

Systematic Observation

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Systematic observation is the process of explicitly defining desired target behaviors and observing them using a systematic set of guidelines. Systematic observation assists in reducing or eliminating bias in experimental designs. The reduction allows for increased reliability and validity therefore, an integral part in experimental designs. This process is widely used in school, home, and clinical settings. The process allows preset rules and guidelines to be followed prior to beginning the experiment. The rules and guidelines maintain the design within reasonable boundaries. All the preset rules are inferred prior to starting the experiment.

The process of consistent observation maintains the integrity of the design. The observation allows for procedural changes in a way that can be quantified. The systematic format allows for the replicability of the experiment. It is important that the desired target be explicitly define so that various observers can create the same output, increasing reliability.

Systematic observations can be applicable in all age groups, and variations in observation design can help to avoid errors which render the experiment less meaningful (Lampe, Mudler, Collins, & Vermeiren, 2017). Systematic observation can be used with all age groups, but is frequently used with children where observation in controlled environments may be easier. The opportunity to plan in advance helps save money, time, and potentially save the experiment. Therefore, any diversion from the original design would not disrupt the experiment. The experiment in turn is an extension of the observational process.

Observations are an integral source of diagnostic information that assist in organizing qualitative and quantitative data. The systematic observation in school, homes, and clinical

settings provide qualitative and quantitative support for various diagnosis. The supporting data also allows for the creation of treatment plans with a baseline, treatment usually indicating a reduction or increase of such target behaviors.

The applicability of systematic observation lies only in ability to observe and plan ahead. Observation plays a role in the formation of the treatment to the experiment to the final process and beyond. The systematic format allows for such designs to be planned ahead of time. Systematic observation can also assist in gathering information via self and parent report assessments. These forms of assessments may come with a biased outlook therefore the addition of systematic observation can corroborate the collected data. Clear systematic approaches allows for easier replication of findings.

Observations enhance experiments and experiments portray observation in a systematic format. The two factors work together to reduce bias: reporting procedures and experimental results (Malik, 2007). The format can be thought of as a train and track, the observation is the train which can derail. The observation allows for constant monitoring and potentially foreseeing possible derivation. The track was preset and predetermined, much like experimental designs are. Both work together and one is better prepared with the other in case of a derailment.

In the consequence sequence, experiments imply that an intervention or manipulation is being applied. Observations do not evaluate the intervention or manipulation but instead observes the experiment process itself (Daston 2011). Systematic observation does not implement an intervention when initially observing. The intervention comes after the initial observations. The two factors enhance the presence of the other, providing accountability for each. The systematic format allows for consistency and detailed progression of the experiment.

This enhances the integrity of the experiment. As detailed before, it can be used for participants of all ages.

Further Readings

Daston, L. (2011). The empire of observation. In L. Daston & E. Lunbeck (Eds.), *Histories of scientific observation* (pp. 81–113). Chicago: The University of Chicago Press.

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Malik, S. (2017). Observation versus experiment: An adequate framework for analysing scientific experimentation? *Journal for General Philosophy of Science, 48*(1), 71-95. <http://dx.doi.org.ezproxylocal.library.nova.edu/10.1007/s10838-016-9335-y>