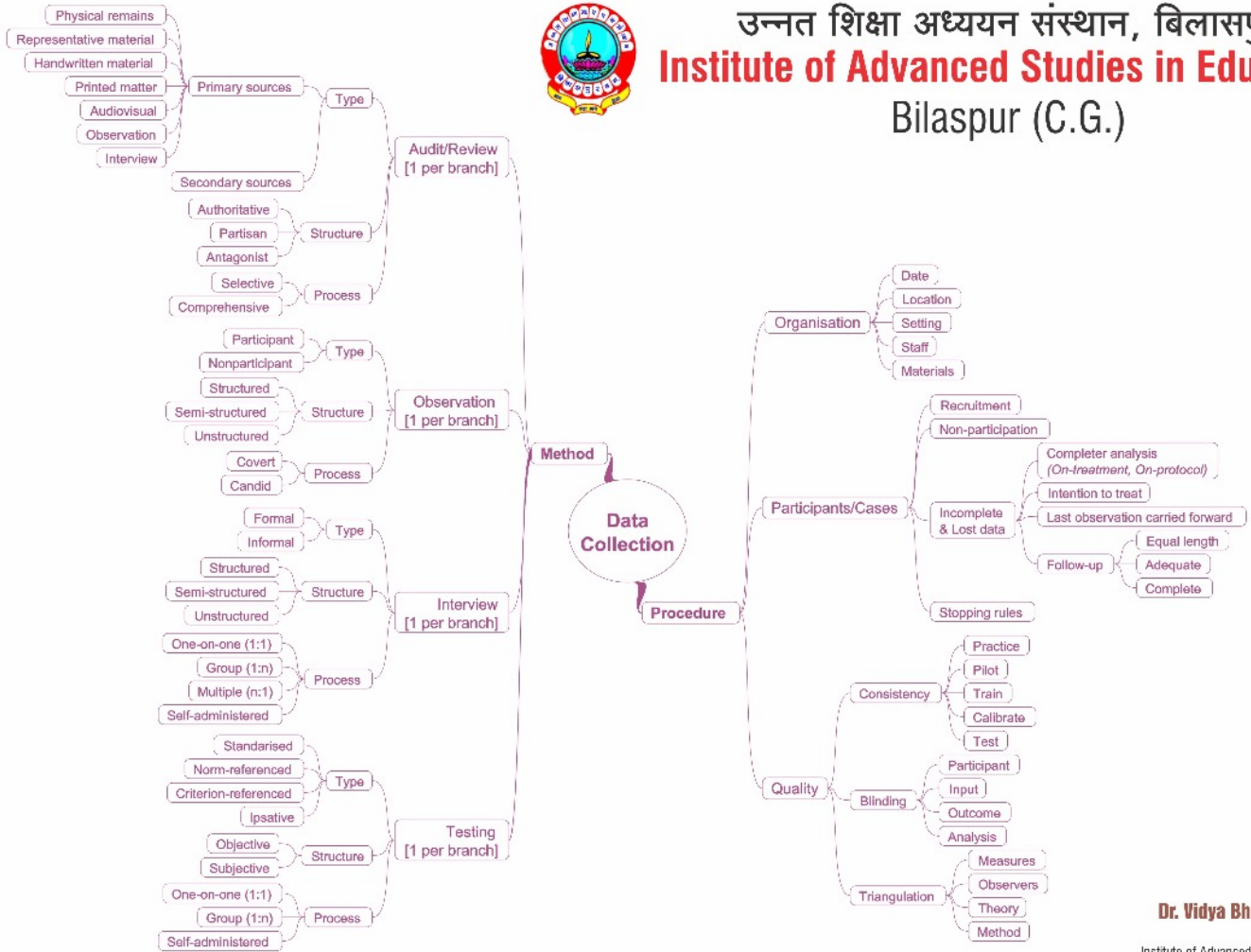
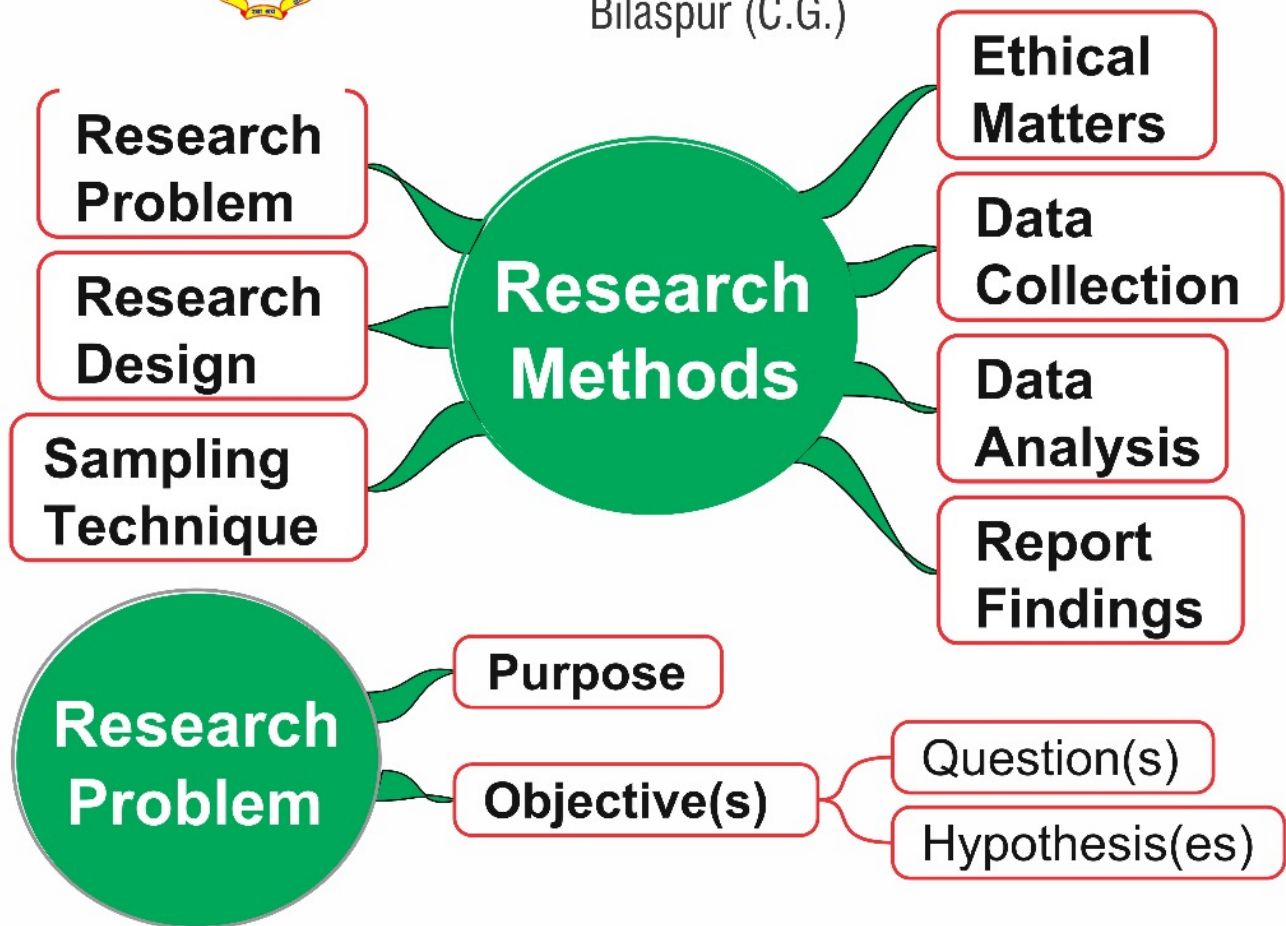




# उन्नत शिक्षा अध्ययन संस्थान, बिलासपुर Institute of Advanced Studies in Education Bilaspur (C.G.)



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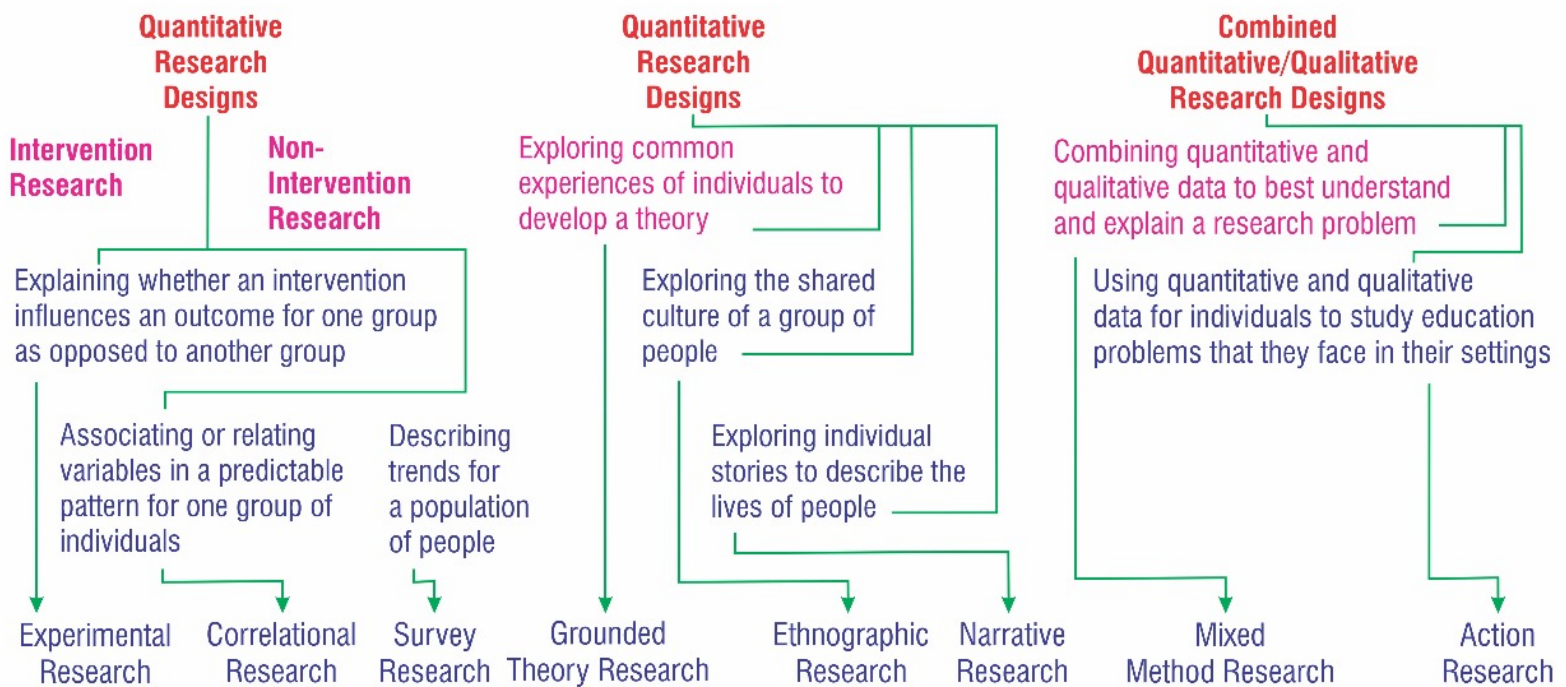




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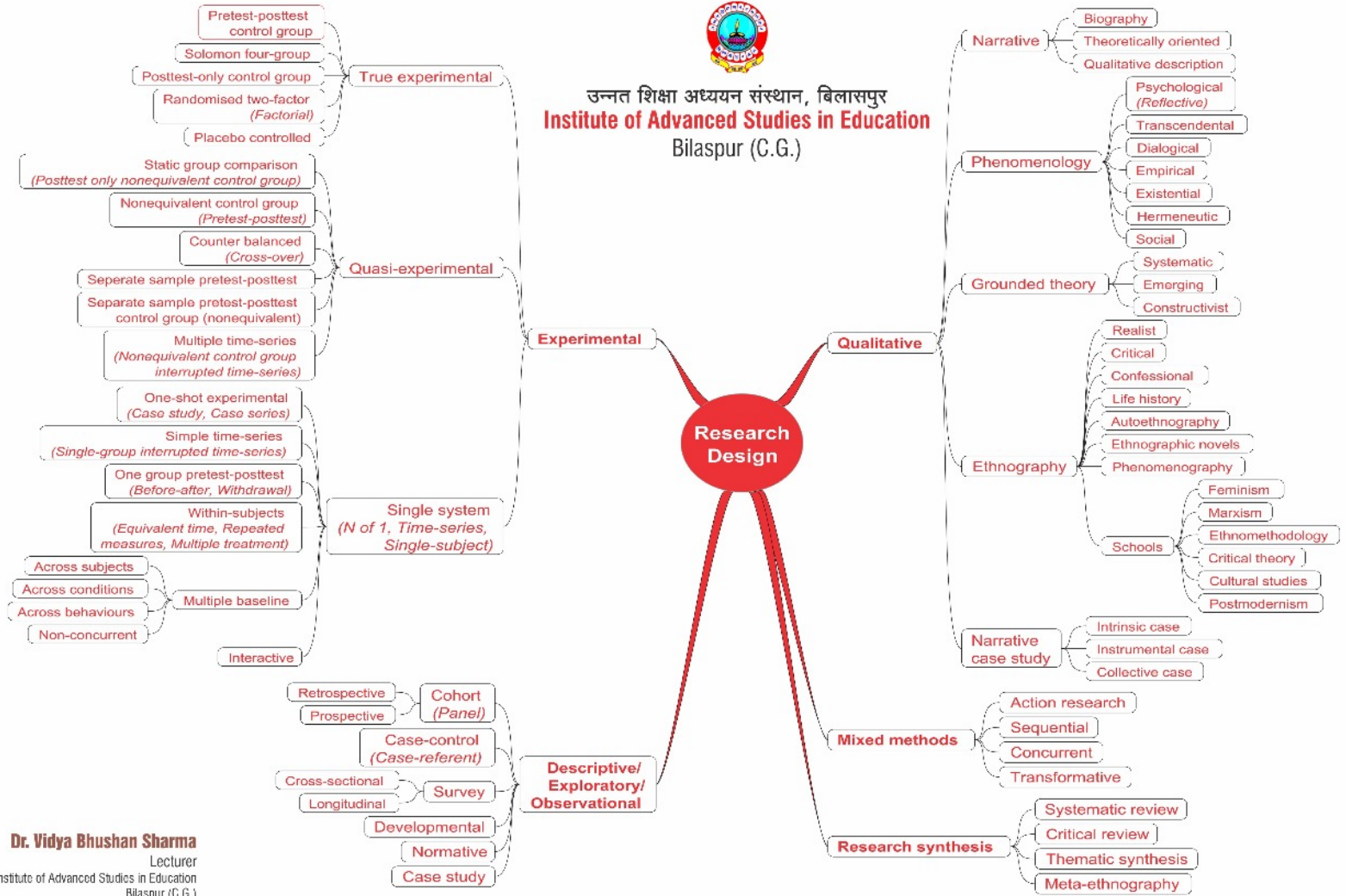
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**Types of Quantitative and Qualitative Research Designe and Their Primary Uses**



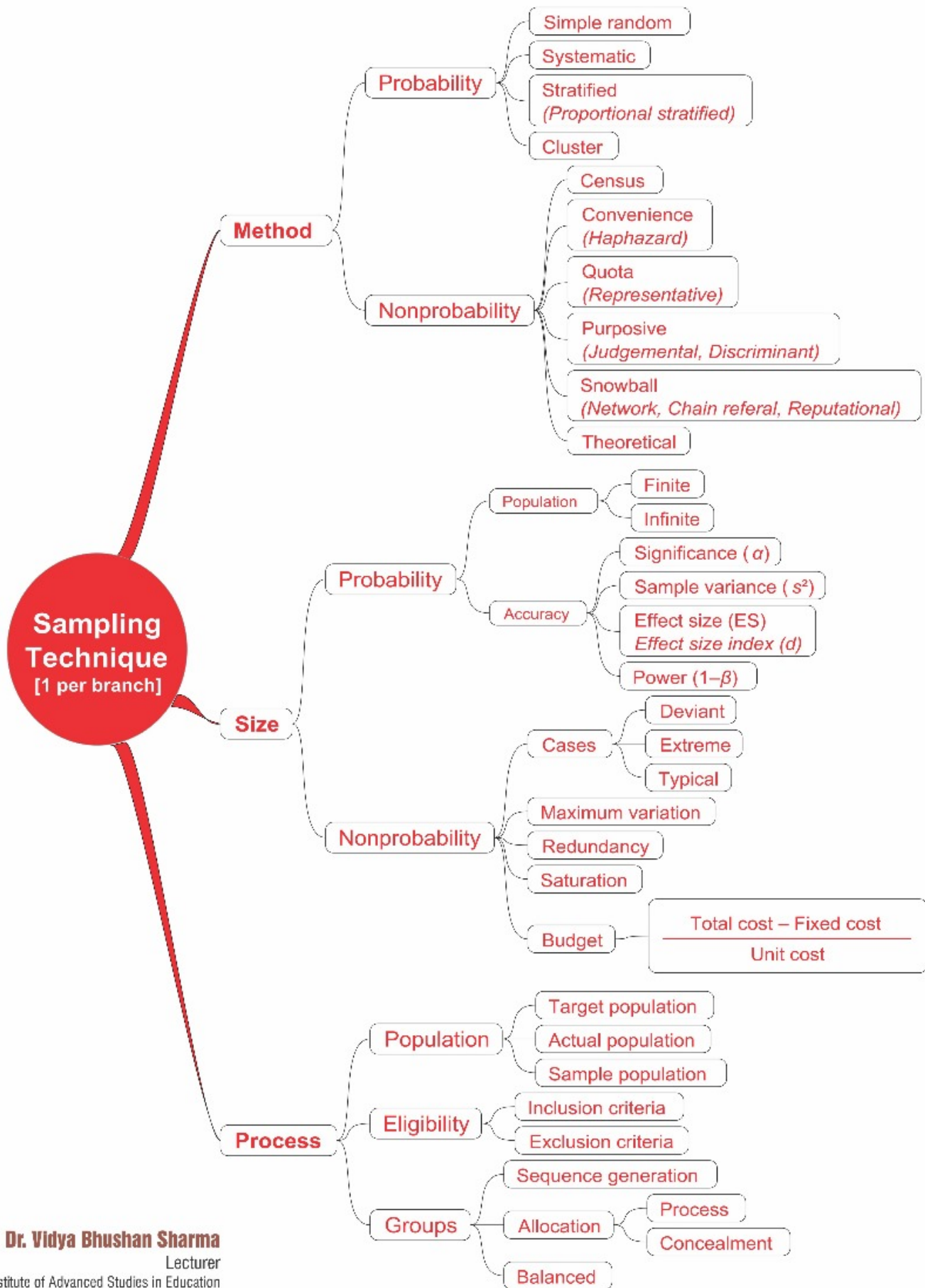


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# Ethical Matters

## Participant

- Cultural respect
- Just and equitable actions
- Informed consent
- No harm, Debrief
- Privacy/Confidentiality/Anonymity
- Vulnerable groups

## Researcher

- Ethical approval and adherence
- Manage subjectivities
- Sources of funding
- Conflicts of interest
- Relationship to/with participants



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# Report Findings

## Describe

Background

Research problem

Research design

Ethical matters

Sampling

Data collection

Data analysis

## Contextualise

Findings

Previous research

Generalisability

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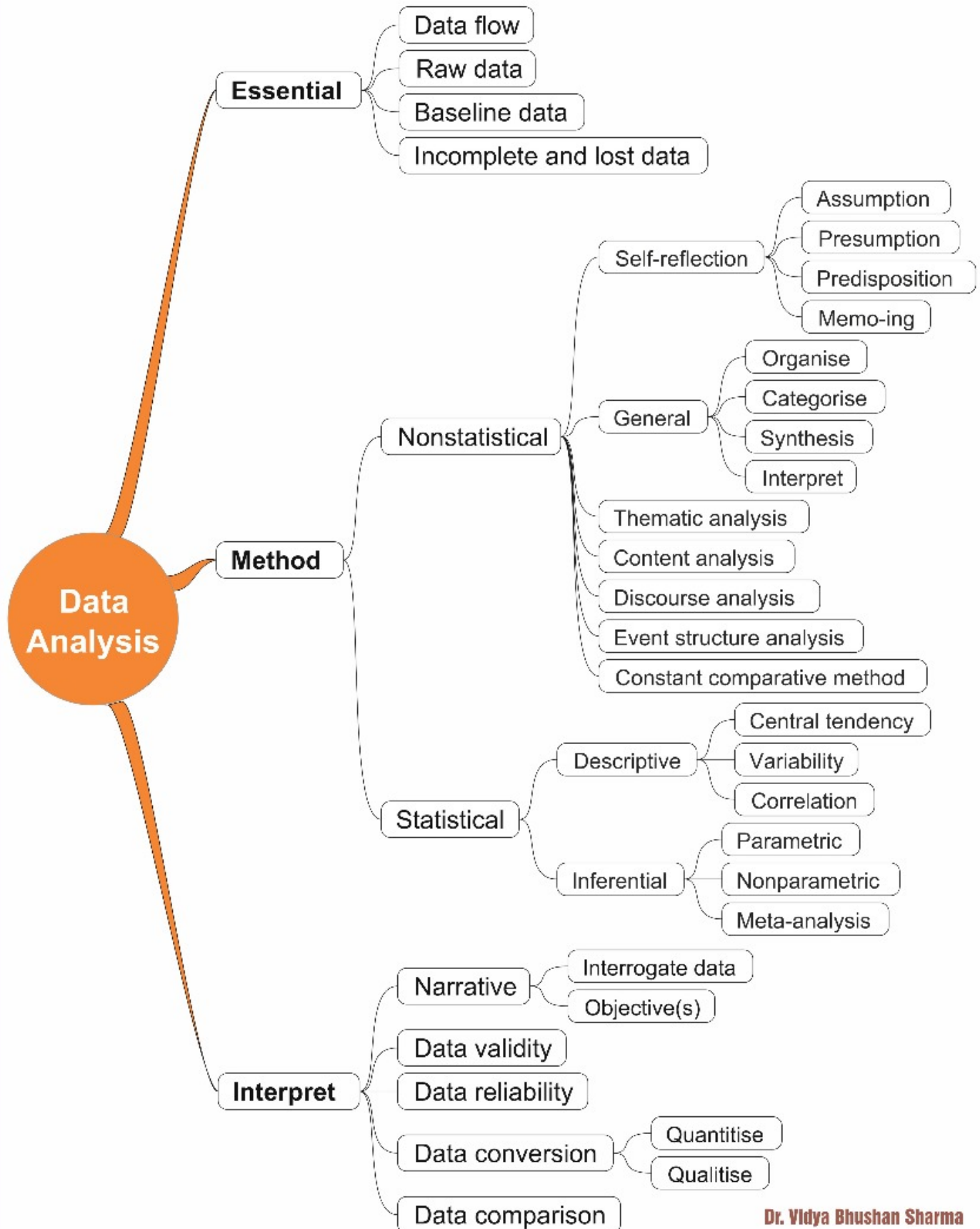
## 35 Super Useful Tools for Researchers







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| Statistical Test          | Use  | Assumptions   | Example Use Case   |
|---------------------------|--|---|--|
| t-Test                    | Compare means of two groups  | Normally distributed data, equal variances          | Compare test scores of two teaching methods                                    |
| ANOVA                     | Compare means of more than two groups  | Normally distributed data, equal variances          | Compare test scores among three teaching methods                               |
| Chi-Square Test           | Test independence between categorical variables                                    | Random sample, Large enough sample size             | Test if there's an association between gender and preference for tea or coffee |
| Pearson Correlation       | Measure linear association between two continuous variables                        | Linearity, Homoscedasticity                         | Examine the relationship between age and income                                |
| Regression Analysis       | Predict a continuous dependent variable based on one or more independent variables | Linearity, Homoscedasticity, Independence of errors | Predicting house prices based on square footage, number of bedrooms, etc.      |
| Mann-Whitney U Test       | Compare distributions of two independent groups                                    | Independence of observations                        | Compare test scores between two different schools                              |
| Kruskal-Wallis Test       | Compare distributions of more than two independent groups                          | Independence of observation, Similar distributions  | Compare performance of different teaching methods across multiple schools      |
| Wilcoxon Signed-Rank Test | Compare distributions of two related groups  | Dependent variable should be continuous or ordinal  | Compare pre-test and Post- test scores within a group                          |
| McNemar's Test            | Compare paired Proportions or frequencies in a 2x2 contingency table               | Binary data, Dependent groups                       | Compare the effectiveness of two treatments on a binary outcome                |
| Fisher's Exact Test       | Compare proportions in a 2x2 contingency table                                     | Low sample size (<20), Independence of observations | Assess the association between gender and smoking status in a small sample     |

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| Aspect             | Research                                       | Review   | Case Study   | Position  |
|--------------------|--|--|--|---|
| <b>Purpose</b>     | Presents Original research findings            | Summarises and analyses existing literature        | Examines a specific instance or phenomenon         | Argues for a particular Stance or viewpoint       |
| <b>Scope</b>       | Narrow, focused on specific research question  | Broad, covering multiple studies on a topic        | In-depth analysis of a single case                 | Focuses on a specific issue or debate             |
| <b>Benefits</b>    | Contributes New knowledge to the field         | Provides comprehensive overview of a topic         | Offers detailed insights into real-world scenarios | Focuses on a specific issue or debate             |
| <b>Challenges</b>  | Requires original data collection and analysis | Demands extensive literature search and synthesis  | May Lack generalizability to broader contexts      | Requires strong argumentation and evidence        |
| <b>Methodology</b> | Empirical methods (e.g., experiments, surveys) | Systematic review or meta-analysis                 | Qualitative or mixed methods approach              | Logical argumentation and evidence evaluation     |
| <b>When to use</b> | To report new findings or test hypotheses      | To Consolidate knowledge on a broad topic          | To explore a unique or representative case         | To advocate for a position on a contentious issue |
| <b>Example</b>     | "Effects of Dief on Cognitive Function"        | "A Review of Climate Change Mitigation Strategies" | " Implementation of AI in Healthcare: IBM Watson " | "The Need for Universal Basic Income"             |

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