



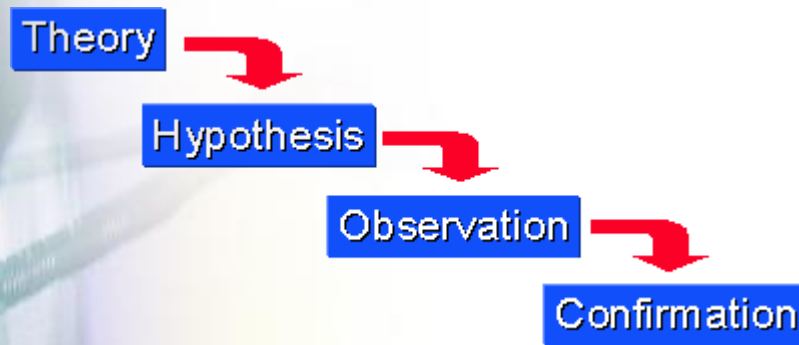
Research Methodologies

Dr Antje Cockrill, UWTSD, 2017

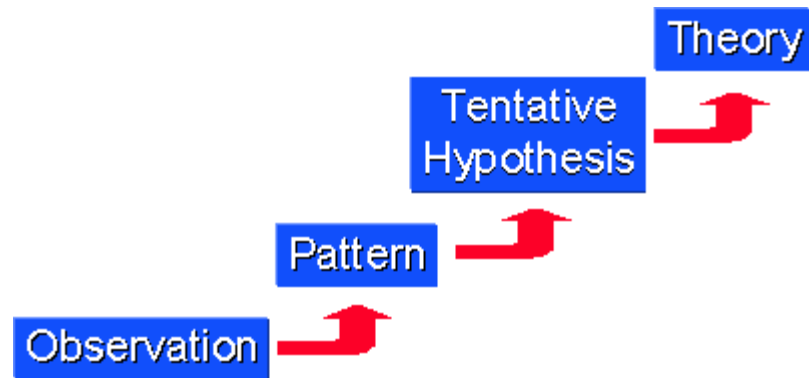
By the end of this session, you should ...

1. Have gained an overview of research methodologies and data collection methods
2. Know about qualitative and quantitative research methods
3. Be able to decide when to use different types of research, and how to combine them

Research approaches: Deductive vs inductive research



Deductive method: top-down



Inductive method:
bottom-up

Research Classification

- Research type:
 - **Exploratory** - focuses on the discovery of ideas and insights as opposed to collecting statistically accurate data.
 - **Descriptive** - conclusive in nature due to its quantitative nature. It is preplanned and structured in design so the information collected can be statistically inferred on a population.
 - **Causal** - is quantitative in nature as well as preplanned and structured in design. It differs in its attempt to explain the cause and effect relationship between variables.



Research Classification cont.

- Data Sources
 - Primary - collected for this problem
 - Secondary - collected for another problem, but useful to this.
- Type of data
 - Qualitative - in-depth, open-ended and unquantifiable
 - Quantitative - information that can be summarised by numbers

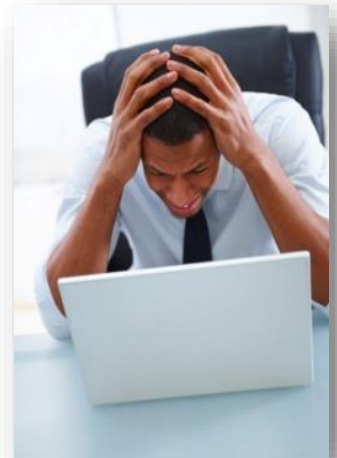
Choosing a Method of Data Collection

Methods are the research tools that allow you to implement your methodology

- Is your research descriptive, exploratory or causal?
- Will asking the question bias the answer?
- Can the question be answered by observation?
- Will knowing that research is occurring have an impact on what is recorded?
- Will knowing what research is about have an impact on responses?
- What type of data do you need to solve your research problem?

