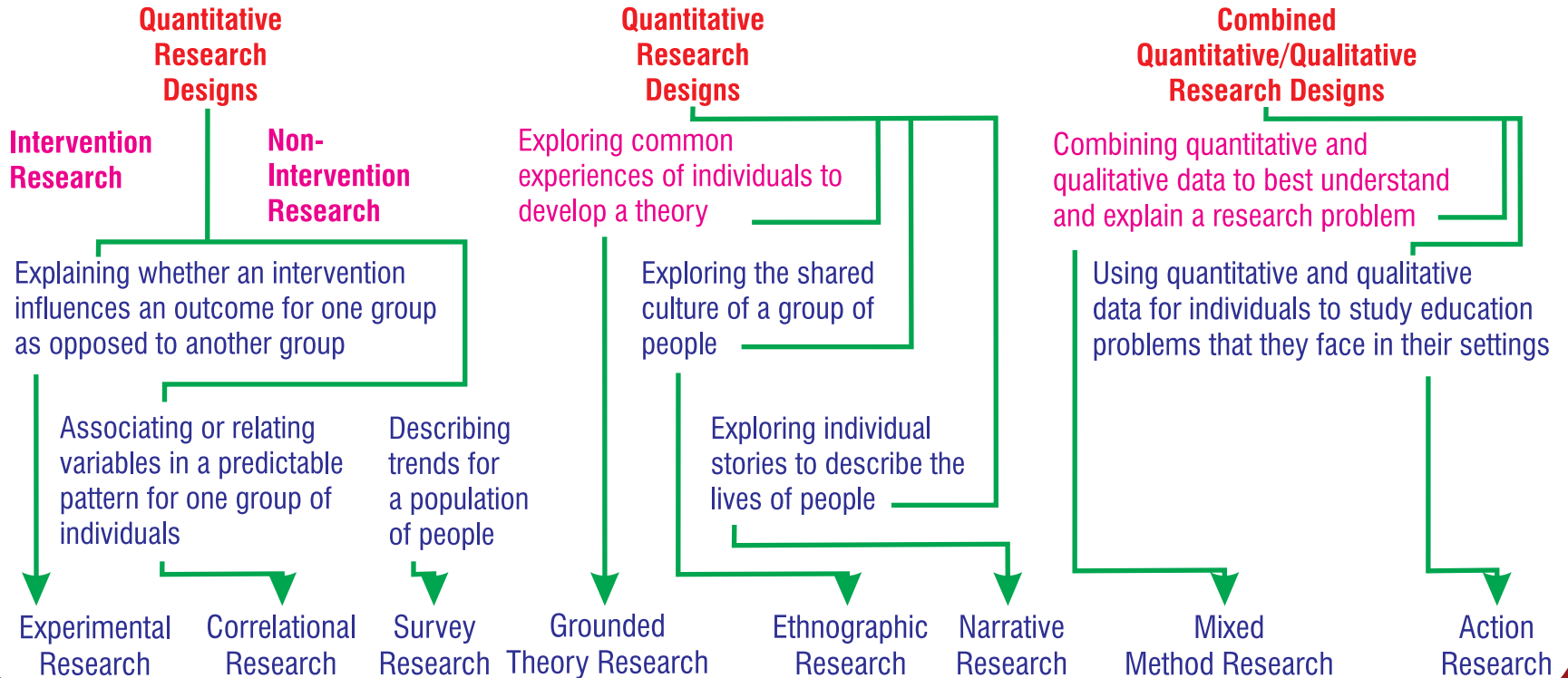
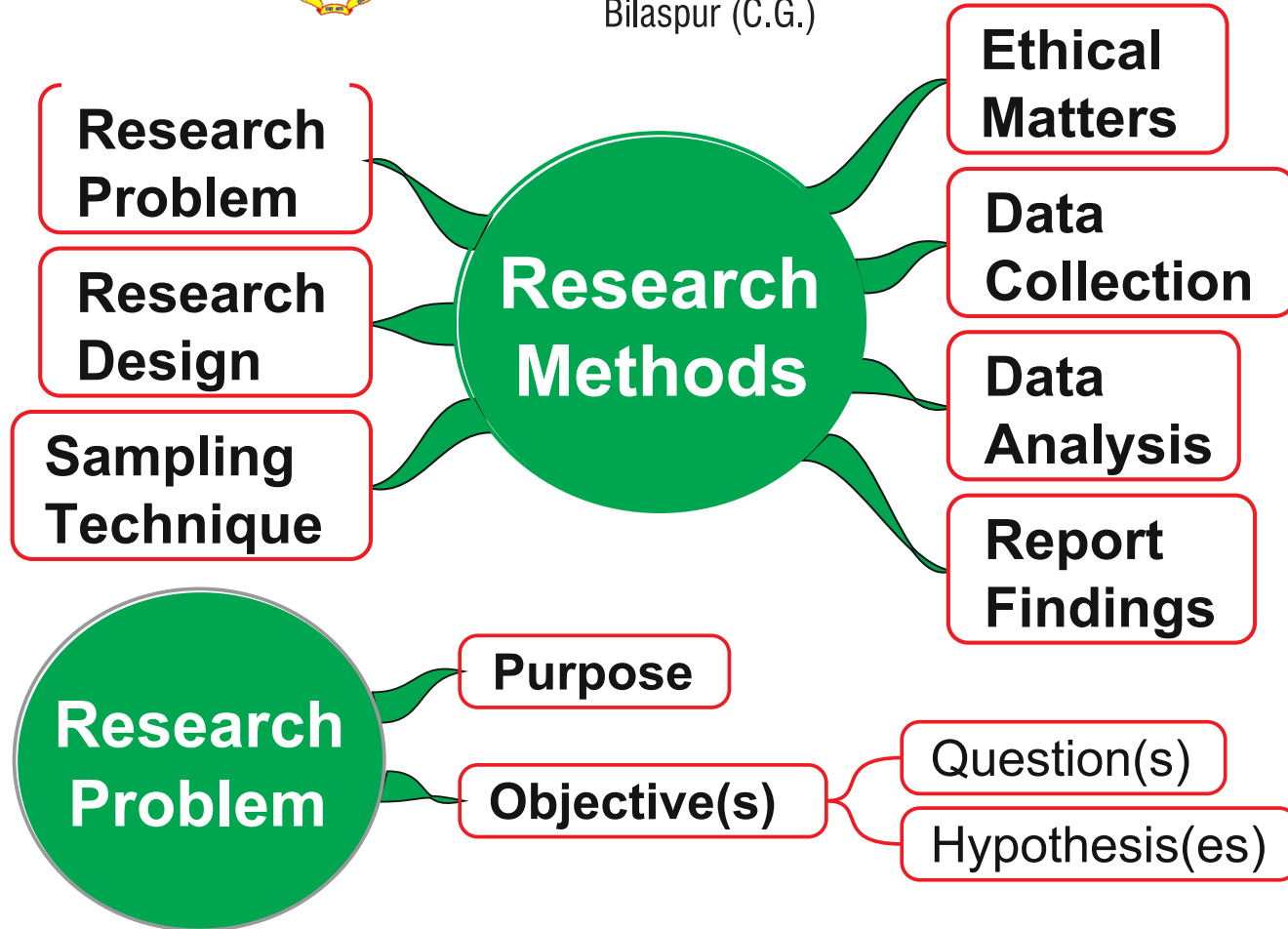




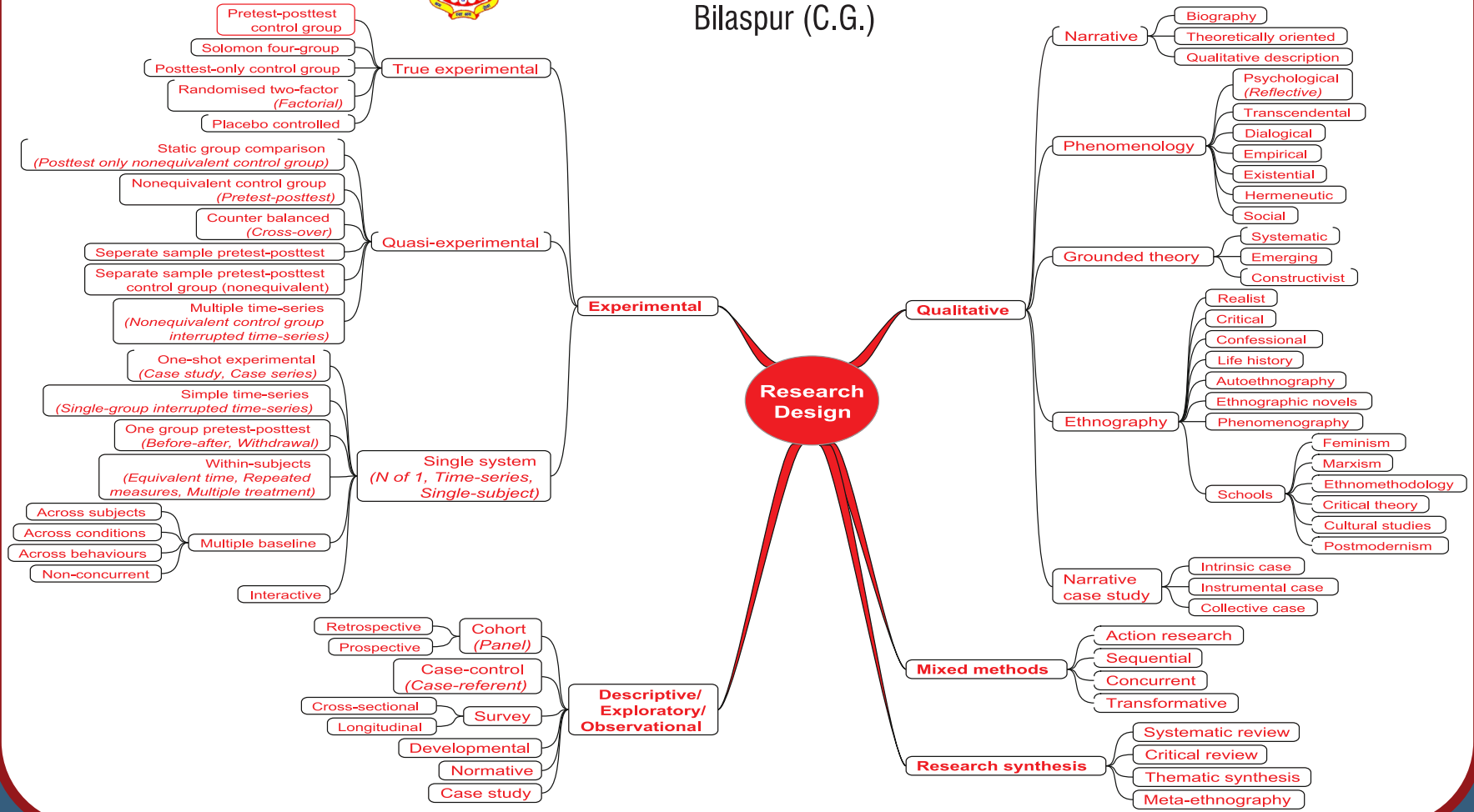
Types of Quantitative and Qualitative Research Designe and Their Primary Uses





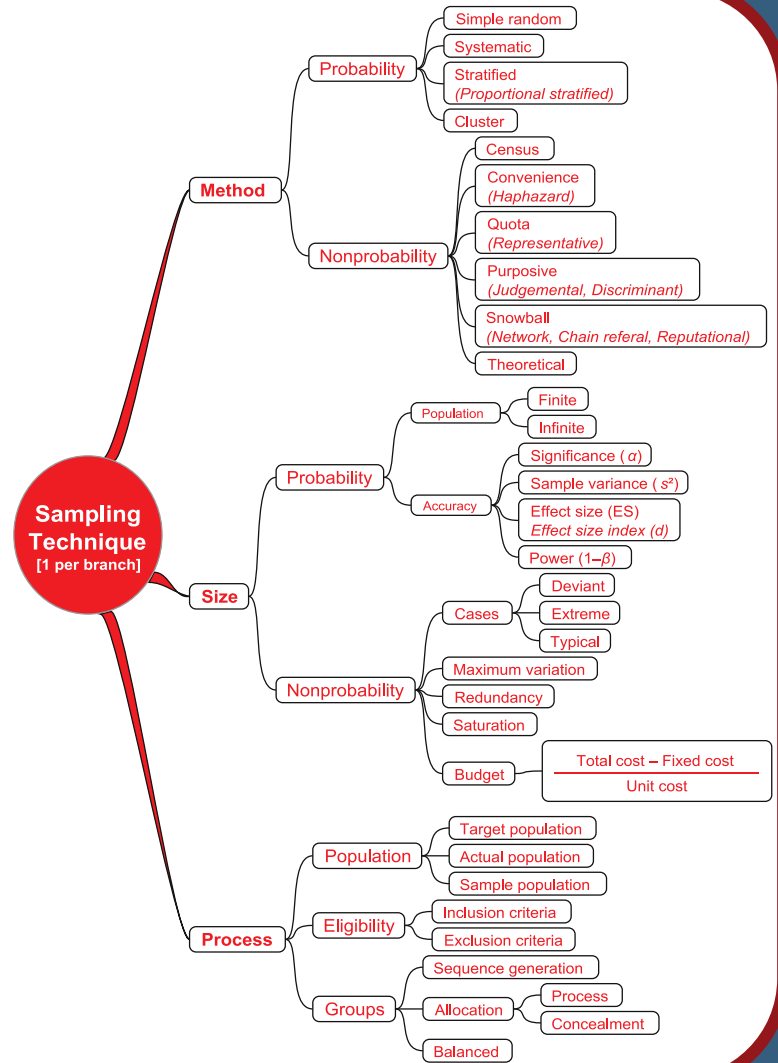


