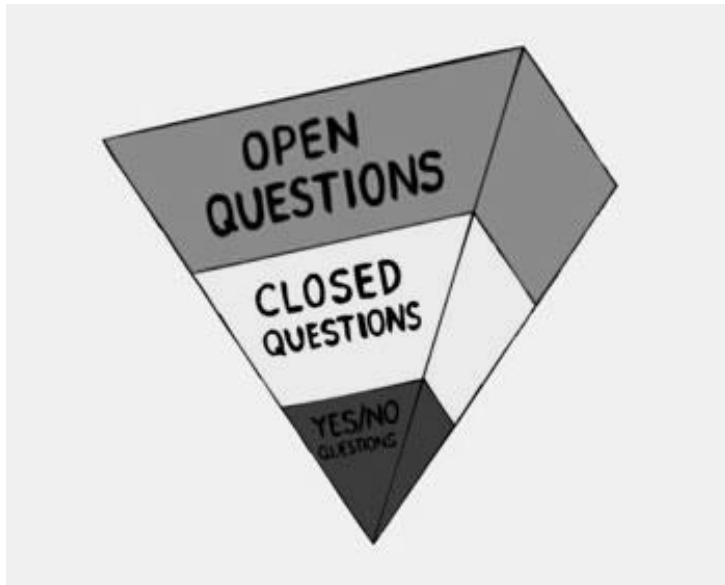
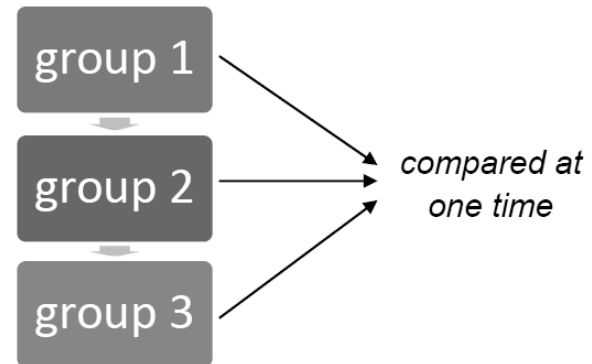


**Using open-ended questions and  
other key survey design decisions**



**Cross-Sectional Research Study:**

*different groups*

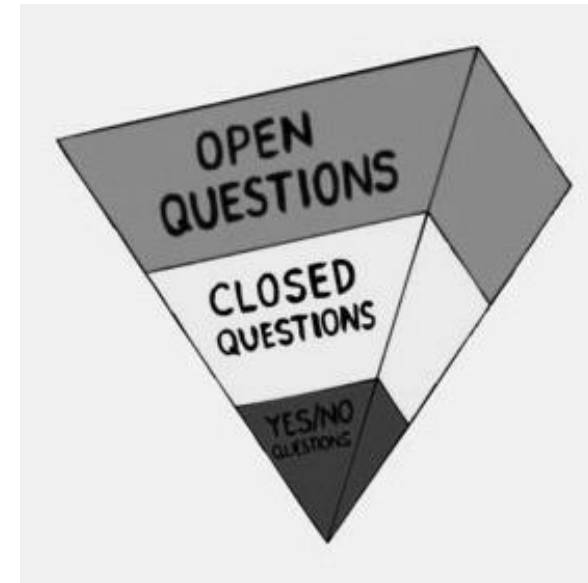


# IMPORTANT SURVEY DESIGN DECISIONS

## Forks in the road

# Open or Closed?

- Surveys use either open- or closed-ended questions.
  - Closed-ended:
    - Choose a [pre-selected](#) response option.
    - Produces [quantitative](#) data.
  - Open-ended:
    - [No pre-determined](#) options, you generate your own response.
    - Produces [qualitative](#) data.



Question Type	Strengths	Weaknesses
Closed-ended	<ul style="list-style-type: none"> <li>• Easy to administer and complete</li> <li>• Easy to process and analyze</li> <li>• Enhance comparability of responses</li> </ul>	<ul style="list-style-type: none"> <li>• Generate limited detail</li> <li>• Sensitive to design errors</li> <li>• Time-consuming to design</li> </ul>
Open-ended	<ul style="list-style-type: none"> <li>• Respondents can answer in their own terms</li> <li>• Limited researcher bias</li> <li>• Useful for exploring areas of limited researcher knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming analysis (<i>coding</i>)</li> <li>• Require greater effort from respondents</li> </ul>

Table adapted from 'Strengths and Weaknesses of Closed- and Open-ended Questions' from *Doing Real Research* by Jensen, E. and Laurie, C. (SAGE, 2014).