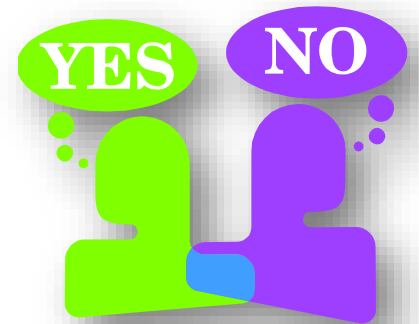
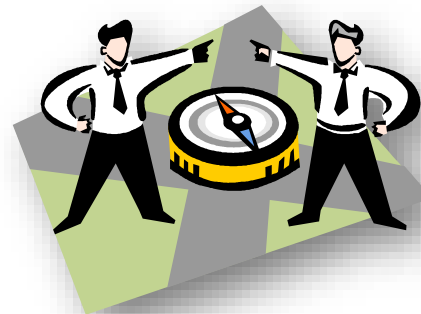
Qualitative or Quantitative?

- Qualitative and quantitative data serve different purposes. The best type of data to collect depends on
 - the research problem (exploratory, descriptive or causal)
 - the type of response you need (general or in-depth?)
 - the resources available (what can you realistically do?)



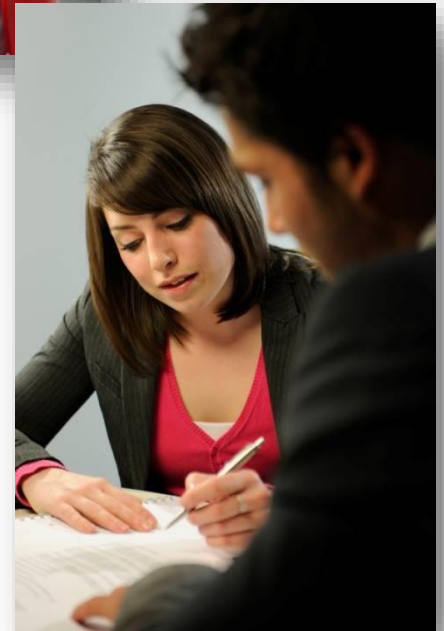
Characteristics of Qualitative Research

- In-depth, unstructured & unquantifiable information
- Attitudes, opinions, beliefs
- Small scale
- Holistic
- Flexible
- Context sensitive



Qualitative Methods

- Ethnographic research
- Interviews
- Case studies
- Action research
- Focus groups
- Diary studies
- Observation



Case Studies

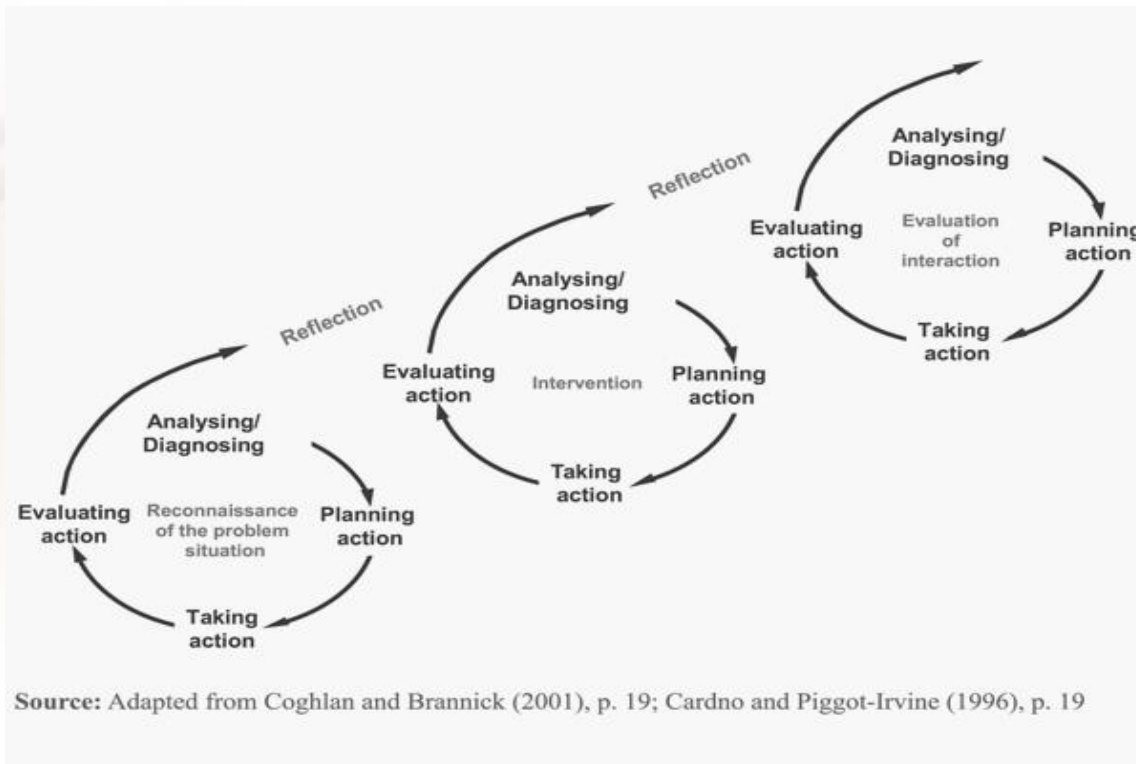
- Intensive investigation of an individual or an organisation
- Reliance on anecdotal evidence
- Much cheaper than large-sample research
- Detailed information
- Absence of controls