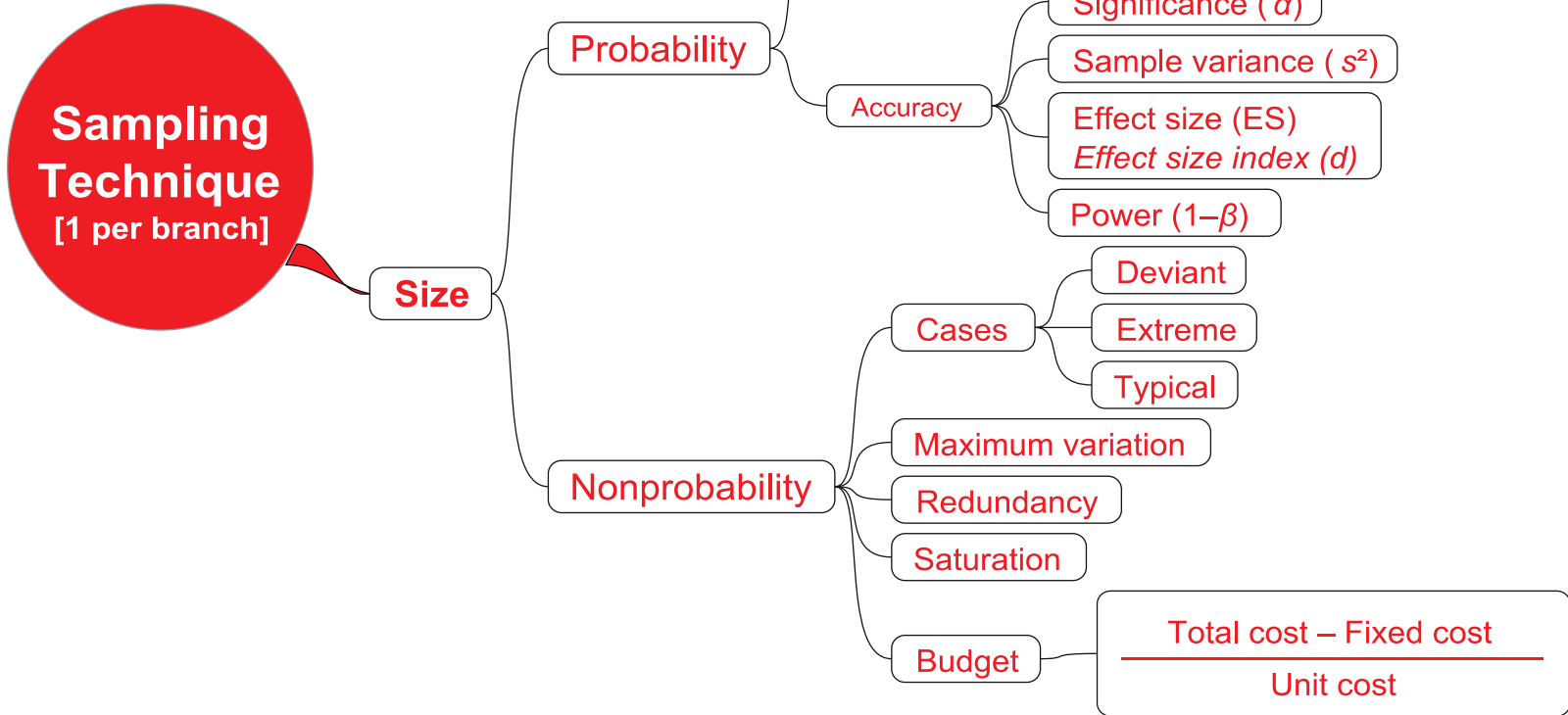
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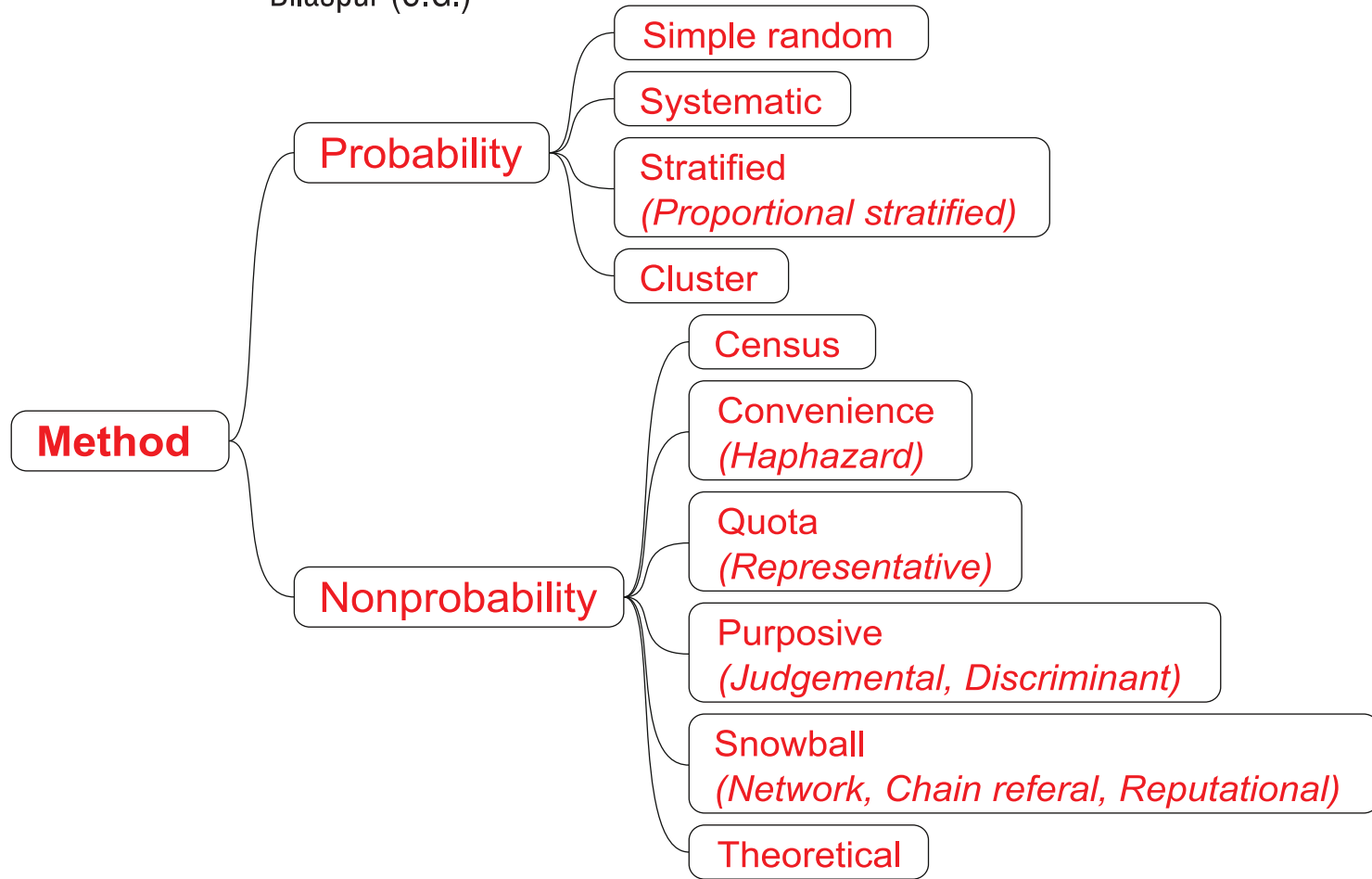


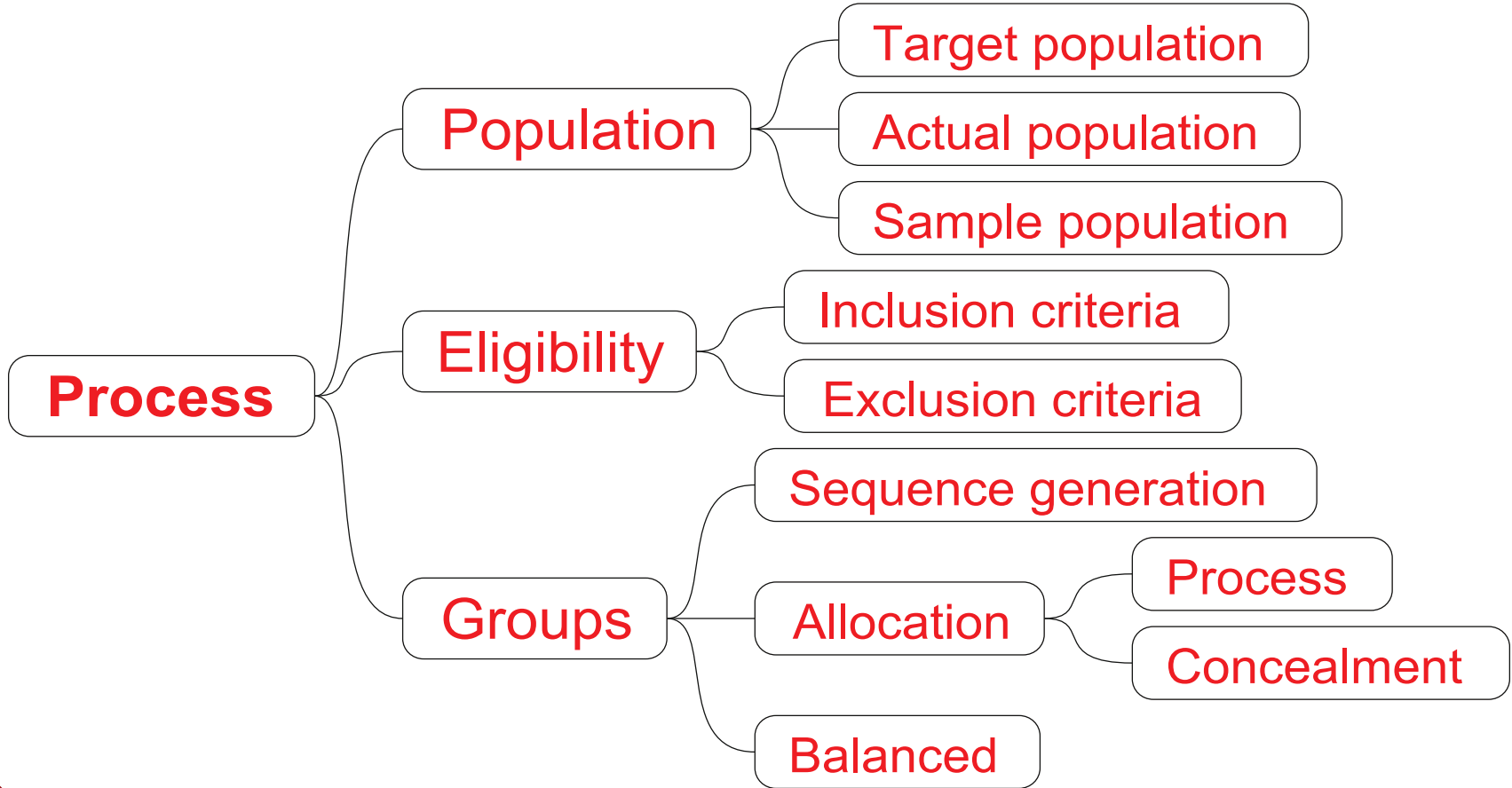


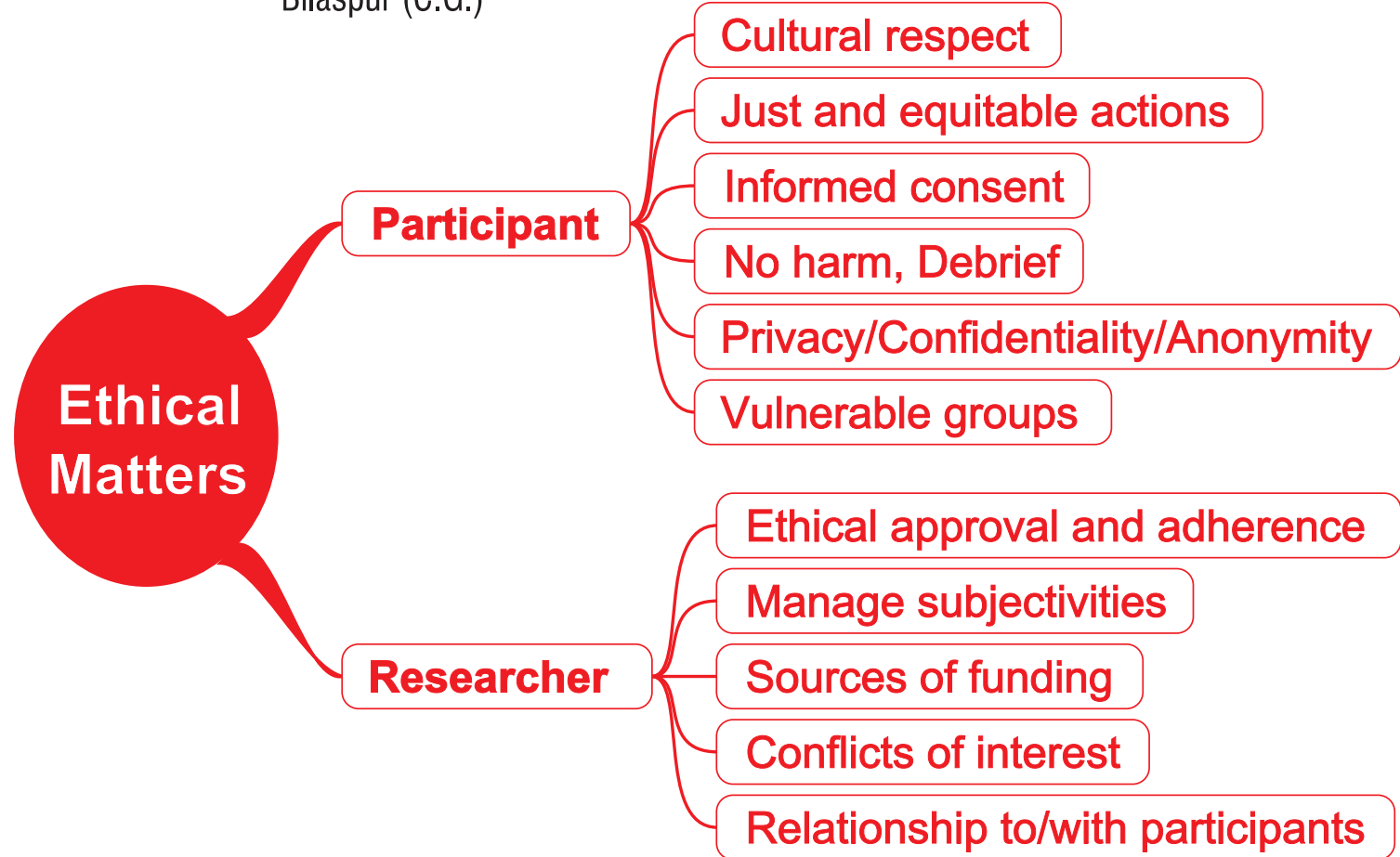
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