The Use of Observation in the Humanities and Social Sciences: Two Examples of Observation Networks for Child Behavior

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Abstract:
The paper highlights the significance of scientific observation in the humanities and social sciences. It shows that observation has grown from being simple to becoming more scientific, thus gaining credibility. Among other functions, the primary work of observation at the initial stages of research is to help researchers change problems into scientific problematic and suggest tentative answers or hypotheses. Despite these functions, however, observation is a method that has not been fully exploited, especially on studies focusing on children. And even when used, there are still gaps in its application within humanities and social science research. For this reason, the article seeks to give students and other researchers theoretical background knowledge as well as practical examples. This will provide them with a methodological basis for employing scientific observation while doing research in humanities or social sciences. Additionally, it presents some strategies of dealing with challenges met during the process of observation. 

Keywords: Scientific Observation, Studies Focusing on Children, Practical Examples of Observation.

Introduction:
Research depends mainly on data collection, and among the methods used is observation. This means looking at, watching or monitoring people, events and situations in their natural setting. It has been used before in various studies and remains relevant up to now. One can also describe it as the most straightforward approach to getting information directly, however; employing this technique demands good understanding theoretically as well methodologically.

When conducting research, observation is considered as a vital tool. Despite the data collection method employed, observation can never be dispensed with (Mubrokeh, 2008, p. 250).

The area of dealing with children in education and psychology is quite intricate due to their immature communication skills. It has been asserted in the book “Who Knows the Child” by J. Poznansky et al. (Martine and Jean, 2002, p. 274) that there are some types of research where observation becomes very significant in understanding children’s behaviors as well as interacting with them effectively.

From my own personal experience while reviewing research proposals, I have noticed that humanities and social sciences researchers do not always appreciate the value of employing observation. Other methods tend to be given more weight than they deserve, thereby relegating this method to insignificance. This paper seeks to provide students and researchers with theoretical foundations followed by practical skills necessary for using scientific observations within humanities and social sciences research, especially those involving children. It will answer such questions as:

- What is the relevance of observation in humanities and social sciences research?
- What are the dimensions and indicators of reliability in scientific research?
- How should one go about employing observation effectively when doing child-focused studies within the humanities and social sciences?

1. Definition of Observation:

Researchers use observation more than any other tool in their work. It is impossible for a specialist to become interested in finding out something new about the world if they had not observed some aspect of it that was previously unknown. Exploratory and descriptive studies make constant use of observations.

There are many definitions of observation. Even though some may differ, they all have common components of scientific observation and arrive at a single understanding about the scientific observation of nature. Below are some definitions:

Some define it as “the precise, systematic and deliberate observation of a phenomenon through scientific instruments usefult for observing that phenomenon” (Gharib, 2000, p. 259).
According to DEKETELE (1990, p. 27), he defines it as “the process of purposeful, mindful watching done in order to gather information on a specific research subject with defined dimensions and goals.”

From these definitions we can say that observing involves guided directness, controllability, purposefulness, and theoretical-methodological directionality towards realizing the subject of investigation. In this kind of watching; information gathering happens where information data is collected scientifically, enriching the study’s topic with relevant materials, thus supporting it.

Also particularly dependent on observations is the area of social sciences. For example:

- **Social interaction and relationships**: This involves looking at interaction patterns within family life. In their research about local communities, anthropologists use observations quite often.
- **Comparative sociological studies**: On subjects like industrial organizations, comparative sociological studies can be carried out.
- **Exploratory studies**: These are effectively used in the beginning phases of social sciences to investigate particular components of social phenomena.
- **Psychological studies**: This is rich ground for observation, such as observing the children’s behavior when they are playing and in experimental psychology.

2. **Conditions for Observation**:

There are several conditions needed for scientific observation, which include;
- It should be organized, specific and precise.
- It should be directly related to research topic.
- It should be objective and free from subjectivity and bias.
- It should be accurate in collecting information and data.
- It should be a trained observer with expertise and experience to collect information and data.
- It should be prompt recording of observations (Zrouati, 2007, p. 259).

