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| Research Methodology |
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**Observation as a Method of Data Collection**

**Introduction**

## In research, collecting data helps us understand how people behave, interact, and respond in different situations. Observation is one of the most common methods for gathering data. It allows researchers to study individuals or groups in real-life settings. There are different ways to observe, depending on the focus of the research. Among the various types of observation, two of the most common approaches are **structured observation** and **unstructured observation**. Each has distinct characteristics, advantages, and is suitable for different research purposes. We Use Observation in Research to

* study **natural behaviour**.
* capture **non-verbal communication** (e.g., gestures, body language).
* understand the **context** in which actions happen.
* **supplement** other data (like interviews and surveys).

**1- What is Observation?**

**Observation** is a method of collecting primary data. "the systematic process of watching, listening to, and recording behaviors, events, or conditions as they occur in their natural setting." (Creswell, 2014)

* Observation gathers **primary data** directly.
* It is often used in **qualitative** research, but can also be used quantitatively (especially structured observation).
* Can involve being **inside** the situation (participant) or **outside** it (non-participant).

**Example**:  
A researcher watches how students collaborate in a group project, without asking them direct questions.

**2. Types of Observation**

**2.1 Structured Observation**

In **structured observation**, the researcher uses a specific checklist or categories to observe certain behaviors. The researcher plans ahead and knows exactly what to look for during the observation.

* **Example of Structured Observation**: Imagine you're a teacher observing students during a group activity. You have a checklist where you record specific behaviors, such as:
  + **Raising hands** when a student wants to speak.
  + **Shouting** out answers without waiting their turn.
  + **Helping peers** when they are stuck.

You would simply observe and tick the box every time you see one of these behaviors. This gives you clear, easy-to-count data about the students' behaviors during the activity.

**Table 1: Example of Structured Observation Checklist**

| **Student Name** | **Raised Hand** | **Shouted Answer** | **Helped Peer** |
| --- | --- | --- | --- |
| Student A | ✅ 3 times | ✅ 2 times | ✅ 1 time |
| Student B | ✅ 5 times | ✅ 1 time | ✅ 3 times |
| Student C | ✅ 2 times | ✅ 3 times | ✅ 2 times |

Here, you can easily compare how often different students exhibit the same behaviors.

* **Advantages**:
  + You get **quantitative data**, which means you can count how often something happens (like how many times students raise their hands).
  + It’s easy to compare behaviors across different students because everyone is being observed for the same things.
* **Disadvantages**:
  + It might miss other behaviors that don't fit into the checklist.
  + If students behave differently just because they know they're being watched, it can affect the results.

**2.2 Unstructured Observation**

In **unstructured observation**, there are no specific checklists or categories. The researcher records **everything** that they see, which might include behaviors, conversations, and interactions. This type of observation is more flexible.

* **Example of Unstructured Observation**: Imagine you're observing a group of children playing in a playground. Instead of focusing on specific behaviors like in structured observation, you simply write down anything that catches your attention. You might record:
  + How the children interact with each other.
  + What games they play.
  + Any emotional reactions like excitement, frustration, or sharing.

You’re observing everything that happens, not just specific behaviors.

**Table 2: Example of Unstructured Observation Notes**

| **Time** | **Behavior Observed** |
| --- | --- |
| 10:00 AM | Student A and B play tag, laughing loudly. |
| 10:05 AM | Student C looks frustrated when they lose in a game. |
| 10:10 AM | Student D shares their toy with Student E. |

* **Advantages**:
  + You can capture a **wide range of behaviors** and interactions.
  + This is useful when you don’t know exactly what to expect or when studying something new.
* **Disadvantages**:
  + It’s hard to compare data because it’s not organized into specific categories.
  + The data is more **qualitative**, meaning it’s harder to measure and count, and might feel more like a story or narrative.

| **Type** | **Definition** | **Example** |
| --- | --- | --- |
| **Structured Observation** | Systematic, uses pre-set categories. | Counting how many times a student asks a question during a lesson. |
| **Semi-Structured Observation** | Some categories are pre-set but allows flexibility to note unexpected behaviors. | Watching for certain classroom interactions but also noting surprises. |
| **Unstructured Observation** | Open-ended, no categories beforehand; observer records all relevant behaviors. | Sitting in a café and freely recording customer interactions. |
| **Participant Observation** | Researcher becomes part of the group being observed. | A teacher-researcher observing student behavior while teaching. |
| **Non-Participant Observation** | Researcher stays detached and does not engage with participants. | Sitting at the back of the classroom silently observing students. |
| **Overt Observation** | Participants know they are being observed. | Students are informed that a researcher will observe their group work. |
| **Covert Observation** | Participants are unaware of being observed (ethical concerns!). | Observing customer behavior in a shop without informing them. |
| **Naturalistic Observation** | Observing behavior in its natural environment without manipulation. | Watching how birds build nests in the wild. |
| **Controlled Observation** | Observation occurs in a controlled, often artificial, environment. | Testing how students react to specific teaching strategies in a lab setting. |