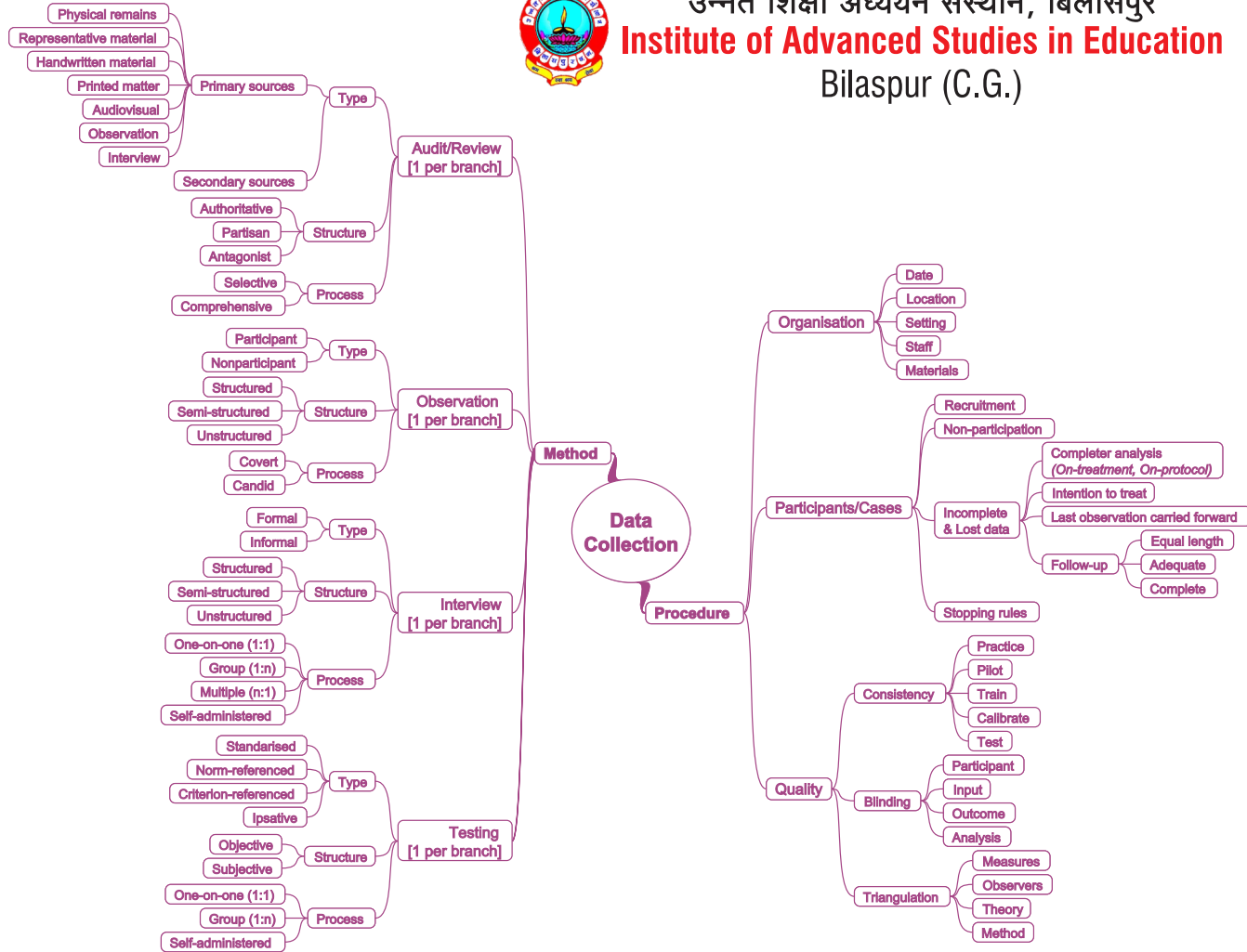






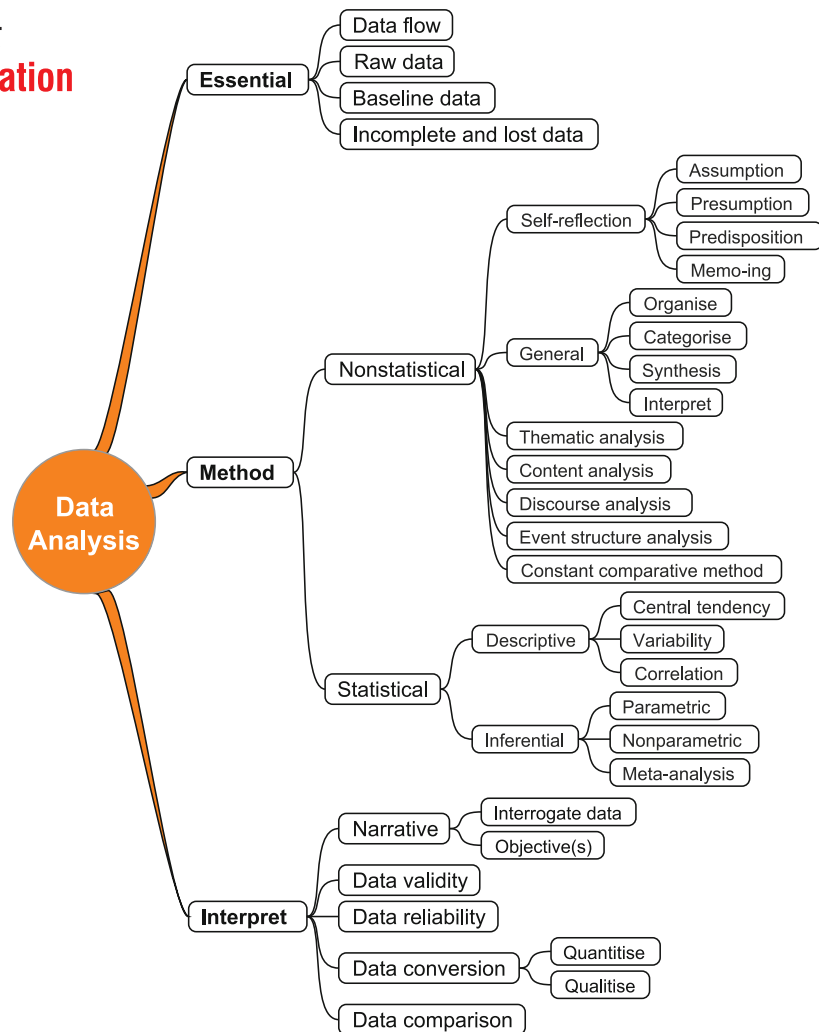


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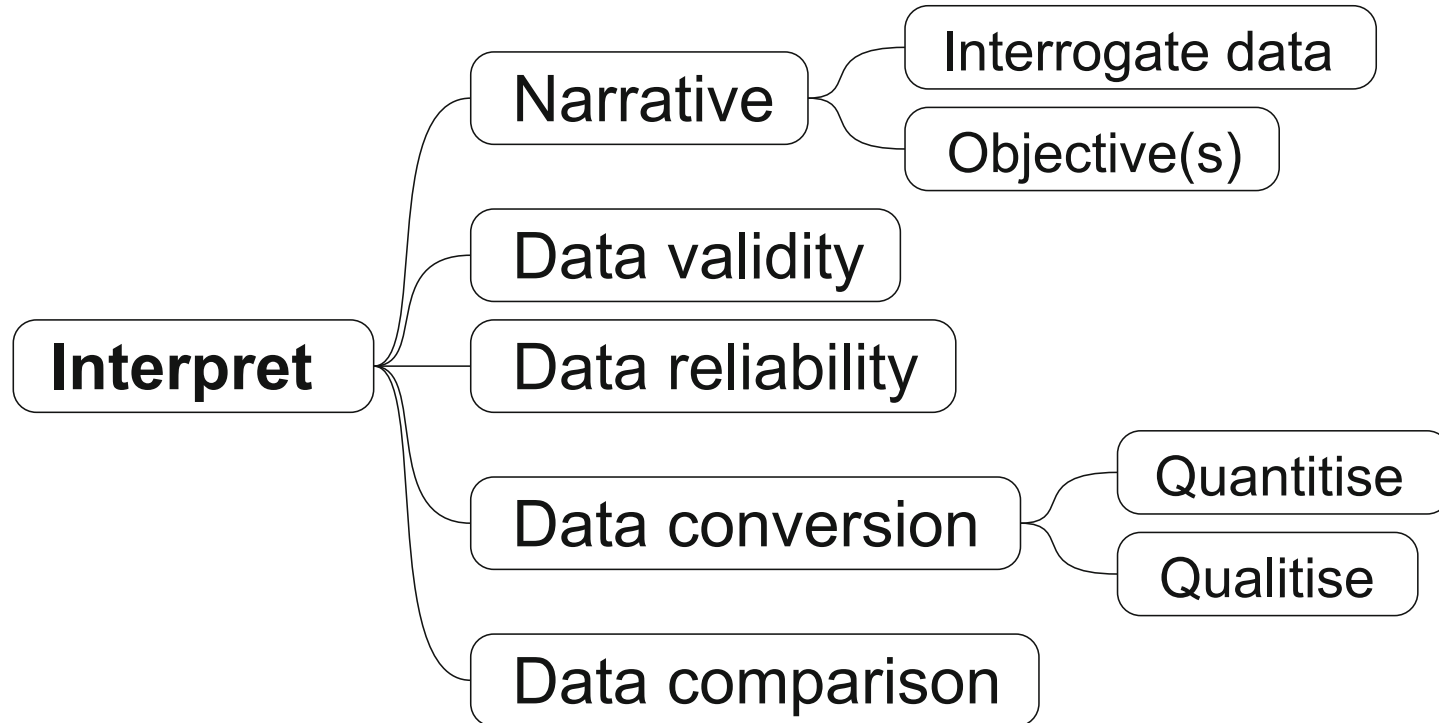
Essential

Data flow

Raw data

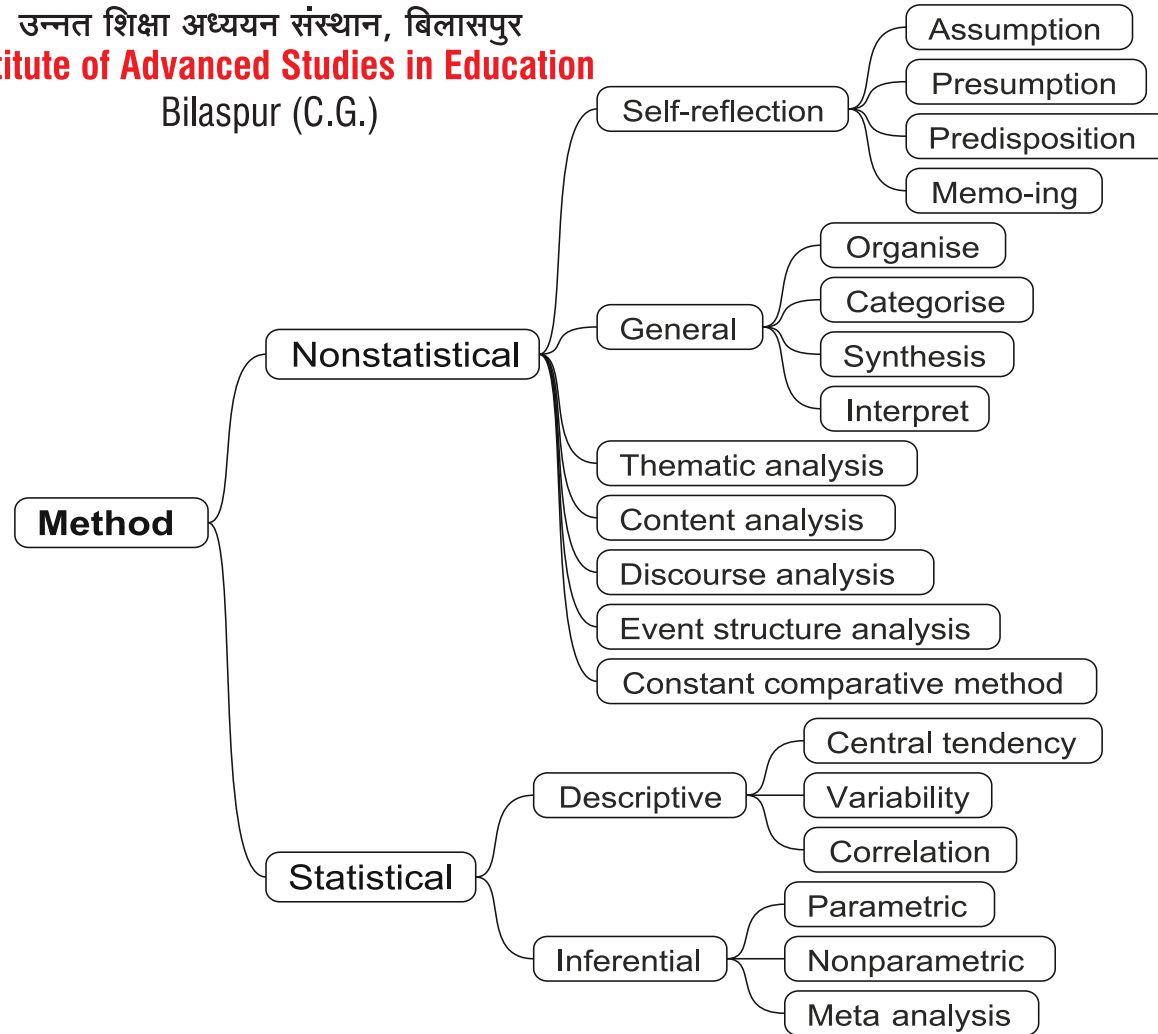
Baseline data

Incomplete and lost data



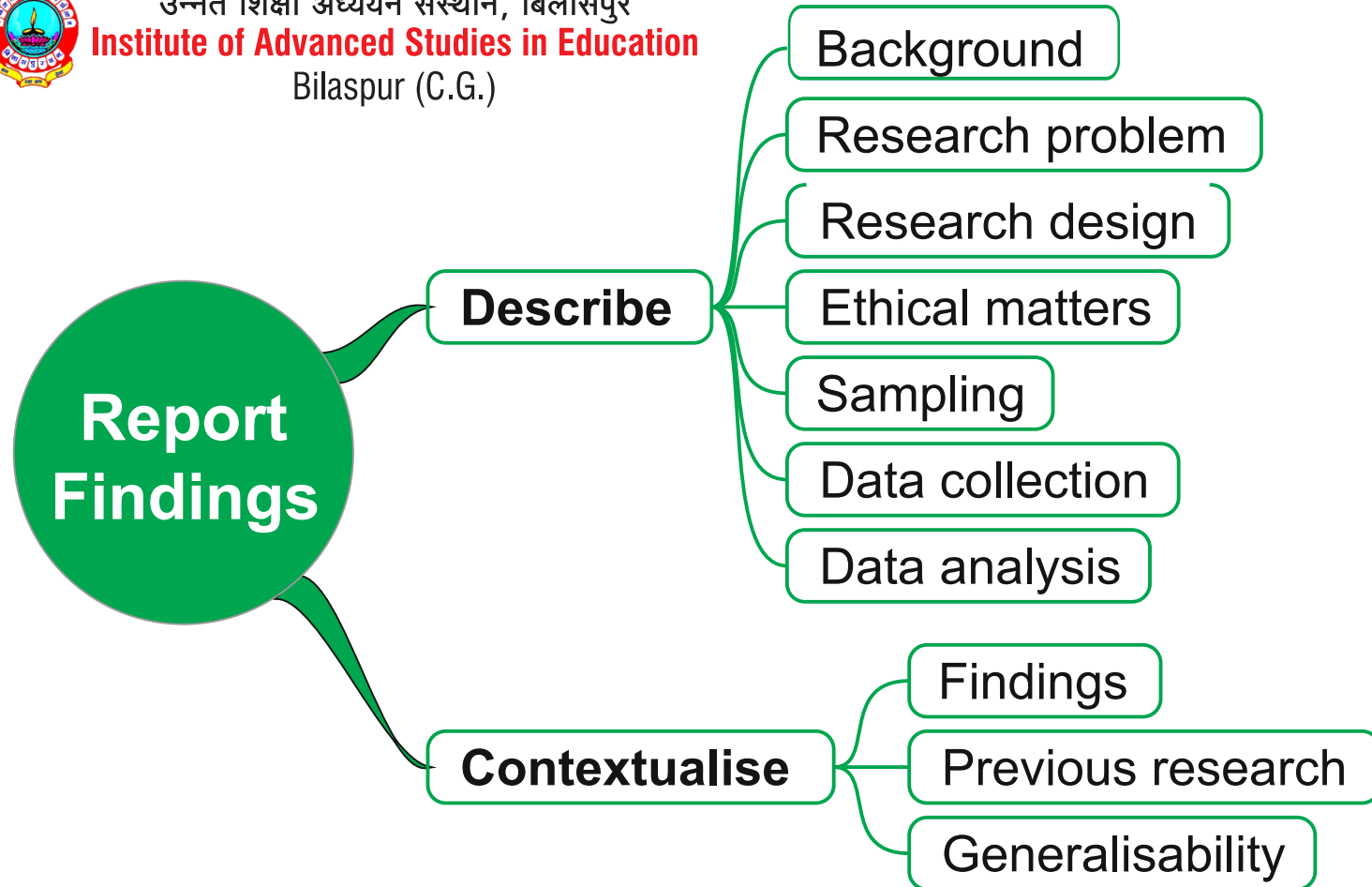


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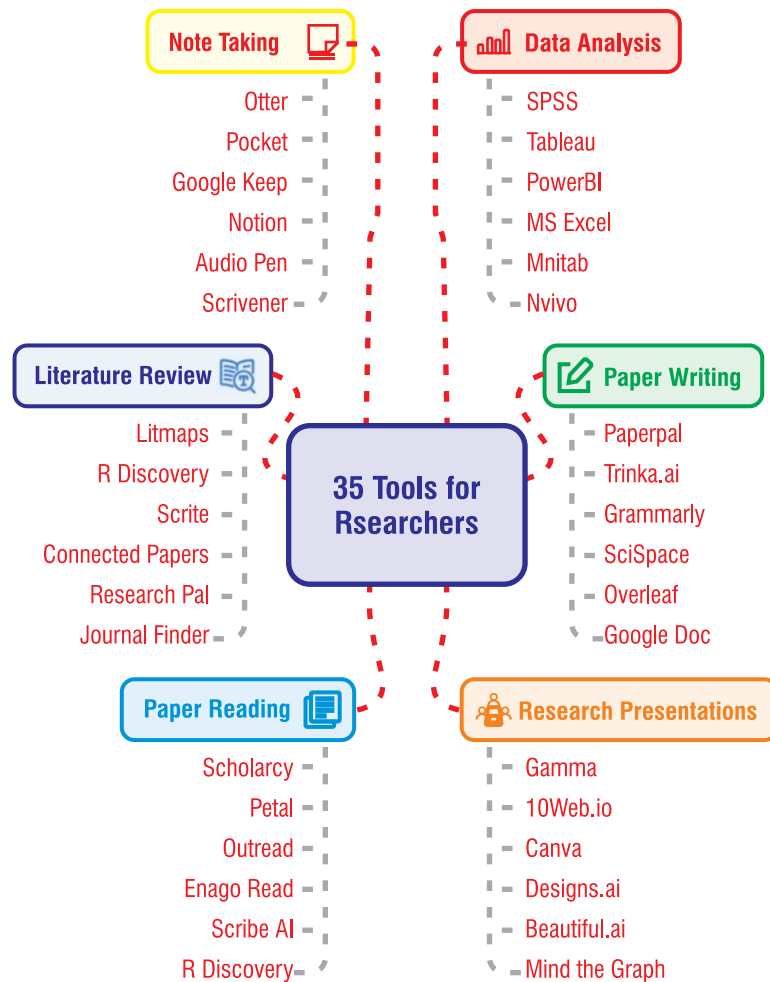
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35 Super Useful Tools for Researchers





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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
Purpose	Presents Original research findings	Summarises and analyses existing literature	Examines a specific instance or phenomenon	Argues for a particular Stance or viewpoint
Scope	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
Benefits	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
Challenges	Requires original data collection and analysis	Demands extensive literature search and synthesis	May Lack generalizability to broader contexts	Requires strong argumentation and evidence
Methodology	Empirical methods (e.g., experiments, surveys)	Systematic review or meta-analysis	Qualitative or mixed methods approach	Logical argumentation and evidence evaluation
When to use	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
Example	"Effects of Diet on Cognitive Function"	"A Review of Climate Change Mitigation Strategies"	"Implementation of AI in Healthcare: IBM Watson"	"The Need for Universal Basic Income"