3. **Steps in preparing an Observation Checklist**:

Observation checklists are vital tools in scientific research which provide a systematic way to record visual data. The checklist must be scientifically formulated and used according to:
- It must contain items directly relevant to the research question and specific behaviors observed, but not all aspects of the phenomenon necessarily. Theoretical frameworks or concepts should underlie its development to avoid arbitrariness and inconsistency.
- Those included should be indicative of observable acts or conditions which can be categorized and measured.
- Only key behaviors measured should attract attention from scientists together with their manifestations, while any other tangential or unrelated matters are ignored.
- Before using the checklist in real life situations, researchers must perform a pilot test as an initial observation to confirm its accuracy under different circumstances and contexts. Therefore, based on those results obtained from the pilot test, it will be possible to adjust or refine the checklist.

Example: In order to understand how changing the appearance of a classroom affects children’s behavior towards science. We are interested in determining whether they become more active in terms of physical movement, silence, following instructions, displaying respect for the teacher, etc., participation while answering questions asked by teachers or peers, among others. These actions shall then be recorded on an observation sheet created specifically for this study after ascertaining their relevance with what was being sought for. Prior to the transformational activity taking place, we would carry out a pre-observation where we observe what kind of responses they give naturally without necessarily guiding them using similar items as those found within our tool. Later on, post-transformational activity observations showing any alterations made are noted down alongside their respective categories which are analyzed using statistical methods (Mahmoud & Abdurrahman, 1993, pp. 98-100).

4. **Types of Observation**:

These categories are discussed below

a). **Nature of observation**:

- **Simple observation**: This involves watching events happen naturally without interfering with them in any way. It is used mostly for descriptive or preliminary studies.
- **Structured observation**: This refers to scientific observation conducted under controlled conditions with specific, predetermined aspects to be observed. Structured observations are commonly employed in individual-based research or with samples representing the study population, often for descriptive or diagnostic purposes (Kiran, 2008, pp. 51-52).

b) **Types of observation when individuals are conducting them**:
• **Individual observation:** This involves one person conducting the observation.

• **Group observation:** This involves more than one person conducting the observation.

c) **Types of observation according to area of research:**

• **Observation in the natural environment:** This involves observations in natural sciences, individual and group behavioral sciences in humanities, and societal studies.

• **Laboratory observation:** This type of observation accompanies experiments and testing research hypotheses.

• **Clinical observation:** This is used by doctors, psychologists, and educators.

d) **Types of observation according to researcher’s role:**

• **Participant observation:** In this type of observation, the researcher becomes part of the research community’s life. The researcher typically lives within the study community and participates in their activities.

  In some cases, the researcher may disclose their role as an observer to the participants, requiring trust-building. In other cases, the researcher may not reveal their role as an observer. This is known as continuous participant observation, and the participants should not be aware of their role as subjects. This requires the researcher to be familiar with the participants’ language, perspectives, and objectives.

  **Non-participant observation:** The researcher observes without participating in the life and activities of the research community. Observation is conducted without the community’s knowledge, allowing for the observation of natural behaviors and opinions without any self-consciousness or pretense. (Angers, 2006, pp. 185-189).

6. **Observation Tools:**

Researchers can use various tools for collecting information through observation. Some key tools include:

a) **Checklists:** These consist of lists of items or questions that is related to the characteristic or feature being measured. Each item describes a specific behavior, which is then assessed against simple behavior checks using binary responses such as yes/no and agree/disagree, among others. These responses vary depending on how they have been framed logically or randomly with respect to what is being measured.

b) **Rating scales:** These are designed as statements listing skills/behaviors to be assessed through surveys; they contain categories where respondents can place themselves according to their frequency distribution over certain periods of time always...sometimes...often...rarely...never etc. Hence individuals get rated under each category basing on an ordinal or numerical scale.

**Example:** A numerical rating scale for students’ skills and behaviors during practical lessons:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td>No Participation</td>
</tr>
</tbody>
</table>

c) **Daily records:** These include existing records such as statistics available for individuals in the files of the institution they belong to. The researcher’s role is limited to extracting this readily available information and reorganizing it based on their research objectives.

d) **Sociometric scales:** These scales are used to evaluate social relationships among individuals. Each member of a group is asked to select a certain number of peers from that group or to observe individuals who interact frequently in specific activities. Based on the frequency of each individual’s selection by others, their characteristics can be identified, and plans for programs related to the group can be developed (Obaidat et al., 1998, p. 137).