Action research

- Cyclic process of action, research and evaluation
- Problem focused
- Context specific
- The researcher participates in the change process



Action Research Spiral



1. Johnson, A. P. (2007) *A short guide to action research*.
2. Smith, M. K. (2013) 'Action research', *the encyclopedia of informal education*, www.infed.org/research/b-actres.htm.
3. Stringer, E. T. (2007) *Action Research: A handbook for practitioners*

Interview Types

- In-depth interviews
- Elite interviews
- Focus groups
- Telephone interviews
- Online interviews



http://onyc.co.uk/wp-content/gallery/resourcing/woman_interview_000008723595small



<http://www.dwightburton.com/research/traini2.jpg>

In-depth Interviews, Elite Interviews, Focus Groups

- Rapport between respondent & interviewer needed
- Body language can be observed
- Expensive in cost and time
- Interviewer bias
- Interviewer must be trained



<http://rollermarketingresearch.files.wordpress.com/2011/03/ethnicity.jpeg>

Telephone and Online Interviews

- Inexpensive
- Fast
- Less interviewer bias
- Less personal rapport
- Body language cannot be observed



<http://t1.gstatic.com/images?q=tbn:ANd9GcRIke8-DGpYZyCFJooVr9Qt8OWPycQFyw7IMFuVdof6Xq387>

Issues to look out for

- Interviewer bias
- Common understanding of study
- Confidentiality
- Confidence in subject matter or experience
- Use of jargon
- Professional rather than personal interaction

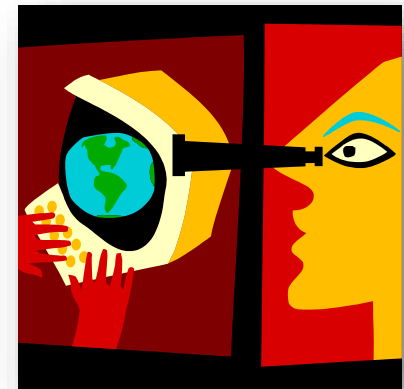
More issues...

- Judging responses
- Body language
- Inconsistencies in the data
- Informal chats before and after the interview – can give you the most valuable information



Observation

- Variably intrusive: How far intrude?
 - Participant/non-participant
 - Covert/overt
- Can be used qualitatively and quantitatively



Ethnographic research

- Originating in anthropology, this term traditionally refers to a practice in which researchers spend long periods living within a culture in order to study it.

– (<http://www.aqr.org.uk/glossary/?term=ethnography> 2013)

- Therefore research is in a groups 'own environment'
- Time consuming but produces great detail
- Normally researching socially produced 'answers'

Quantitative Data Collection Methods

- Time and effort required to produce useful data *before* data is collected (changes difficult to make once data collection starts)
 - Good knowledge of the area under investigation (qualitative input)
 - Knowledge of the subjects to be questioned
 - Clear idea of the objectives of the research instrument



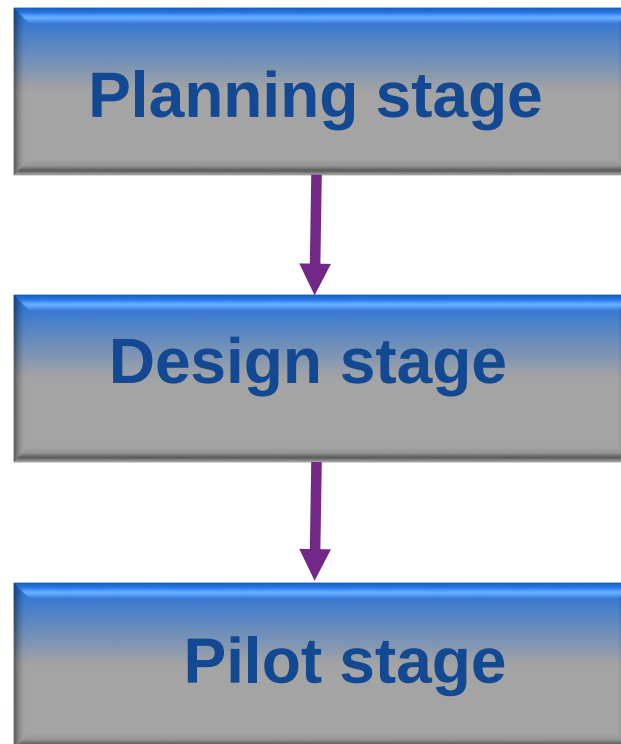
Questionnaire Design Process

1. Questionnaire objectives
2. Data collection method (in person, by post, online)
3. Question response format and question wording
4. Questionnaire flow and layout
5. Evaluation & approval
6. Testing & revision
7. Finalisation & implementation