## Table 1- Major Types of Observation

**3. Recording Data in Observations**

**3.1 Frequency Recording (Counting Behaviours)**

One way to record data is by counting how often a specific behavior happens. This is called **frequency recording**.

* **Example of Frequency Recording**: Let’s say you're observing a class and you want to count how often students **raise their hands** during a 30-minute lesson. You would simply count the number of times a student raises their hand. At the end of the 30 minutes, you have a clear number (e.g., “Student A raised their hand 8 times”).

**Table 2: Frequency Recording Example**

| **Student Name** | **Number of Times Hands Raised** |
| --- | --- |
| Student A | 8 |
| Student B | 5 |
| Student C | 12 |

**3.2 Duration and Intensity Recording (Rating Behaviours)**

**Duration recording** is when you measure **how long** certain behaviour lasts. **Intensity recording** is when you rate **how strong or noticeable** the behaviour is.

* **Example of Duration Recording**: Imagine you're observing how long a student **focuses on their work** during a 15-minute homework period. You might find that Student A focuses for 12 minutes, while Student B only focuses for 7 minutes. Here, you’re measuring how much time they spend on the task.

**Table 4: Duration Recording Example**

| **Student Name** | **Time Focused on Task (minutes)** |
| --- | --- |
| Student A | 12 |
| Student B | 7 |
| Student C | 10 |

* **Example of Intensity Recording**: Let’s say you are observing how **nervous** a student is during a presentation. You could use a scale from 1 to 5 to rate their nervousness:
  + **1** = not nervous at all.
  + **5** = very nervous, shaking, and stuttering.

**Table 5: Intensity Recording Example**

| **Student Name** | **Nervousness Rating (1 to 5)** |
| --- | --- |
| Student A | 2 |
| Student B | 5 |
| Student C | 3 |

**4. Ethical Considerations in Observational Research**

When using observation as a research method, it’s important to be **ethical**:

1. **Informed Consent**: Participants should know they are being observed and agree to it. This ensures their **privacy** and **respect**.
2. **Confidentiality**: The data collected should be kept **private** and **secure** to protect participants’ identities.
3. **Observer Bias**: The researcher should try to be as neutral as possible and not let personal opinions affect how they record the data.

**5. Types of Sampling in Observations**

Sampling refers to how you choose what to observe. There are different methods for sampling:

1. **Time Sampling**: You choose specific times to observe, like observing a class every 5 minutes. This method is useful if you can’t watch all the time but want to get a representative sample.

**Table 6: Example of Time Sampling**

| **Time** | **Behavior Observed** |
| --- | --- |
| 9:00 AM | Student A raises hand |
| 9:05 AM | Student B asks a question |
| 9:10 AM | Student C talks to peer |

1. **Event Sampling**: This method involves observing specific events or behaviors. For example, you might choose to observe how often students ask questions during a class rather than watching everything they do.
2. **Point Sampling**: You choose specific moments in time to observe, like checking in on students at random intervals during a class.

**6. Challenges and Limitations**

Observational research has some challenges:

1. **Observer Bias**: The researcher might unknowingly influence the data because of their personal opinions.
2. **Time and Resources**: Observation can be very time-consuming, especially if you’re watching behaviours over long periods.
3. **Influence of the Observer**: Just knowing that someone is watching can cause participants to behave differently. This is called the **observer effect**.
4. **Ethical Issues**: Observing people without their knowledge (covert observation) can be problematic because it may violate their privacy rights.

**7. Combining Observations with Other Methods**

Observation works well when used along with other research methods:

* **Interviews**: After observing, you could interview participants to understand why they acted in certain ways.
* **Surveys**: You can ask participants about their own behaviors, comparing their answers to what you observed.

**9. Conclusion**

Observation is an important method for collecting data. Whether structured (with checklists) or unstructured (open-ended), it provides valuable insights into human behaviour. However, researchers must consider ethical issues, observer bias, and the influence of the observer on participants. When used properly, observation can provide rich and detailed data about how people behave in natural settings, making it a powerful tool for understanding human behaviour.