

Experimental and non-experimental design



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The first level of Bloom's taxonomy, remembering, offers a basis for analyzing potential issues to reliability and validity in experimental designs. The inability to remember data means that wrong information can be incorporated in a study. When this happens, the data and its analysis are no longer consistent with actual observation, inducing validity concerns. In addition, reported data from some subsets of an experimental sample will deviate from those from other parts, inducing internal reliability concerns. When this is significant, the developed conclusions may not be consistent with population parameters, inducing external reliability concerns. Using accurate data collection and recording instruments and immediate data capture can however ensure validity and reliability based on the ability to remember (Sevilla, n. d.).

Reliability and validity are also significant at the experimental design's data analysis stage in which the ability to understand involved concepts in information and to apply the developed knowledge in the analysis is necessary (White, 2010). The need to understand the features of each data set and to identify potential relationships establishes this because failure to understand and apply the features threatens the dependability and truthfulness of data. The issues further threaten the ability to make inferences and to investigate causal relationships, which are the main objectives of experimental design. Sampling and bias are also incident to reliability and validity and may be intentional or not. Sampling, for instance, requires background information on population demographics and therefore requires remembering, understanding, applying, and analyzing potentials of Bloom's taxonomy to avoid non-intentional sampling bias. The form of bias may also exist at different stages of experimental design and competence in <https://assignbuster.com/experimental-and-non-experimental-design/>

the classes of Bloom's taxonomy helps in managing the forms of bias.

Even though non-experimental designs are descriptive, they can be used for forecasting and therefore requires potentials and confidence in evaluation and creation levels of Bloom's taxonomy. Sampling plays an important role in ensuring these because only a threshold sample size establishes validity in developed results for generalizability. Application of "reliable and valid instruments" is also necessary for ensuring truthfulness and dependability of research results and conclusion (LoBiondo-Wood & Haber, 2013). These advanced stages of the taxonomy however follow abilities to remember, understand, and apply concepts about a subject population, sample, and data.

Experimental and non-experimental designs are quantitative research approaches that therefore require validity and reliability thresholds. Bias and sampling are critical to these needs and competence in the levels of Bloom's taxonomy ensure that bias and sampling issues are addressed and reliability and validity achieved in both of the research designs.