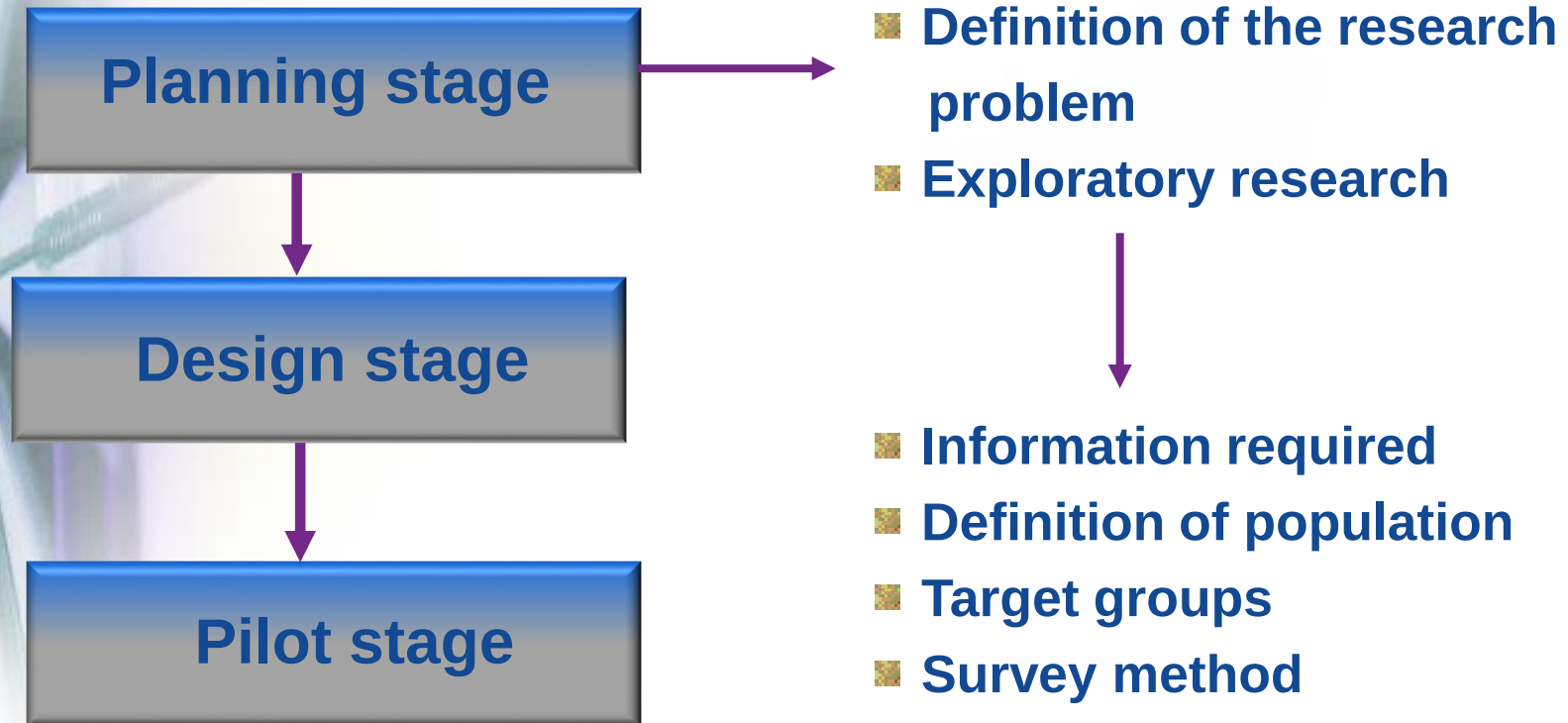


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