

# Applied Techniques in Occupational Psychology



# Which techniques do we apply in Occupational Psychology?

- Observational Approach
- Critical Incident Approach
- Repertory Grids Approach
- Q – Methodology Approach
- Appreciative Enquiry Approach
- Psychometric Testing Approach



Has anyone ever done an observational study before?



# What is Observational Research?



# What is Observation?

*'the systematic description of events, behaviours and artefacts in the social setting chosen for study'*

Marshall & Rossman (1989)

- Scientific observation strives to go beyond subjective experience by being systematic and open about the procedures used in conducting the observation. Clear attempts are also made to reduce bias where possible.

# Why do you think Occupational Psychologists use observation methods?



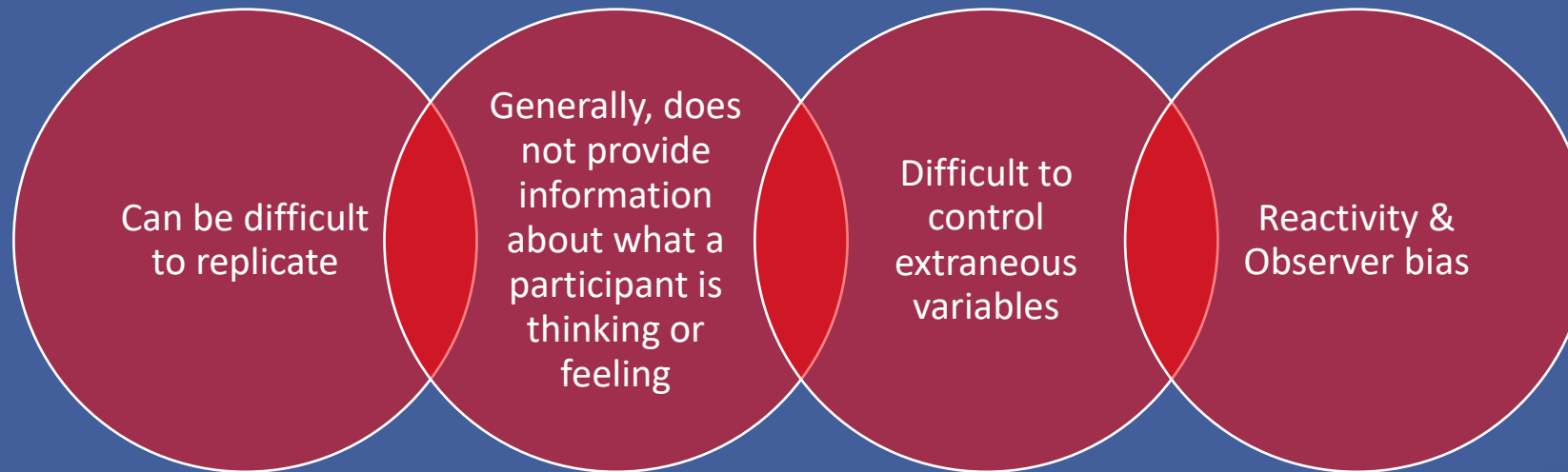
# Advantages of Observation

Can see how participants actually behave rather than how they say they behave

Can provide a way of studying naturally occurring behaviour when experimental manipulation would be unethical

A useful starting point for new hypothesis & theory

# Disadvantages of Observation





# Questions to ask when considering an observational method

What groups / situations would be relevant?

Is it actually possible & feasible to observe them?

What could you find out by using an observational method?

# Naturalistic vs Artificial

- Observations can be conducted in real-world context (natural environments). This can give a good indication of how behaviour operates in the real world. However, can be very difficult to replicate, can be difficult to experimentally control for all variables.
- Observations can also be conducted in a psychology lab. Here, variables can be manipulated experimentally & can be designed in a way that can be easily replicated. However, the behaviour in a laboratory environment might not be a true reflection of what would happen in the real world.





Controlled Experiment vs  
Observational Study  
with Rebecca Berger

# Direct Observation

Observation with/without  
Intervention



# Observation **WITH** Intervention

- The observer interacts directly in some way with the participants / situation under observation.



