

The Qualitative Heuristic Approach: A Methodology for Discovery in Psychology and the Social Sciences. Rediscovering the Method of Introspection as an Example

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Abstract: Qualitative heuristics, which were developed at the University of Hamburg, Germany, try to bring back the qualities of systematic exploration and discovery into psychological and socio-logical research. This contribution discusses the historical background, the four basic rules to optimize the chance for discovery, the research process as dialogue, the testing processes, and as an example the methodology to investigate and reevaluate the classical method of introspection.

Table of Contents

- [1. What Qualitative Heuristics are](#)
- [2. Four Basic Rules to Optimize the Chance for Discovery](#)
- [3. The Research Process as Dialogue](#)
- [4. Testing the Results](#)
- [5. Rediscovering the Method of Introspection as an Example](#)

[References](#)

[Authors](#)

[Citation](#)

1. What Qualitative Heuristics are

Heuristic research using qualitative methods is based on a methodology which has been developed at the University of Hamburg (KLEINING 1982) and has been widely applied (KLEINING 1994, 1995). [1]

Our methodology aims at discovery and uses the variables of research design in a certain way to serve this purpose. It suggests to the research person to follow four basic rules, which are specified below. It draws on a wide variety of methods including the reintroduced "qualitative experiment" (KLEINING 1986). The concept of the research process involves seeing dialogue as a specific form of dialectic. An integrated part of the methodology is its verification procedure with tests of validity, reliability and range of findings. [2]

Qualitative heuristics are applicable to all topics within psychology and the human and social sciences which are open to empirical research. Qualitative data are specially suitable to discover qualitative relations such as structure or patterns and structural changes. We will present an example which shows the systematic exploration and rediscovery of a long-omitted method in psychological research: introspection. [3]

Heuristics have had a long history in philosophy ("heureka") and the natural sciences until the present day (KLEINING 1995, pp.329-354, see also Hamburger

Tagung 1998, pp.3-6). Some eminent scientists have described their research techniques leading to discovery which are applications of heuristic guidelines (MACH 1905, EINSTEIN & INFELD 1938, WATSON 1968). Explorative methods also have been used extensively within certain branches of psychology e.g. the Wurzburg school, the Berlin Gestalt psychology, FREUDian psychoanalysis, and phenomenological psychology based on the work of HUSSERL as well as in sociological research: the Chicago School, pragmatism, Symbolic Interactionism, the early Grounded Theory by GLASER & STRAUSS (1968) (not however, after its turn to interpretation by STRAUSS & CORBIN, 1990). There are close associations between qualitative heuristics and classical cultural anthropology and ethnography (DAMMANN 1991) as well as ethnomethodology but qualitative heuristics in its present form use a wider reservoir of methods and a more comprehensive methodology. [4]

Explorative methods and procedures—particularly systematic observations and experiments—have been basic for discoveries within the sciences for centuries, but have been repelled from "Geisteswissenschaften" by DILTHEY and Neo-Kantianism in favor of hermeneutics, and from mainstream psychology and sociology by Behaviorism and Deductionism in favor of measurement along predefined variables. [5]

In sum: qualitative heuristics try to bring back the qualities of exploration and discovery into psychological and sociological academic research. [6]

2. Four Basic Rules to Optimize the Chance for Discovery

The first two rules refer to the interaction of the research person and research topic; the second pair to the relationship of the data collection and data analysis. All rules are mutually dependent on each other. [7]

Rule 1: The research person should be open to new concepts and change his/her preconceptions if the data are not in agreement with them. This seems to be a rather simple rule and easy to follow, but it is not. The scientific identity of researchers largely depends on the confirmation of basic beliefs about the research process and the nature of the topics under study. Alas, discoveries in many cases contradict general scientific beliefs which are hard to give up and may even cause crises within the process of research itself. The rule suggests a reconsideration of the researcher's scientific position if the data consistently are not in agreement with information taken for granted. In science such "paradoxes" have become prominent starting points for exploration (MACH 1905, pp. 176, 196). [8]

Rule 2: The topic of research is preliminary and may change during the research process. It is only fully known after being successfully explored. The topic may be overlapped by another one or turn out as part of a different problem or just disappear as ether in physics, status inconsistency in sociology or the location of the soul in psychology—even soul itself, though neuroscience raises the question again. If this happens the research person is advised to continue the research

under new headings despite institutional and planning problems that may arise. Changes of this sort should be regarded as a positive sign of accumulation of knowledge. There are famous examples of findings despite opposing definitions —i. e. the discovery of America instead of the sea route to India or of porcelain instead of gold and many discoveries made "by chance". [9]

Rule 3: Data should be collected under the paradigm of maximum structural variation of perspectives. Variation of the sample and of research methods avoid one-sidedness of representation of the topic, variation of questions avoid just one answer. If researchers assume that a variable may influence the data they should implement variations. Structural variations mean sampling of positions in reference to the topic, i. e. when studying an emotion, the collection of data past and present, before and after its occurrence, in different situations, from different respondents, if possible from different times and cultures, by different methods, etc. The kind of variation will always depend on the theme under study. [10]

