove a point. They take particular care to collect data in such a way that any personal biases they may have will not influence their observations. They seek truth and accept the facts even when they are contrary to their own opinions. If the

accumulated evidence upsets a favorite theory, then they either discard that theory or modify it to agree with the factual data.

3. Scientists deal with facts, not values. They do not indicate any potential moral implications of their findings; they do not make decisions for us about what is good or what is bad. Scientists provide data concerning the relationship that exists between events, but we must go beyond these scientific data if we want a decision about whether or not a certain consequence is desirable. Thus, while the findings of science may be of key importance in the solution of a problem involving a value decision, the data themselves do not furnish that value judgment.

4. Scientists are not satisfied with isolated facts but seek to integrate and systemize their findings. They want to put the things known into an orderly system. Thus scientists aim for theories that attempt to bring together empirical findings into a meaningful patter. However, they regard these theories, as tentative or provisional, subject to revision as new evidence is found.

Obs.: as referências do texto podem ser encontradas no livro Neutens & Robinson.