7. **Reliability of Scientific Observation:**

The reliability of observation can be measured at three levels:

• **Level 1: The Observation Tool Itself and its Characteristics:** This involves identifying the tool’s strengths and weaknesses. Its shortcomings serve as a qualitative indicator, revealing areas of strength and weakness, allowing us to understand the limitations of its use.

• **Level 2: The Researcher’s Method of Using the Tool:** This focuses on the researcher’s adherence to scientific procedures and their proficiency in effectively and appropriately using the tool. However, observation, by its very nature, is an extension of the researcher’s visual perception, making its reliability highly dependent on subjective factors related to the researcher.
Level 3: The following section looks at how reliable information gathered through observations can be when used as a research tool, including analysis on both the tool itself and methods employed.

a. Reliability of Scientific Observation in Itself and its Specifications:

The reliability of observation refers to the strengths and weaknesses inherent in the tool. The strengths of a data collection tool increase the reliability of the data collected, while weaknesses can diminish reliability.

Advantages of Observation:

Accuracy of Information: Information is collected more accurately by observing phenomena in their natural setting.

Highly Beneficial Tool: Observation is one of the methods that offers an insight into understanding human actions and related behaviors.

Accurate recording: Directly recording the observations at hand while still in the act of observing will maximize one’s accuracy (Rajaa Wahid, 2000, p. 322).

Other advantages include:

- Minimal effort is required.

Disadvantages of Observation: We can summarize them in the following points:

Subject behavior changes: The behavior of subjects might change if they know that they are under observation.

Time and resource intensive: It can be time-consuming to carry out observations, thereby requiring a lot of effort as well as possible high costs that may be incurred during such processes.

Researcher bias: Difficulty in interpreting a phenomenon due to personal influence from those being studied or any other reason can make one lose objectivity leading to errors which are hard to avoid unless care is taken; researchers always fall victims of their biases when dealing with this mode of data collection (according to Wahid 2000 pp. 322).

b. Reliability of Scientific Observation Procedures and Methods:

Observation must be systematic, purposive, planned and recorded with scrupulous accuracy at every step. Like other research methods, it requires strict adherence to established controls such as validity, reliability, and precision in measurement.

Analyzing diverse activities related to participants can be facilitated through structured observation by employing scientific tools and modern imaging tools like video cameras, along with detailed notes, maps, and research checklists that include items to be observed, marked with “yes” or “no.” These checklists allow for converting information into numerical data.

Furthermore, utilizing category systems for categorizing behavior into classes helps researchers describe social situations quantitatively. Rating scales can be used to record each member’s contribution to a group discussion, for example. A scale from 0 to 10 could be used, where 0 represents no participation and 10 represents full participation. Finally, sociometric scales for social relationships can assess attraction and repulsion within a specific group.

Reliability in terms of accuracy, truthfulness, and trust is significantly enhanced when the same researcher conducts observations at different times or when multiple observers record their observations independently (Ahmad, 1996).
8. Challenges of Observation:

One of the most common criticisms of studies using observation as a data collection method is the reliability of these studies, especially since the researcher’s interpretations heavily influence the analyses. Therefore, the explanations provided may be influenced by the researcher’s subjectivity (Denzin & Lincoln, 1994).

This criticism may be justified considering that human attention, coding, and memory are selective, potentially affecting the study’s validity. Additionally, factors related to the researcher’s relationships with individuals in the observed situation can also influence the type of observations and conclusions drawn, impacting the study’s validity. Some key challenges include:

a. Selective Attention:

Humans receive information through their senses, and their attention is influenced by stimuli. This is the initial stage of constructing knowledge and understanding based on interests and expectations. Furthermore, the characteristics of the stimulating situation itself play a role. It is known that individuals pay more attention to things that align with their expectations and interests. This process is inherently selective, and this selectivity influences what an individual observes.

b. Selective Coding:

An individual’s (the observer’s) expectations about what they will encounter or witness influence the focus process. Preconceived notions about events impact how they are coded, potentially leading to skewed coding that doesn’t reflect the reality of the observation.

c. Selective Memory:

Selective memory is linked to selective attention and coding. This means that things an individual doesn’t pay attention to aren’t coded and aren’t remembered. Memory’s ability to recall events over time is negatively impacted, and individuals may not be able to recall everything, but only parts of it, often linked to a specific event or situation.

d. Factors related to Interpersonal Relationships:

In the early stages of participant observation, for reasons of personal safety and other factors, the observer interacts with a limited number of individuals within the group being studied. These are individuals who welcome the observer and facilitate their work. These individuals could lead to bias, especially if the observer starts viewing events from their perspective and not from the broader group perspective. Bias becomes more pronounced if these individuals are marginalized within the group and have poor relationships with other members. (Patton, 1984; Robson, 1984)

e. How to overcome these challenges:

To overcome selective attention, researchers have to broaden their attention by focusing on everything within the situation under study and its context.

