



The principles of research:

A scientific method of gathering and evaluating data to solve a problem is what we mean when we say research. The invention of new ideas generally comes from the process of research. Therefore, research is conducted by following the scientific method employed when trying to solve a problem.

The four basic principles of research are classified as autonomy, beneficence, non-maleficence, and justice. **The research principle of autonomy** determines the right to agree or disagree with the research, and the patient's healthcare methods need to be decided. **The research principle of beneficence** demonstrates the researchers must act in the welfare of the participants or patients. **The research principle of non-maleficence** determines to encourage more suitable rather than causing harm to the participants or patients. And finally, **the research principle of justice** indicates the uniform distribution of treatment. The principles of research are related to the concepts of ethical research. There is a consideration for the potential benefits to society and the dignity and safety of participants and patients taking part in the research.

All research studies are different, but some factors are standard to all good pieces of research. Following are the 13 principles of good research work which must observe to guarantee quality:

- 1. Objectivity:** The objective of research work needs to be clearly described, and common precepts are used.
- 2. Use of scientific process:** The research process must be explained in detail, allowing other researchers to repeat the research systematically.
- 3. Planning:** The design needs to be prepared scientifically, and all aspects of resources, periods, constraints, and procedural factors are considered.
- 4. Continuity:** The study has to be conducted in a way that the principle of continuity is guaranteed.

- 5. Integrity:** The researcher must document weaknesses in procedural design with complete frankness and assess their impact on the results.
- 6. Reliability:** The validity and reliability of data need to be examined with care.
- 7. Adequacy of Data:** Data analysis must be sufficient to disclose its significance, and the approaches to analysis employed must be suitable.
- 8. Structure:** This would mean that research is organized with the particular sequence as per the well-defined set of rules. Guessing and intuition in arriving at conclusions are discarded.
- 9. Logic:** This means that the rules of logical reasoning well guide research, and the logical process of induction and deduction is used.
- 10. Empiricism** means that research is connected to one or more facets of an actual situation and deals with concrete data, which gives a basis for the external validity of research outcomes.
- 11. Replicability:** This principle enables research outcomes to be validated by replicating the research, thus creating a sound basis for the decision.
- 12. Economics:** Research must be completed within the allotted financial resources
- 13. Time-frame:** Frame research needs to be finished in the established time frame.

Summary (Abstract):

Features:

1. The summary is the paper key: **100 to 250 words**, sometimes it reaches more than **300 words**.
2. Usually single paragraph
3. Do not use citations (without references).
4. The shorter the summary, the better be **concise, precise to the point, and efficient in using the words**.
5. Should write the summary in the **past tense**.
6. Should not use abbreviations unless the full expression is both long and used frequently.

The four-part summary model:

1. Problem statement:

Give the primary research question, objective, and/or motivation.

2. Methodology:

Provide a primary indication of how gathered the data.

3. Main findings:

Show only those results which relate directly to the research objectives.

4. Conclusions:

Choose the most important implication, application, or suggestion related to the problem statement and main findings.