Rule 4. The analysis is directed toward discovery of similarities. It locates similarities, accordance, analogies or homologies within these most diverse and varied data. It tries to overcome differences. The rule follows SIMMEL's famous chapter on method saying that "out of complex phenomena the homogeneous will be extracted ... and the dissimilar paralysed" (SIMMEL 1908, pp.11). The analyst starts grouping those parts of the protocols or observations which are most similar to other parts and continues to group the groups tentatively, suggesting headlines for the groups and then headlines on top of headlines thus progressing from concrete parts to a more and more abstract general whole which nonetheless keeps concrete details. Proceeding in this manner, the overall pattern, showing the structure of the topic, will gradually emerge. All data have to be considered and incorporated, and not only a selection of it as an example ("100%-rule of accordance"). The analysis is integrated into the process of data collection and mutually dependent on it. [11]

3. The Research Process as Dialogue

Research procedures are not linear but dialectical. We "ask" our material "questions" in a similar way one may ask a person, receiving "answers" and questioning again. We preferably use "open" questions. Reading a protocol will suggest which questions to ask. The text should be interrogated from as many different perspectives as possible and the answers analyzed as mentioned above. The dialogic procedure is a means to adjust the epistemic structure of the researcher to the structure of the phenomenon and brings it in line with itself ("Anpassung der Gedanken an die Tatsachen und aneinander", MACH 1905, pp.164-182). [12]

4. Testing the Results

An analysis which has been performed successfully will test itself ("inner validity"). It is valid in case new variations of data and perspectives will not bring new results but confirm the existing ones. It is reliable if all data can be imputed to the same categories (100%-rule). In addition "testing the limits" of the analysis will show the range within which results are valid. All research findings as all phenomena in the Humanities are historical which means they are subject to change, whether referring to individuals, groups or societal organizations. [13]

5. Rediscovering the Method of Introspection as an Example

The rules for qualitative heuristic research were guidelines to investigate the method of introspection. Our question was whether methodological changes or variations were able to save the formerly classical later defamed method from damnation. Criteria for a successful procedure were richness of results and inter-subjective ('objective') validity. [14]

We carried out a number of experiments—two on a sudden alarm, two on TV communication, two on acceptance of art movies, several on a number of different emotions, present and retrospective, one as a problem-solving experiment, several on free associations—a total of fourteen. All experiments had the same design. A certain situation or an event was given as the topic of investigation which everybody participating in the experiments had experienced or was experiencing during the course of the experiment (all done at the Hamburg Workshop on Introspection, 5-8 research persons each). The event was observed and reflected on by introspection, the experience recorded individually in writing and afterwards communicated verbally to the co-workers in the group for the purpose of stimulating the individual to complete and further differentiate his/her experience. There was no discussion or argument about the validity of individual experience. Finally the protocols were analyzed by one or several researchers individually. [15]

The experiments were systematically modified according to Rule Three that directs the researcher to maximize structural variation of perspectives. The range of variation can be demonstrated by pointing to different phases of the experiments. The experience itself (first phase) varied the topic as mentioned, the duration of the event, the intention of introspection, the relative importance of the event for each participant and its social setting. The documentation of the introspective experience (second phase) varied the time span between the event and writing the protocol, the focus of observation and the social setting. The third phase was characterized by a special use of the group as a research instrument as indicated above. The group helped to improve the collection of individual data as well as its quality (preciseness, amount, depth and differentiation). This is caused by an effect of resonance which allows members of the group to reconsider the experience recorded and to relate it to his/her own introspective experience. Participants were stimulated to supplement their introspection, make their experience more precise and/or correct it by rethinking. The form of reports

(verbal vs. written) was different from the preceding stage. In phase four one or several researchers analyzed the protocols individually applying the technique of a dialogue with the data and discovering the common pattern, taking as much time as necessary for a detailed reconstruction of its pattern. The group in this phase was not regarded as helpful because of inherent group dynamics. [16]

In part, the results confirmed common sense; in part however, they provided strikingly new insights. Overall, the results were a clear argument for re-establishing of the method of introspection. For example, we could define and describe different receptive styles when observing movies, different forms and functions of handling personal irritations and differentiated interdependencies between sequence of action and status of emotions. Most of all, we found a way to observe the "inner space" of experience more directly than it seems possible when using other research methods, and a most promising way to study its structure and inner dynamics. [17]

We also learned that many conventional research techniques incorporate introspective components without discussing the introspective implications or even mentioning them. On the other hand, a number of qualitative techniques are built on introspective procedures using the introspective process and discussing it but avoiding the name of introspection. [18]

Application of heuristics to the method of introspection led us to very differentiated and reliable results which clearly suggest reactivation and revitalization of the method of introspection as a research tool and should encourage researchers to reconsider the reservations and prejudices against introspection and to overcome at least some of them. [19]

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