# Open or Closed?

- Both types of questions have pros and cons.
- A combination of these question types can improve your survey as both kinds of questions can be used together to support and reinforce each other.

## Closed Ended Question:

How much time do you spend studying?

A) 1- 8 hrs B) 9- 18 hrs C) > 18 hrs

## Open Ended Question:

Tell me about your study habits....

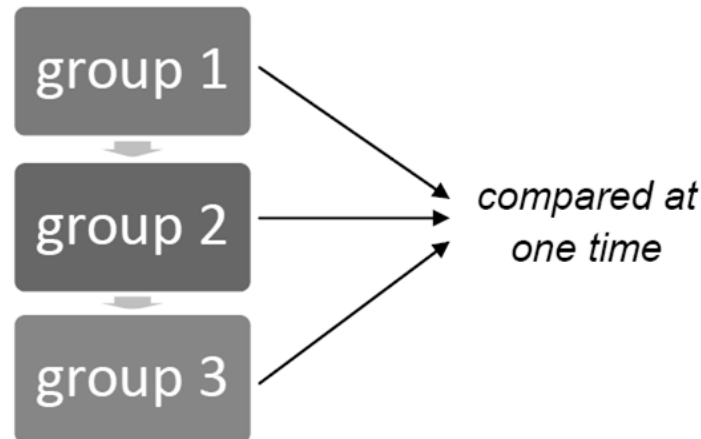
# Open-ended Questions

- Respondents can freely report their experiences and attitudes without the restraint of response categories.
- This question type may be time-consuming and should not be used repeatedly.
- Open-ended survey data can be more of a challenge during data entry and data analysis.

# Cross-sectional or Longitudinal?

- Cross-sectional surveys are done at a single point in time:
  - Most commonly used: simple, low-cost option.

*different groups*



# Cross-sectional or Longitudinal?

- Longitudinal studies use 2+ linked studies measuring change over a period of time:
  - Lapse between studies can be hours, days, weeks or years.
  - Often seen as impractical: time-consuming, costly.



# Self- or Verbally-administered?

- Self-administered survey: respondents read and complete the survey themselves:
  - Usually online, but can be distributed face-to-face.
- Verbally-administered survey: researcher or trained assistants go through the survey with respondents providing their answers verbally or pointing to a chosen category:
  - Over the phone, face-to-face.

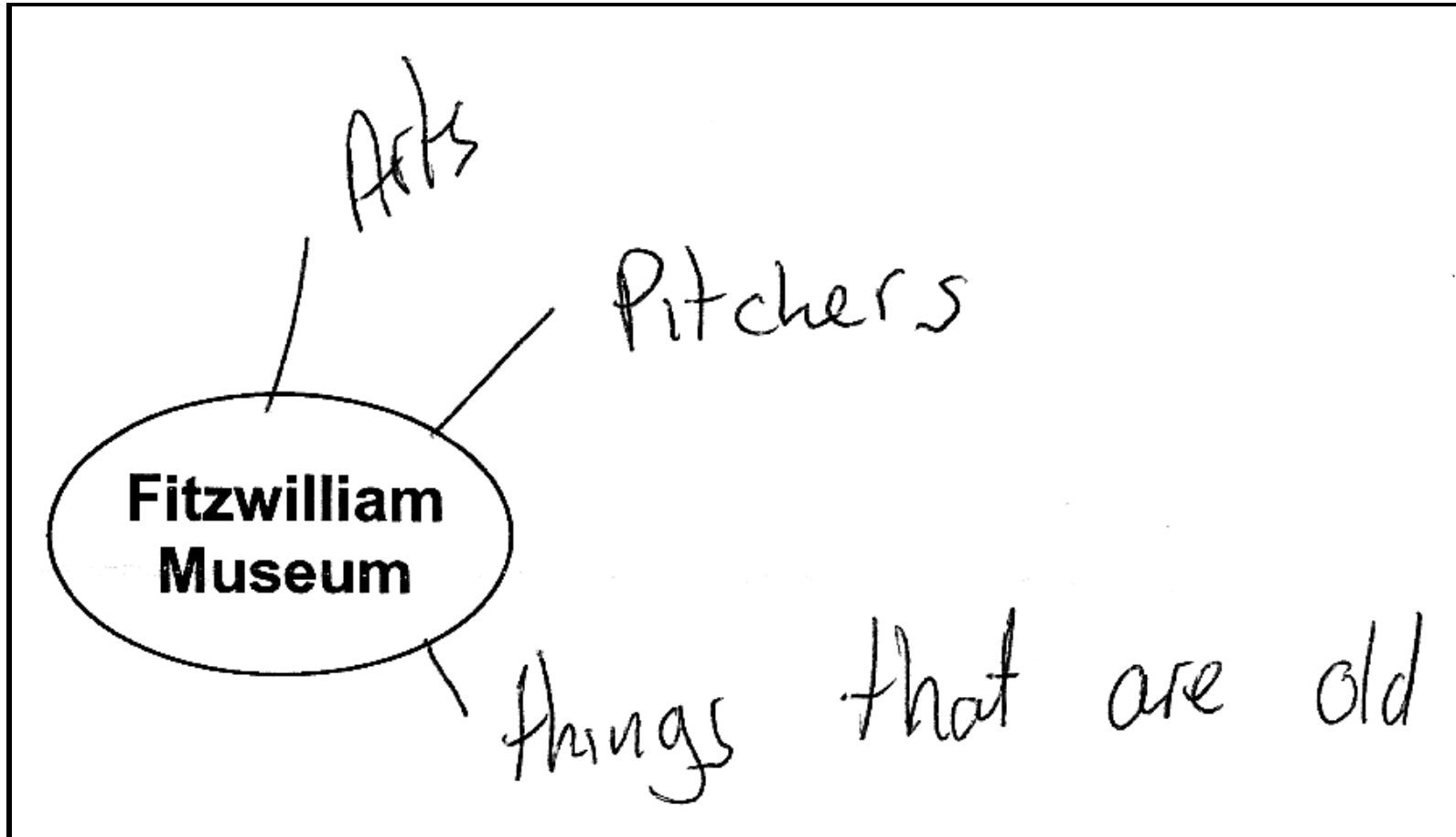
Survey Type	Strengths	Weaknesses
Self-administered	<ul style="list-style-type: none"> <li>•Allows for data collection from multiple individuals in different locations simultaneously.</li> <li>•Can offer respondents full anonymity.</li> <li>•Respondents may be more likely to provide honest answers on sensitive topics.</li> <li>•Allows survey to be completed in the respondents own time (useful for lengthy open-ended questions).</li> <li>•Saves researcher time and resources.</li> </ul>	<ul style="list-style-type: none"> <li>•No opportunity to clarify any unclear phrasing from the survey instructions or questions.</li> <li>•Achieving adequate response rates can be challenging (especially with postal and web surveys).</li> <li>•Can't probe for further details about a respondent's answer</li> <li>•Requires extra up front time investment to refine survey design.</li> </ul>
Verbally-administered	<ul style="list-style-type: none"> <li>•Opportunity to clarify aspects of the survey for respondent.</li> <li>•Easy for respondents to complete (little effort on their part).</li> <li>•Possible to gain further depth by asking 'probe' questions (e.g., "could you tell me more about that?").</li> </ul>	<ul style="list-style-type: none"> <li>•More expensive and time consuming; requires data collectors to conduct.</li> <li>•Risk of misquoting respondents when writing down responses.</li> <li>•If survey is recorded; lengthy transcription process for open-ended questions required.</li> </ul>

'Self-Administered vs. Verbally Administered Surveys' from *Doing Real Research* by Jensen, E. and Laurie, C. (SAGE, 2014).

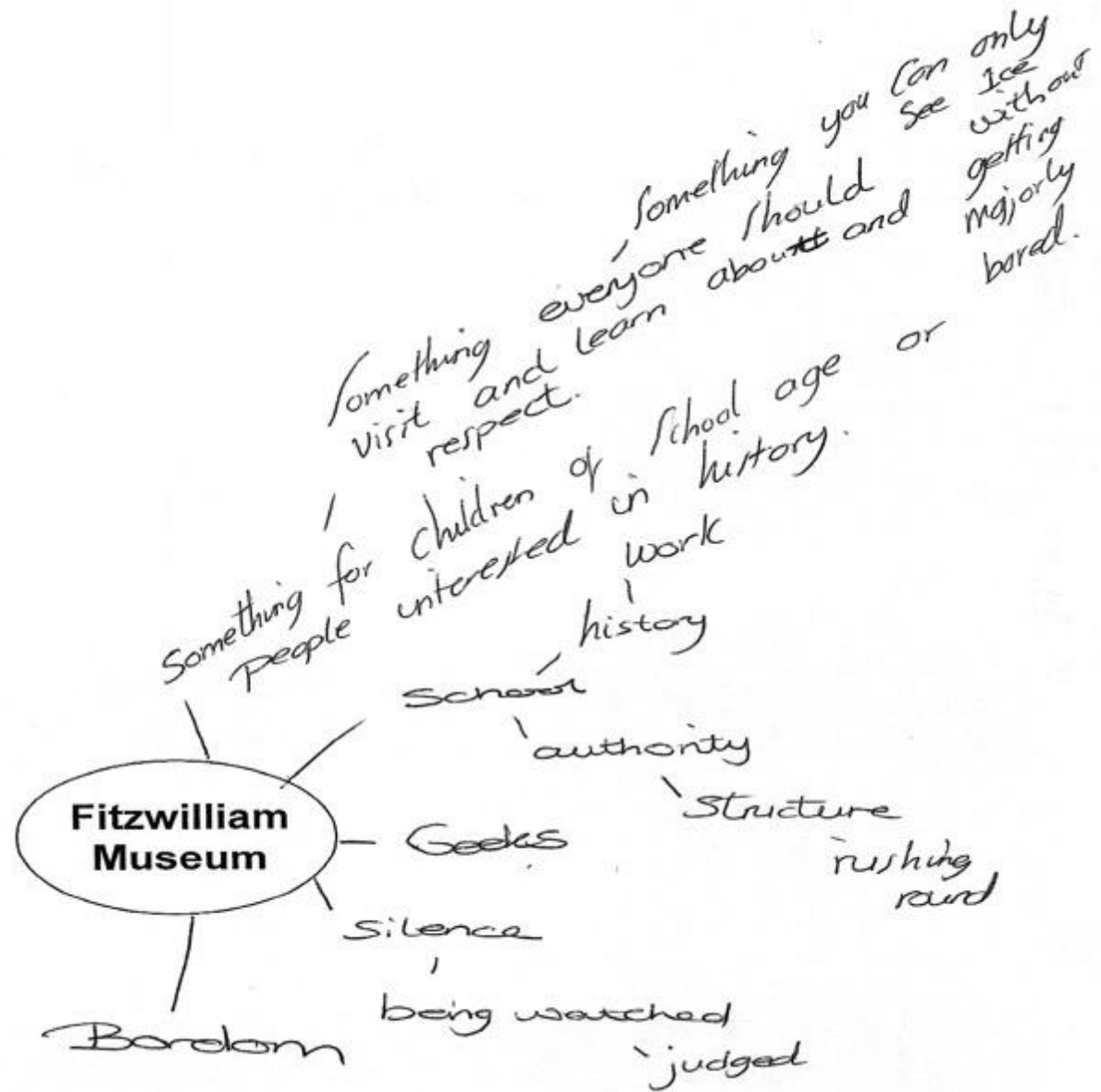
# Options for collecting open-ended survey data

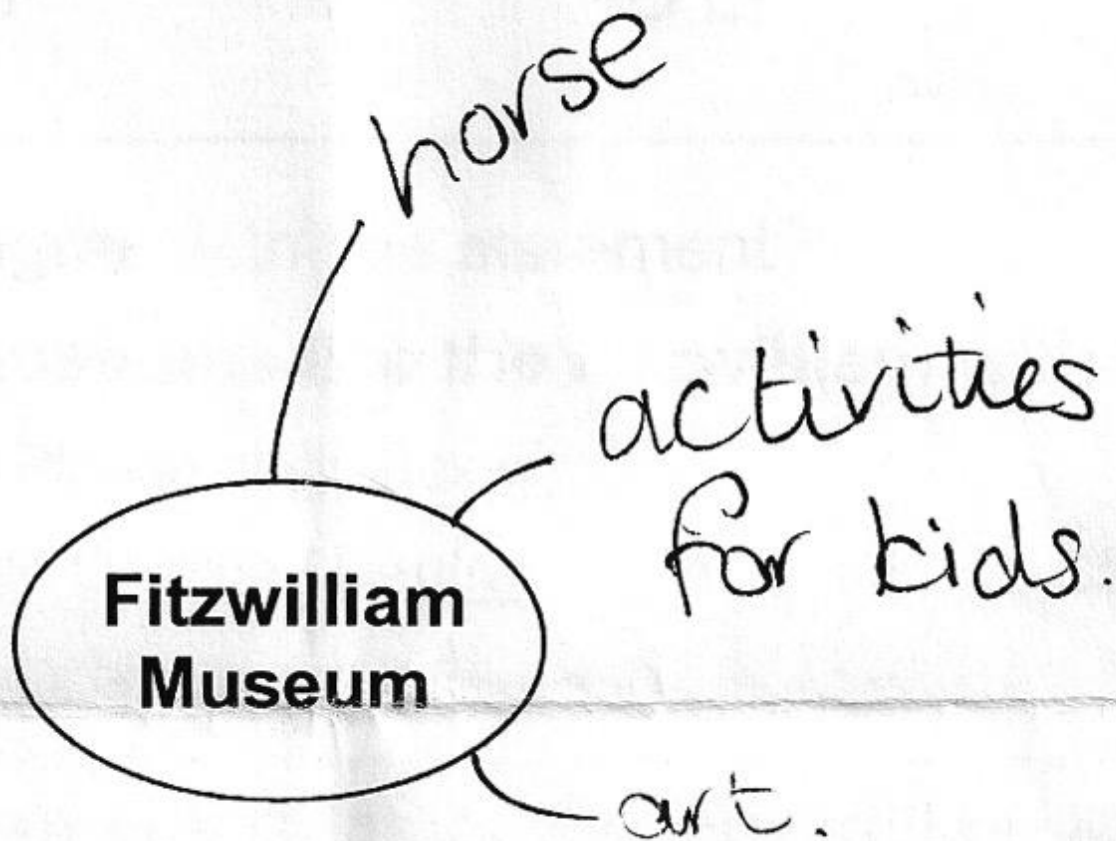


# Pre-visit personal meaning map



# Personal meaning map



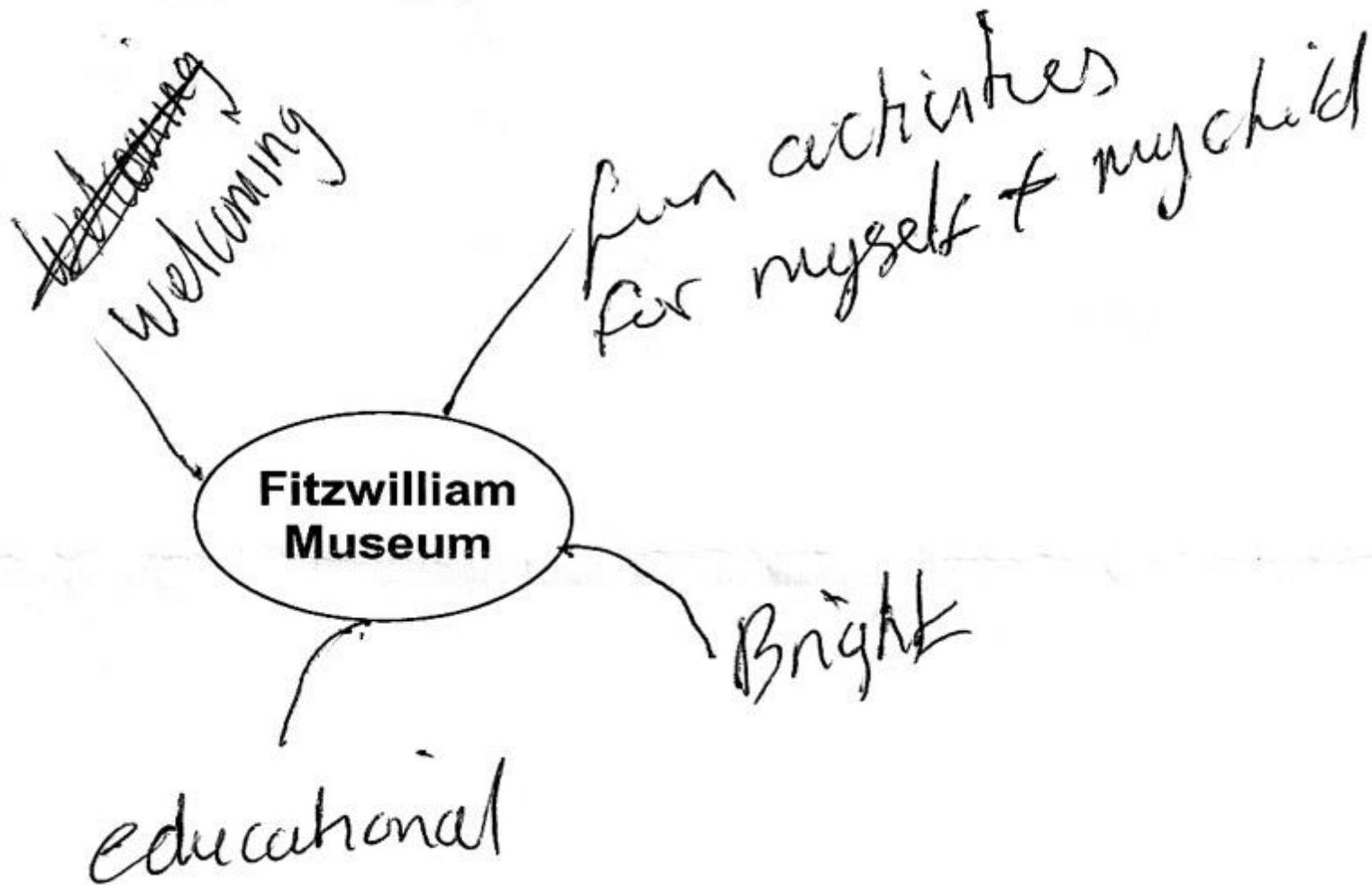


**Fitzwilliam  
Museum**

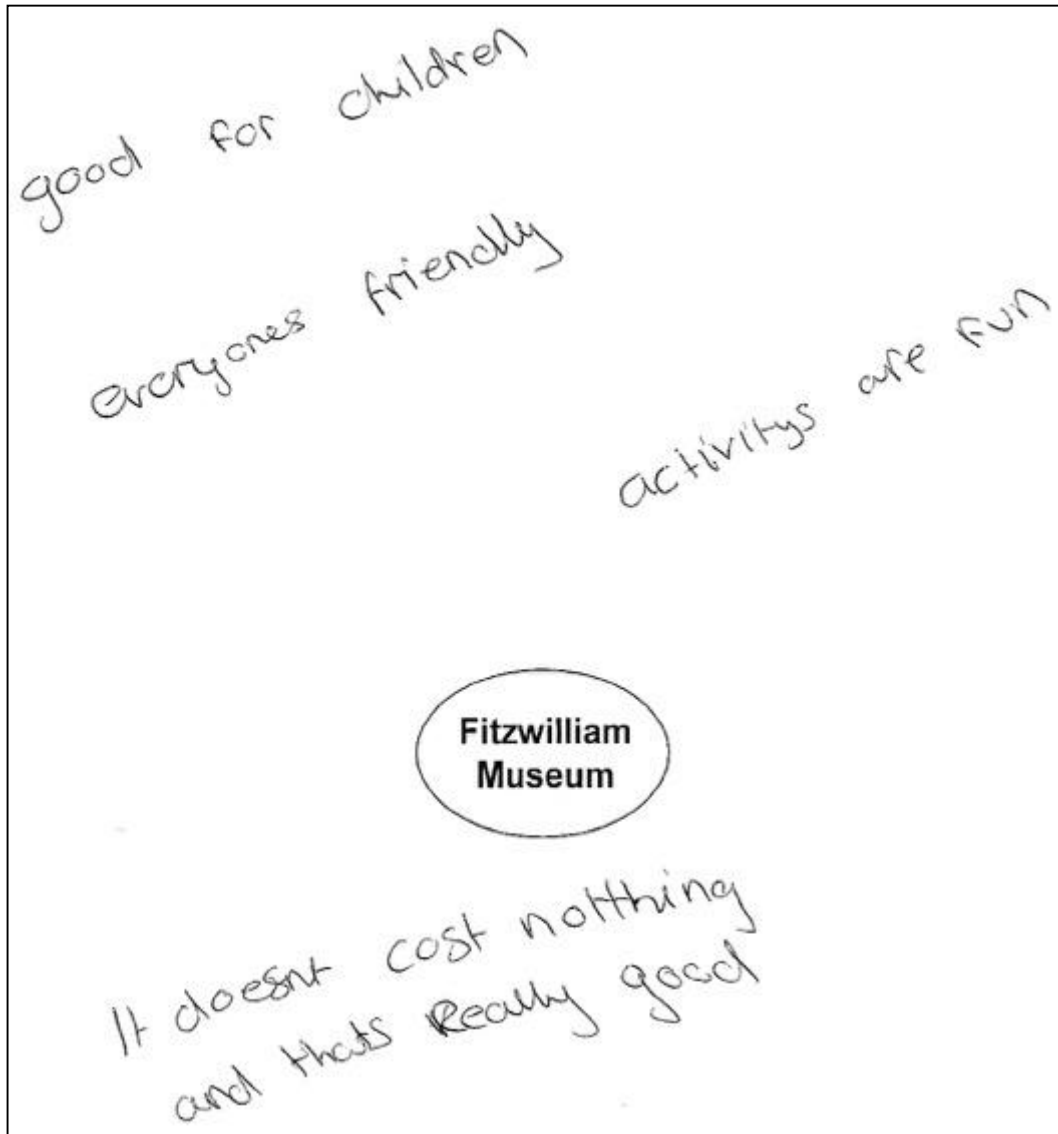
horse

activities  
for kids.

art.



# Post-visit



# Annotated Drawings: Example



# Evaluation questions

1. How and why is learning taking place within the zoo?
2. Are there any differences a zoo visit's impact for pupils attending a tailored educational presentation by zoo staff compared to teacher-only guided visits?

# Pre- and Post – visit forms

## (Repeated Measures Design)

Pre- and post-visit surveys completed the day before the zoo visit and the day after the zoo visit.

### 1. Thought-listing measure:

‘what do you think of when you think of a zoo?’ (x5)

**2. Annotated drawing of ‘favourite wildlife habitat’ with all the plants and animals which live there**



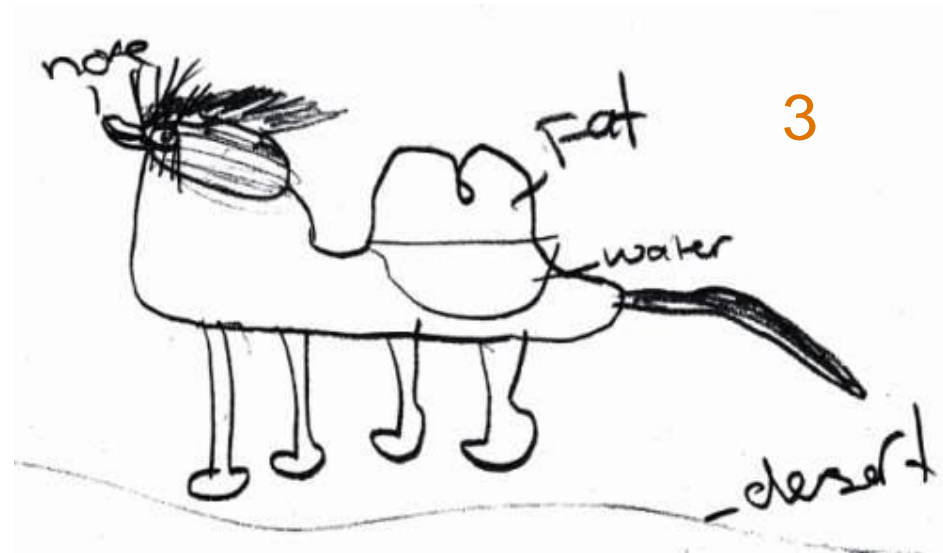
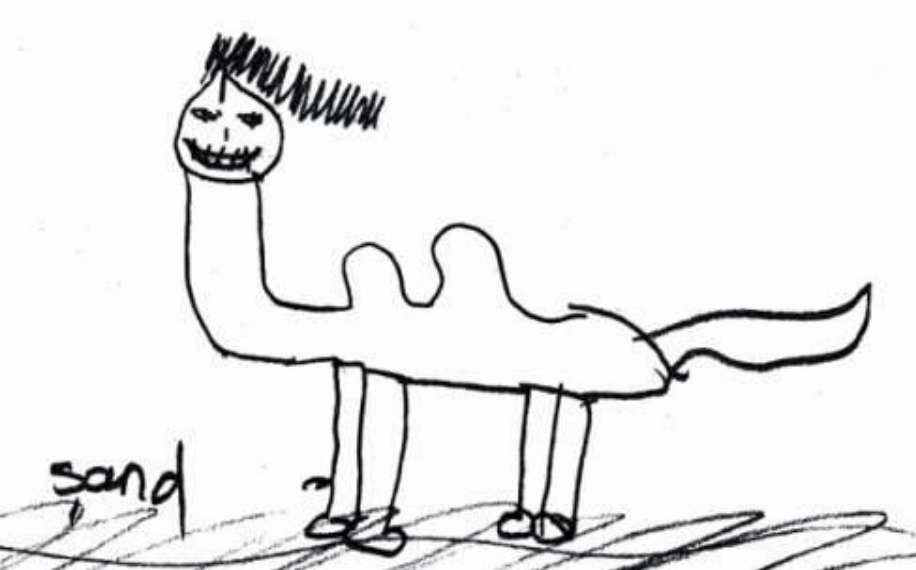
# Annotated Diagrams of favourite habitat

Analysis of all paired forms – scoring on basis of 1-3

1= negative change in accuracy of representation (animals/habitat)

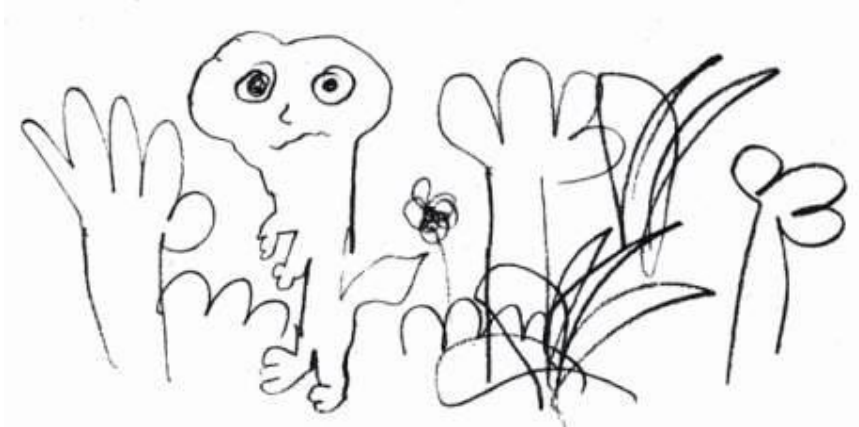
2= no change in accuracy

3 = positive change

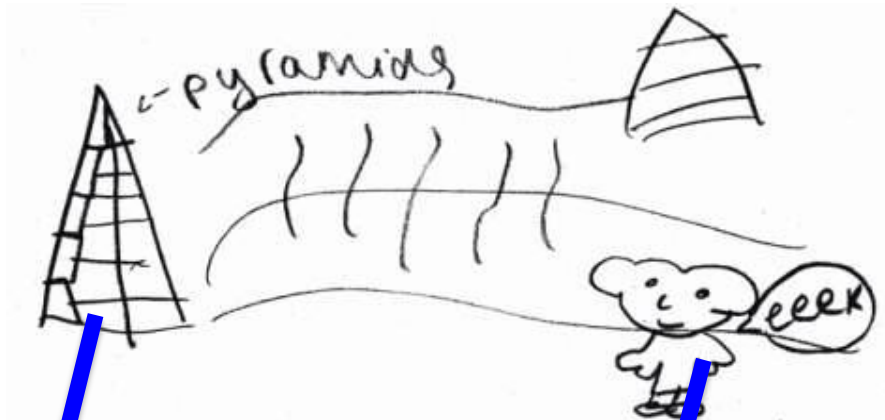


# Deciding what 'counts'

Pre-session



Post-session



Wrong desert  
country

Anthropomorphism

Another example: Using drawings  
to evaluate training impact

# National Marine Aquarium Programme

Annotated drawing analysis showed the following:

- Substantial improvement in understanding of different coral types.

Pre - training



Post-training



- Some increases in learning pertaining to fish knowledge but limited to a minority of cases.
- Limited increase in knowledge pertaining to invertebrates – most notable related to plankton.
- Limited evidence of conservation learning.