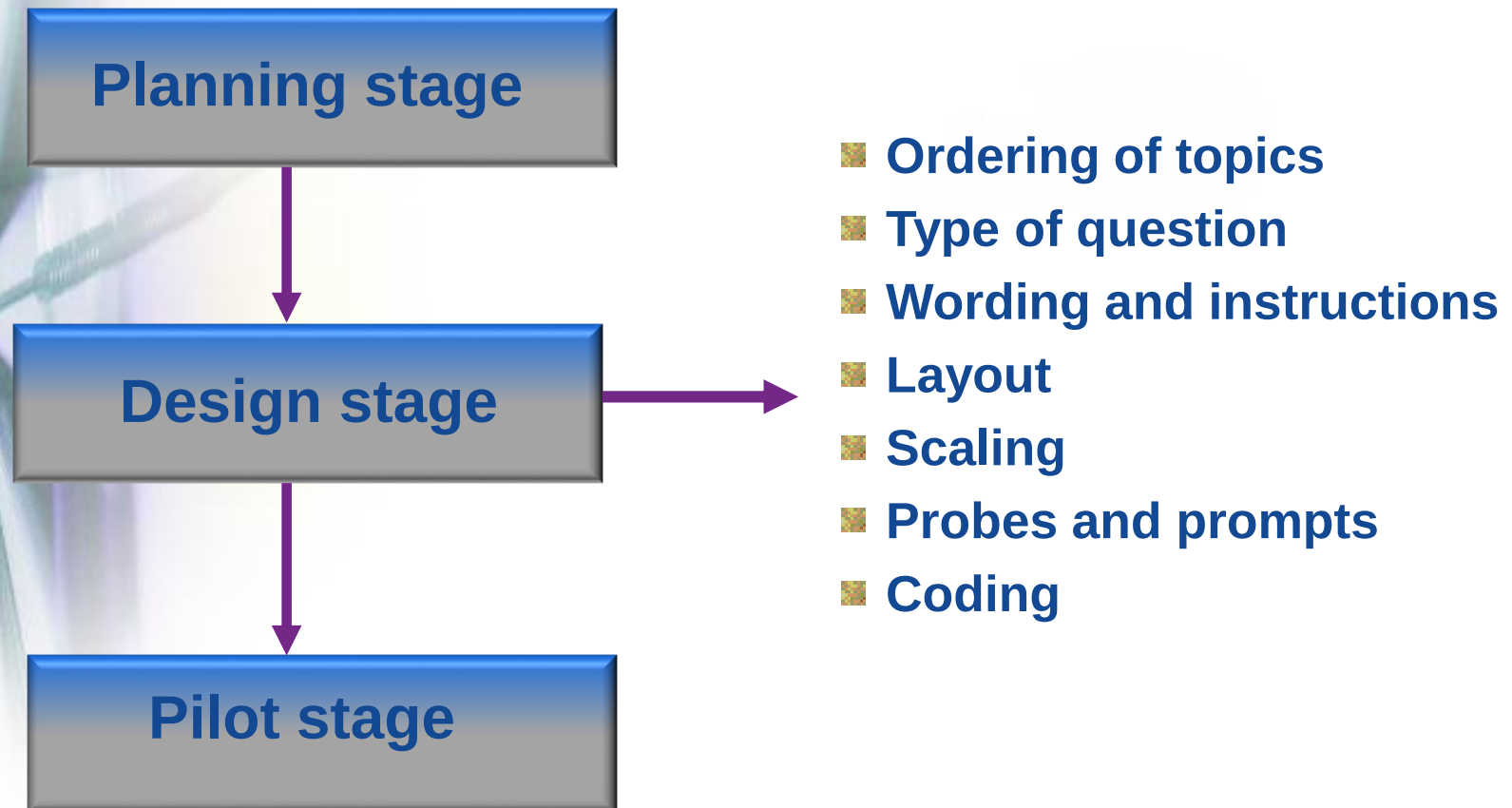
Stages in the Development of a Questionnaire



Stages in the Development of a Questionnaire



Stages in the Development of a Questionnaire



Is this a
well
designed
survey?

1. How many times have you used Adobe Acrobat during the last calendar year?

2. When typing a letter a I typically use:

- ☐ Word
- ☐ Adobe Acrobat
- ☐ Photoshop
- ☐ A word processor

3. The Mac operating system rarely gets infected by viruses and therefore Department of Education should only purchase Mac computers.

- ☐ Yes ☐ No

4. Which of the following Federal programs do you feel are the most effective in assisting students to succeed? (choose only one)

- ☐ NCLB ☐ SES ☐ ME ☐ FSS ☐ EETT
☐ ESLL

5. How do you feel about the instructor(s) of this course?

6. Which of the following is not an example of a non-example of a research method?

- ☐ Surveys ☐ Wikipedia ☐ Podcasts ☐ Slideshows

7. Which of the following are types of questions that can be used in surveys?

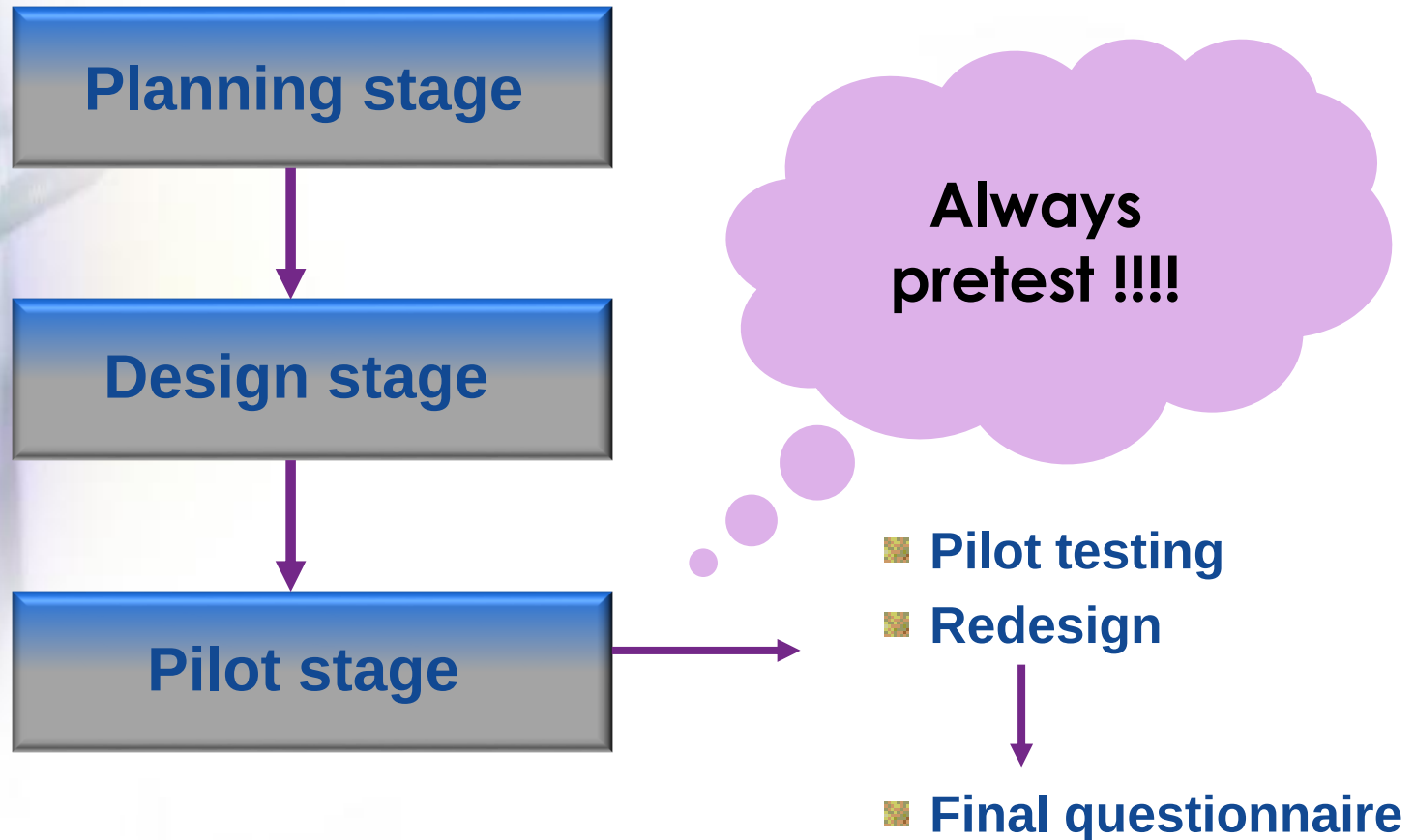
- ☐ Choice - One Answer (Vertical)
- ☐ Choice - One Answer (Horizontal)
- ☐ Choice - One Answer (Menu)
- ☐ Choice - Multiple Answers (Vertical)
- ☐ Choice - Multiple Answers (Horizontal)
- ☐ Matrix - One Answer per Row (Rating Scale)
- ☐ Matrix - Multiple Answers per Row
- ☐ Matrix - Multiple Answers per Row (Menus)
- ☐ Open Ended - One Line w/Prompt
- ☐ Open Ended - One or More Lines w/Prompt
- ☐ Open Ended - Essay
- ☐ Open Ended - Constant Sum
- ☐ Open Ended - Date and/or Time
- ☐ Presentation - Descriptive Text
- ☐ Presentation - Image
- ☐ Presentation - Spacer

Important Issues

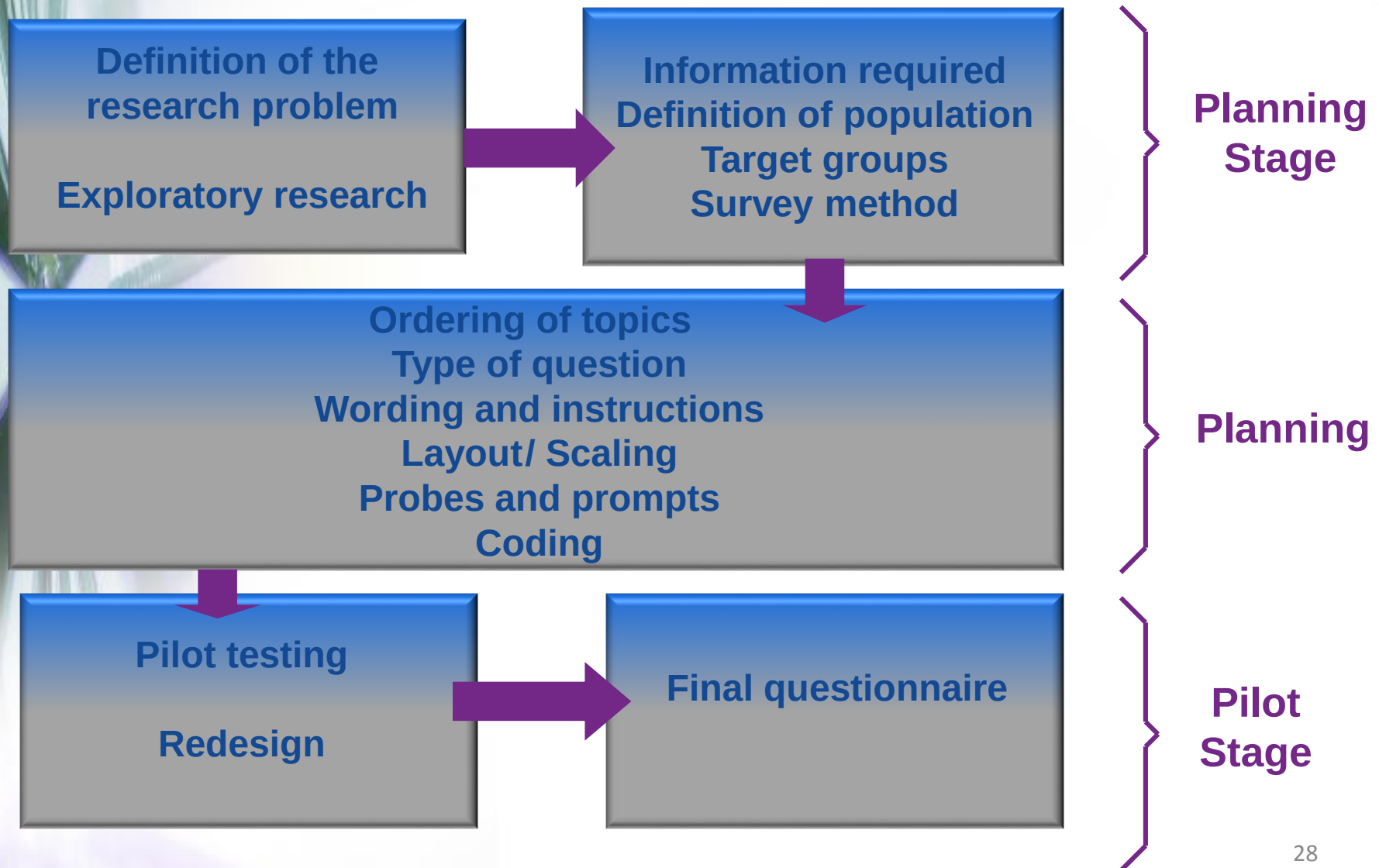
- Are the response options clear and complete?
- How many response categories are required?
- How do the response options link with the planned analysis? (Will you get what you need?)
- Is the question necessary?
- Several questions or just one?
- Can respondents answer the question?
- *Will* respondents answer the question?
- Is the question clear and unbiased?



Stages in the Development of a Questionnaire



Stages in the Development of a Questionnaire



Evaluating & Testing the Questionnaire

Is the questionnaire a 'good' questionnaire?

- Will it collect the data necessary to address the research objectives?
- Is the way in which the data is collected suitable for the planned method(s) of data analysis?



- Testing ...DOES IT WORK????



Summary

- Research can be exploratory, descriptive or casual
- Research can be primary or secondary in nature
- The research approach can be quantitative or qualitative
- Qualitative research uses small samples and probes deeply
- Quantitative research uses large samples, is more generalisable but often cannot answer 'why' questions easily