There is a need for researchers to adopt openness while going through this entire process so that they may code consistently without any mistakes which could lead into more error. Minimizing selective memory through direct recording during the event.

To prevent seeing things from one side only, it is important that all members’ events are not viewed in isolation but rather linked together, thereby forming a complete picture. (Robson, 1984).

9. Illustrative Examples of Using Scientific Observation:

a. Example 1: Observing a pupil’s behavior (Observation in the natural environment):

Suppose an observation network is implemented in an elementary school to study a bullying student and their aggressive behavior. The researcher uses an interview network, an observation network, and two scales to measure the severity of bullying and aggressive behavior. The researcher designs an observation network for aggressive behavior in natural settings, such as during breaks or recess, for several periods. The tables below illustrate this:

- **Observed behavior:** Engaging in aggressive behaviors during recess.
- **Operational definition:** All verbal or physical behaviors exhibited by the subject during the observation period, across multiple sessions, during recess in the schoolyard.

<table>
<thead>
<tr>
<th>Observer’s name</th>
<th>Day</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 02: Observation Checklist for Monitoring a Pupil’s Aggressive Behavior:
Observer’s name | Day | Start Time | End Time |
--- | --- | --- | --- |
Pupil’s name | Observation 01 | 00:00 | 00:00 |
Primarschool | Observation 02 | 00:00 | 00:00 |
Schoolyard | Observation 03 | 00:00 | 00:00 |
Duration of observation: 20 minutes | Observation 04 | 00:00 | 00:00 |

This table includes general information about the observer, the pupil, the observation location, duration, and start/end times.

Table 03: Observation Checklist for Monitoring a pupil’s Aggressive Behavior:

<table>
<thead>
<tr>
<th>Lesson 01</th>
<th>Aggressive behavior</th>
<th>Hitting</th>
<th>Pushing</th>
<th>Kicking</th>
<th>Insult</th>
<th>Offensive gestures</th>
<th>Joking and mocking</th>
<th>Other behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total repetition</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This table records specific aggressive behaviors that the pupil might exhibit, including a space for additional behaviors not listed.

Table 04: Observation Table for All Lessons, Recording Aggressive Behavior:

<table>
<thead>
<tr>
<th>Evaluation of repetition of aggressive behavior for all the lessons.</th>
<th>Hitting and Pushing</th>
<th>Kicking</th>
<th>Insult</th>
<th>Offensive gestures</th>
<th>Other behaviors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson 01:</td>
<td>Number of repetitions</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Lesson 02:</td>
<td>Number of repetitions</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Lesson 03:</td>
<td>Number of repetitions</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Lesson 04:</td>
<td>Number of repetitions</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Total repetitions</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

This table tracks the evolution of behaviors across multiple observation sessions, identifying increases or decreases in specific behaviors alongside other study procedures.

Importance of Observation Networks for the First Model:

Model 1: Observing a Student’s Behavior (Observation in the Natural Environment)

- The observation network aims to capture the pupil’s behavior in their natural environment, within their interactions with peers and their surrounding context.
- Results from the observation network can be compared with the aggression scale used in the study, potentially supporting the scale’s findings.
- Observation occurs across multiple time points throughout the research, not just at a single point like scales. This allows for tracking the targeted behavior over time, in its natural context.
- The observation network is less restrictive than pre-established scales based on previous studies. It can reveal previously undiscovered aggressive behaviors that can be recorded under “other behaviors,” providing novel insights into the phenomenon.
- The observation network allows for recording the frequency of aggressive behaviors, which reflects the seriousness and threat posed to others, a crucial aspect not captured by other tools.

