

The scientific method in human services research



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A Discussion on the Fundamentals of Research Science is the way humans try to understand natural phenomena and the way humans try to study the natural world, how it works, using concrete evidences and facts as the basis of understanding. For example, a chemist experimenting on the chemical reaction rates of a material at different temperatures. Using the data gathered through the experiment, the chemist can formulate conclusions about the material. Science requires a specific set of steps to be able to produce desirable conclusions about how the world works and explain natural phenomena. These steps are called the Scientific Method.

In Human Services Research, research is done to improve and strengthen the quality of human service programs. In this paper, the following questions will be addressed: 1. What is Scientific Method? How does it relate to human services research? 2. What is Qualitative and Quantitative Research? 3.

When to use Qualitative or Quantitative research methodology? 4. What is Mixed Method Research? 5. How can a scientifically sound research support the function of a human services manager? What is Scientific Method?

Scientific method is the process by which a person, scientist or not, constructs a representation of the natural phenomena and the natural world. This method includes steps, as mentioned earlier.

These steps are: Formulation of the problem, Observations, Formulation of a hypothesis, Experimentations, Data Gathering, Testing of the hypothesis, and Formulation of the Conclusions. These steps must be followed precisely because if one step is missed or taken for granted, the process would not be called " Scientific". In Human Services Research, for example, a scientific assessment of the possible dangers in the environment for disabled people.

The problem is how to make a certain sidewalk “ disabled”-friendly.

Hypotheses are: -to make a colour-coded scheme for the disabled people; -to decorate the sidewalk with sign boards for the disabled. Experimentation is to be done in a facility with the help of an association for disabled people.

Data will be gathered accordingly. Hypothesis will be tested.

Then, the resulting data will be assessed. After that, we can conclude the proper service to be executed. What is Qualitative and Quantitative

Research? Qualitative Research refers to the type of research that is applied in different academic disciplines such as sociology, psychology, social sciences in general. It is simply a non-numerical data experimentation and assessment. On the other hand, Quantitative Research is the numerical data experimentation and assessment. It is the type of research generally applied to the natural sciences field, e. g. Mathematics, Chemistry, Physics, etc.

In Human Services Research, both research types can be used depending on the topic that will be experimented on. For example, in the disabled-person problem earlier, using Qualitative Research, the probable subject to be studied would be the colour of the sidewalk. On the other hand, using Quantitative Research, the probable subject would be the steepness of the sidewalk passage for disabled-people, specifically for people on wheel-chairs.

When to use Qualitative or Quantitative research methodology? In the previous question, I gave an example on when to use Quantitative or Qualitative Research. Again, I emphasize that the answer to whether to use Quantitative or Qualitative is that it depends on the subject. It’s plain and simple. What is Mixed Method Research? Mixed Method Research is the type of research method that combines philosophical assumptions with some

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methods of inquiry. Creswell (2003) defined it to be the marriage of Qualitative and Quantitative analysis of data in the phases of the research process.

Mixed Method Research provides a more comprehensive evidence for the study of a problem compared to either Quantitative or Qualitative method (p. 9). Furthermore, Mixed Method Research bridges the gap between Qualitative and Quantitative analysis. It probes to answer questions that cannot be answered by Quantitative or Qualitative analysis alone (p. 10). Also, it is practical in the sense that the researcher has the freedom to choose and apply any method that will help in his research (p. 10). An example that uses Mixed Method Research is when a study uses Quantitative measures to analyze the impact of the treatment on outcomes.

The Qualitative part comes before the experiment. The researcher collects qualitative data that will be used to design the treatment (p. 11). How can a scientifically sound research support the function of a human services manager? The need for an accurate, sound research is a must for a human services facilitator. Using any of the following research methods will be beneficial to the human services research. These research methods, when done accurately, will help to strengthen the quality of the human services that a company has to offer. When the research is scientifically sound, services will improve. Thus, goals of the human services will be fulfilled.