# Observation **WITHOUT** Intervention

- Observation without intervention is a naturalistic observation.
- The aim is to describe behaviour as it normally occurs & to examine relationships between naturally occurring variables.
- Has high external validity.
- Very useful for exploring situations/behaviour where experimental manipulation would be illegal / unethical.

# Indirect Observation



# Physical Trace

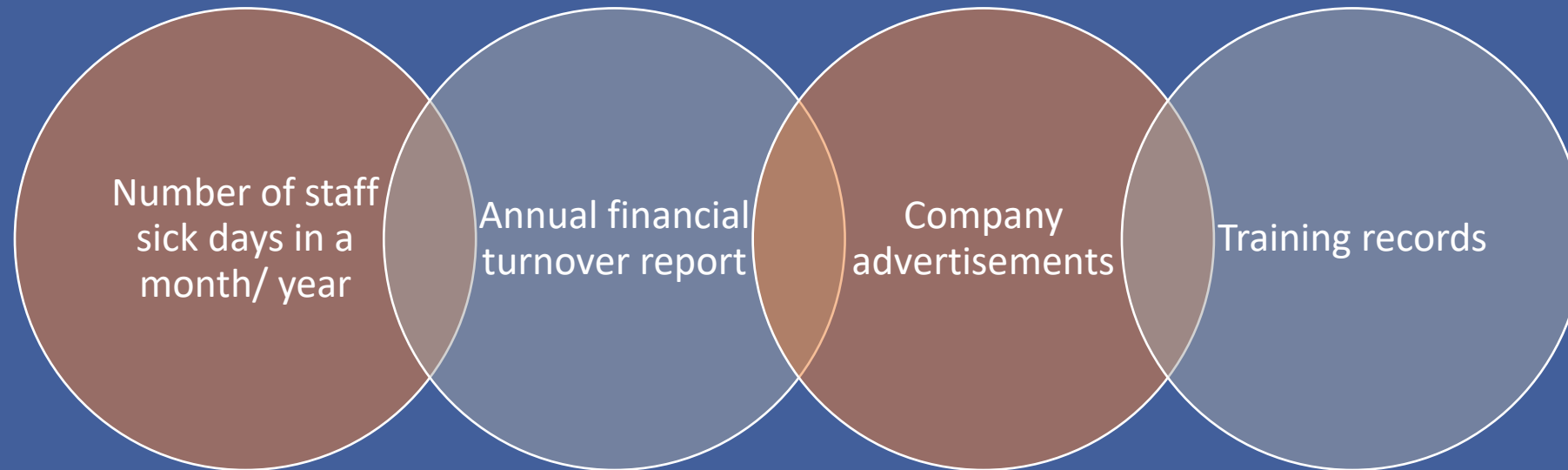
- Physical trace observation uses remnants of a person's past behaviour as a proxy observation.
- Physical trace measures are obtained indirectly—people are not present when the data are collected.
- Use traces: Indicators that an item has been used or not used.
- Use traces: Evidence that remains from the use or non use of an item.

Example: beverage containers in campus recycling bins (soda, juice, water) What do these containers tell us about the health habits of college students?





# Archival Records



- Archival records are pre-existing documents that describe the activities of people at a particular time point or period.

# Time Sampling

- Time sampling occurs when the researcher decides to record behaviour at particular time intervals e.g. every 5 minutes.
- The researcher then records what behaviour was occurring at that time.
- Depending upon the time interval used, the researcher can be free to conduct other activities between time intervals e.g. taking notes, asking questions



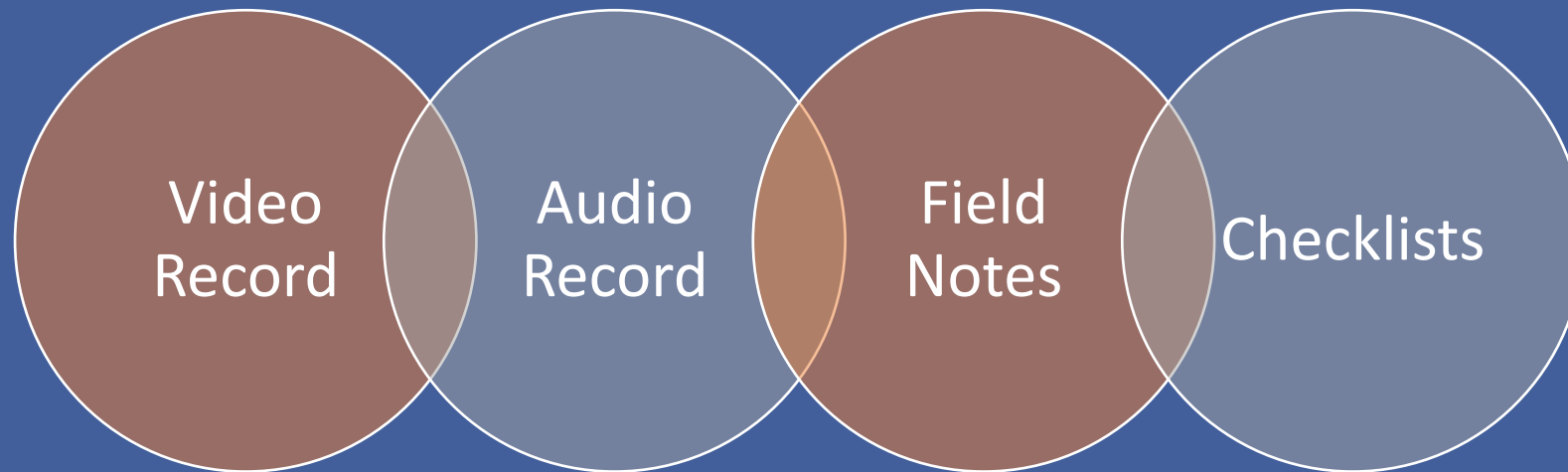
# Event Sampling

- Event sampling occurs when the researcher records every time a particular predetermined behaviour or event happens.





# Recording Data



# Pros & Cons

Video  
Recording

vs

Checklists

# Reactivity – Observer Bias

- Reactivity is a phenomenon where individuals alter their behaviour because they are aware that they are being observed.
- The change in behaviour can be positive or negative. Individuals may choose to act in a socially desirable way, trying to predict what the researcher wants etc.
- The researcher can also subtly affect the participants into behaving the way they expect.
- Can be a threat to the validity of the observation.



# An Occupational Example: The Hawthorne Effect Studies

- The Hawthorne studies were conducted in the 1920's at a large factory of the Western Electric Company.
- The studies were originally designed to assess the effect of illumination levels on employee productivity.
- One group of workers were subjected to variations in illumination levels whilst another was not (control group)







# The Hawthorne Effect Studies

- Over the course of the study, productivity in BOTH groups gradually increased.
- It was only during exceptionally low level lighting that the experimental group's productivity started to decline.
- This results suggested that something other than illumination was affecting productivity levels.
- Intrigued, the researchers conducted follow up studies...



# The Hawthorne Effect Studies

- Over a period of a year, the experimenters made changes to working hours, the length of the working week, the length of work breaks etc.
- Productivity increased after every change and persisted long after the conditions returned to their previous state.



# The Hawthorne Effect Studies

- Having investigated various alternatives, the researchers concluded that the participant's behaviour was affected simply by the fact that they were being observed.
- The researchers suggested that a factor such as increased interest in their work, feeling special, guessing what the researchers wanted may be responsible for their change in behaviour.



What is  
Critical  
Incident in  
psychology?



# What is Critical Incident?

*'consists of a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles.'*

Flanagan (1954)

- This research method in which the research participant is asked to recall and describe a time when a behavior, action, or occurrence impacted (either positively or negatively) a specified outcome (for example, the accomplishment of a given task).



- This method helps to define the competencies and Knowledge, Skills, Abilities and other attributes (KSAO) required for a task or set of tasks that entails a job. The observer not only looks at the hard skills used but also the mental abilities that are required by the job incumbent.
- In fact, it is an ideal tool to compile job descriptions and job specifications because it helps to identify critical human behaviors, skills used, incidents that occur on the job.
- Also used as a performance appraisal tool in which analyses the behavior of employee in certain events in which either he performed very well and the ones in which he could have done better.
- Is quite subjective in nature as compared to other methods which may be very objective and would require just ratings out of 5/10 etc.



# Advantages of Critical Incident Techniques

- Quickly uncovers system issues.
- Captures incidents over a long timeframe
- Captures information about rare or uncommon incidents.
- Emphasis on more-important issues rather than less-important issues.
- Flexible





# Disadvantages of Critical Incident Techniques

- Relies on memory and pure recall.
- Doesn't represent typical usage.



# Example

The participant is asked:	Type of question
<i>Tell me about a time where you used the tool in your job.</i>	<b>Example question:</b> the participant is asked to provide an example; there is no direction from the researcher as to what kind of example. The answer could be anything that happened to come to the participant's mind.
<i>Tell me about the last time you used the tool in your job.</i>	<b>Specific example question:</b> The participant is asked to describe the most recent time. This is not necessarily a critical incident, just the most recent.
<i>Tell me about a particular time when you used the tool in your job where it helped you to be effective in your work.</i>	<b>Critical incident question:</b> the participant is asked to think of a specific incident that was critical to the accomplishment of a task.

What are  
Repertory  
Grids in  
psychology?



# What is a Repertory Grid?

- The Repertory Grid is an instrument designed to capture the ways in which people give meaning to their experiences in their own terms.
- The repertory grid is largely based upon Kelly's Personal Construct Theory.
- According to psychologist George Kelly, personality is composed of the various mental constructs through which each person views reality. Kelly believed that each person was much like a scientist. Just like scientists, we want to understand the world around us, make predictions about what will happen next, and create theories to explain events.

## Further Reading:

<https://www.aippc.it/wp-content/uploads/2019/04/2017.01.003.025.pdf>



# Activity















- How are two of these similar and the third one different?
- Apples & Bananas are more fleshy
- Oranges are more juicy











# Rep Grid Example: FRUIT

## RATINGS GRID

											
	apple	banana	orange	grape	strawberry	lime	plum	lemon	watermelon	peach	
1											5
juicy											fleshy

# Rep Grid Example: FRUIT

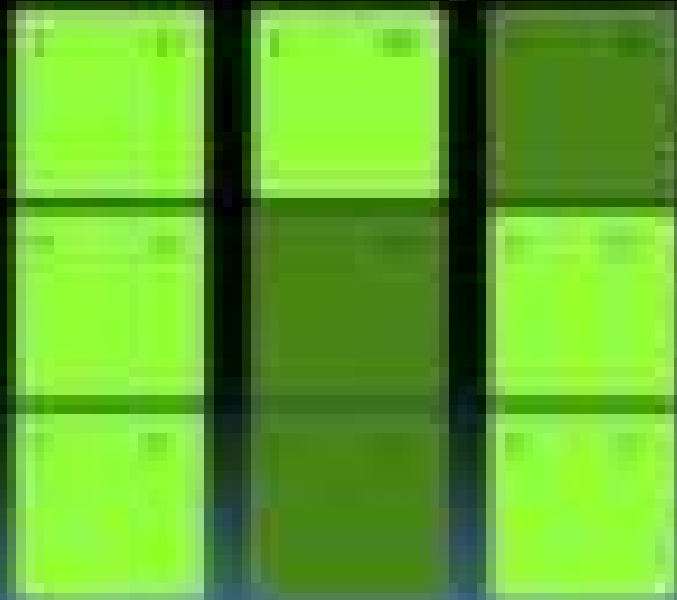
## RATINGS GRID

											
	apple	banana	orange	grape	strawberry	lime	plum	lemon	watermelon	peach	
1											5
juicy	3	5	1	4	5	1	4	1	3	4	fleshy



# Repertory Grid Analysis

The assessment of multiple constructs being placed on the assessment.



The question is  
How many of  
constructs  
are used  
with each of  
the responses?

How many  
of responses  
are used  
with each  
of the  
constructs?

# Personal Construct Psychology

- The world that we live in is physically the same for everyone but we all tend to experience it differently.
- People develop personal constructs and use these constructs to help them make sense of their observations or experiences.
- Think, have you ever witnessed the same event as someone else but recalled it completely differently later?



# An example...

- You and your friend are having a picnic in the park.
- A person walks past with a dog.
- You think that the dog is really cute, playful and would love to pet it.
- Your friend is nervous & on edge, they see an aggressive, threatening animal that they want to avoid.



# Advantages of Repertory Grids

- The technique allows participants to articulate their experiences in their own words, yet, due to its systematic nature, enables the researcher to probe participants' responses.
- The data obtained from repertory grids is both rich enough to enable a thorough examination of the content of each individual's construct system, yet sufficiently parsimonious to allow rigorous content analysis that can be checked for reliability.



# Disadvantages of Repertory Grids

- It is time-consuming; each interview will take up to an hour.
- It can appear rather artificial, and senior managers in particular may be skeptical about its value, and hence rather unwilling to give time to it.
- There are many variations of design and it can be difficult to select the right one.
- The analysis process can be overwhelming.



# Repertory Grids applied to the workplace

- Imagine an employer has asked you to help identify the characteristics of good and not so good performers in a team.
- You could ask the line manager/s to write the names of people who conduct a similar job onto separate cards.
- The supervisor separates the cards into two piles; one for 'good' workers and another for 'less good' workers.
- The supervisor is asked to take two cards from the 'good' pile & one from the 'less good' & describes how the two 'good' employees are similar and how they are different to the 'less good' employee



# Repertory Grids applied to the workplace

- The next step involves laddering . This is where you might need to probe for more specific information. So if the supervisor says 'motivation', you might want to ask follow up questions such as how do you know when this person is highly motivated? What behaviours indicate a highly motivated person.
- Once laddering is complete, you continue the exercise until the supervisor runs out of constructs.
- You then get them to rate each employee (perhaps using a 5 point scale) on each of the identified constructs.
- The collected data could then be analysed to identify the key factors that distinguish a good employee. These could be used to develop training needs, recruitment & selection criteria etc.



What is the  
Q-Methodology  
in psychology?





# What is the Q – Methodology?

- Q methodology is a research method that is used to study people's subjectivity (their viewpoint).
- Developed by William Stephenson in the 1930's
- Involves asking participants to sort cards containing various statements about a particular topic into a meaningful order.



# An example...

- Which factors are most influential in your decision to use the university library?
- Let's see this sample study.....



# Sample Q Method Process: Participant A



# Collecting the *Concourse*

- In Q methodology, the discourse around a particular topic is called the 'concourse'.
- Represents the collection of all possible statements that could be made about the topic under consideration.
- The gathered material represents existing opinions and arguments, things what people, politicians, representative organisations, professionals, scientists have to say about the topic; this is the raw material for a Q.
- Concourse can be obtained from primary or secondary sources.



# Primary Sources of Concourse



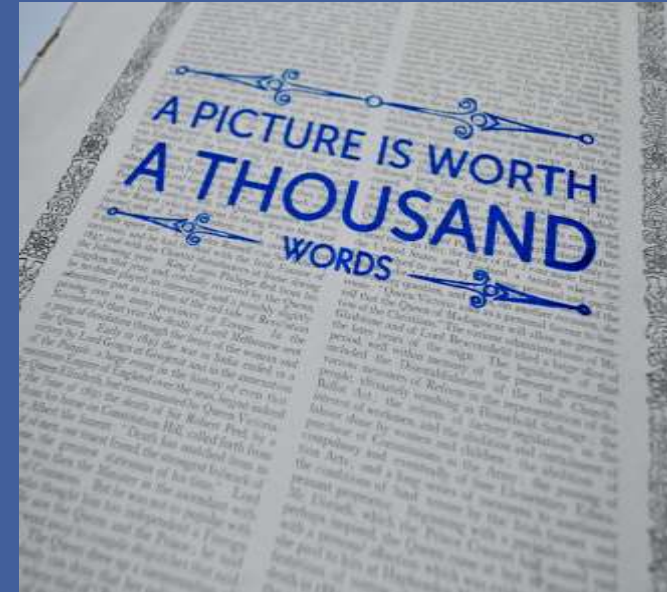
# Secondary sources of Concourse

Academic  
literature

Newspaper  
articles

Novels

- The concourse is not restricted to just words.
- The concourse can include pictures, objects etc.
- Use whichever materials you feel are most appropriate to the topic under consideration.



What is  
Appreciative  
Inquiry  
in  
psychology?



# What is Appreciative Inquiry?

- Developed by Dr David Cooperrider in the late 1980's .
- Is an organisational development process (or philosophy) that engages individuals within an organisation to play an active role in redesigning, improving, changing and developing organisational systems.
- At its heart it makes a key assumption – every organisation has something that works right. Things that give it life, energy, success, effectiveness.
- The focus of AI is therefore to build around what works rather than trying to fix what doesn't.



# Appreciative Inquiry

Asset Based

Look at what we've got!!

Look at what we're missing!!

Deficit Focused

© J. Logan 2012



# Back to Definition...

- Appreciative Inquiry is a cyclical process.
- The group can continuously go through the process, building upon even more successes and identifying further ways in which they could grow and develop positively.



# Questions

- Questions have power and every question has a direction.
- Where the question leads, often depends on subtle assumptions.



# Negative Questions

- Questions can be damaging.
- *Who made such a stupid decision?* Seeks to assign blame
- *Why bother investing in that team?* Reinforces a negative perception & deprives a team of support
- *Why can't you ever do anything right?* Can damage a person's self-esteem and create an identity of incompetence.



# Positive Questions

- Questions can also be inspirational and motivating.
- *How did you learn to do that job so well?* Recognises the person's skill & also shares knowledge that could help you improve.
- *How can we support and learn from the rest of our organisation?* Assumes that something can be learned & creates an environment of relationship building.
- *How can we get this done now and how can I help?* Infers confidence that the task can be done and builds support & momentum.



# Appreciative Inquiry Questioning

- Appreciative inquiry sees to ask positive questions around constructive topics.



# Designing AI Questions

Ask about the ultimate concerns (What outcomes do people value most?)

Use positive questions that build on positive assumptions.

Use thought provoking or appealing definitions of the topics under consideration

Present questions as an invitation to respond, using positive & expressive words

Ask open ended questions in a friendly, conversational tone



# Example questions you could use in an organisational setting

- What are the key traits that gives vitality and life to your organization?
- What were the most important factors in your organization that helped to make it a successful experience (e.g. leadership qualities, structure, rewards, systems, skills, strategy, relationships)?
- When you are feeling best about your work, what do you value about the task itself?
- Can you think of a time when there was an extraordinary display of cooperation between diverse individuals or groups at your organization?



# When could you use Appreciative Inquiry?





What is  
Psychometric  
Testing in  
psychology?

# What is Psychometric Testing?

- Scientific measurement of individual differences (e.g. Personality and intelligence).
- Measures psychological qualities of individuals and use that information to predict future behaviour.



# A Psychometric Test is.....

- Objective – where every observer would produce an identical account.
- Systematic – methodological and consistent approach.
- Standardised – ensuring the conditions are similar for all test takers.



# Types of Tests

- Measures of typical performance
  - Personality
  - Vocational/Occupational Interests
  - Drive, Motivation and Needs
    - Achievement
    - To be with other people
    - Approval from others
    - To avoid failure
- Measures of maximum performance
  - Ability (verbal, numerical, spatial, mechanical reasoning)
  - Aptitude (prediction of performance)
  - Attainment (knowledge and skills)



<https://www.psychometricinstitute.com.au/test-area-instructions.asp?testid=16>







# Learning Outcomes

- To be able to systematically evaluate and select appropriate principles, research findings and techniques for Occupational Psychology interventions.
- To understand the utility and best practices associated with the scientific application of the psychological theories and principles learnt within the workplace context.

*Thank  
you*