Model 2: Observing a Clinical Case (Observation in the Clinic)

Suppose that the observation network will be applied in a clinical study (the case study approach), where the subject of the research is the child’s internet addiction, eating and sleeping disorders. An interview and an observation network will be applied, as well as measuring the degree of internet addiction, eating and sleeping disorders in the cases studied, where the researcher sets up a network to observe the general behavior and style of verbal and non-verbal expression of the cases studied during many periods, as shown in the following tables:
Observed behavior: General behavior and verbal and non-verbal expression.

Definition of procedurally observed behavior: It is all the actual or verbal behavior that emerges from the case studied, the general behavior and the style of verbal and non-verbal expression during the time of the clinical interview with the case through several programmed sessions, as shown in the following table:

**Table 5: Distribution of activities within meetings**

<table>
<thead>
<tr>
<th></th>
<th>1st meeting</th>
<th>2nd meeting</th>
<th>3rd meeting</th>
<th>4th meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of interview</td>
<td>...../..../...</td>
<td>...../..../...</td>
<td>...../..../...</td>
<td>...../..../...</td>
</tr>
<tr>
<td>Duration</td>
<td>..... minute</td>
<td>..... minute</td>
<td>..... minute</td>
<td>..... minute</td>
</tr>
<tr>
<td>Purpose</td>
<td>Recognizing the case and collecting personal data during the meeting using observation (Observation network application).</td>
<td>Asking questions during meetings and applying scale (Observation network application).</td>
<td>Asking questions during the interview grid while applying the sleep disorders scale (Observation network application).</td>
<td>Ask questions during the interview grid. (Observation network application).</td>
</tr>
</tbody>
</table>

**Table 6: The general behavior and Way of expression of the case.**

<table>
<thead>
<tr>
<th>Aspects of observation</th>
<th>Interview 01</th>
<th>Interview 02</th>
<th>Interview 03</th>
<th>Interview 04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tidiness interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haircleanness interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting down straight and quiet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making random movements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He sits in a relaxed position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He sits with a hunched body.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoids eye contact with the speaker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad gestures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Way of expression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech sequence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The intensity of the speech.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice tone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moments of pause</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hesitation to speak</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talkative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The answers are marked with an (X) ranging from 1-low, 2-medium, 3-high

This type of observation network can provide a comprehensive overview of the development and progress of communication behaviors and styles as indicated by interviews.

For example, here is the development of the general behavior of the case studied in terms of the conducted interviews, which can be expressed with a graphical curve showing this, as shown in the following figure:
The importance of the observation network for the second model:
The observation grid throughout the therapeutic or diagnostic sessions within the case study approach provides an in-depth understanding of the behavioral changes and non-verbal expressions of the cases studied, in a clear and simple way through diagrams. This development in terms of interviews cannot be provided by any other measurement tool.
Monitoring these developments also provides the psychologist with a clear picture of the extent of the patient’s interaction with him during the classes and the extent of mutual trust between them.
Monitoring developments within a graphical curve provides the specialist with a comprehensive understanding of the client’s behavior and thinking.
In the field of psychological treatments, this type of observation, which shows the client's behavioral changes, may support the extent of the development of the therapeutic relationship and the effectiveness of treatment.
Conclusion:
Many research fields in humanities and social sciences have become reliant on data collection methods that do not necessarily include focused observation. This latter, though a core method, often serves as a supporting tool or indicator for other methods used.
While one of the most common criticisms of observation-based studies is their reliability, especially due to the researcher’s interpretation heavily influencing analysis and potential for subjective bias, several strategies can mitigate these concerns.
However, these problems can be faced by accompanying the observation with more honest and objective means so that it supports and complements the tool in the event that there are new developments about the phenomenon under study, because observation has more freedom than other tools in monitoring it.
It can also be controlled by providing various and thoughtful alternatives that facilitate reading and recording notes, and using statistical methods such as frequencies and graphical curves to provide a clear, accurate and simple picture.
We notice that the observer’s interaction with a very limited number of group members leads to bias, and to avoid that, the researcher or specialist must be familiar with aspects of the topic and make a real effort to expand the scope of his attention to include everything that surrounds the situation. The researcher’s attention to the situation and what surrounds it, must start with an open mind in order for his encoding to be real, honest, and constant. Thus, he gets rid of selective encoding, and the selectivity of memory can be reduced through direct writing while the event is occurring.
To avoid personal factors interfering in the observation process, the researcher must develop relationships with all members of the group, including groups of dispute or conflict, if any, so that the observer does not look at events from one side only.
References: