



Introductions + Why Surveys?

WARWICK
THE UNIVERSITY OF WARWICK

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My Background

- **Degrees in sociology, communication and psychology (PhD from University of Cambridge).**
- **Research** specialism in developing methods of evaluating informal learning and public engagement impacts.
- **I am a sociology professor at the University of Warwick, where I teach research methods (quantitative and qualitative)**

Professional Background

- ▶ **External evaluation experience across a wide range of settings:**
 - e.g. for National Gallery, Cheltenham Literature Festival, Cambridge Science Festival, Durrell Wildlife Conservation Trust, London Zoo, Natural History Museum, University of Cambridge, National Marine Aquarium, World Association of Zoos and Aquaria, etc.
- ▶ **Forthcoming books:**
 - **‘Doing Real Research’** (SAGE)
 - **‘From Conservation Education to Public Engagement: Research, Principles and Practice’** (Cambridge University Press)
 - **‘Making the Most of Public Engagement Events and Festivals’** (Cambridge University Press)




Introducing quantitative evaluation

Dr Eric Jensen (e.jensen@warwick.ac.uk)



Why Evaluate?

- ▶ *To build* a better understanding of your visiting publics, (e.g. needs, interests, motivations, language).
 - ▶ *To inform* your plans and *to predict* which engagement or learning methods and content will be most effective.
 - ▶ *To know* whether you have achieved your objectives (and why or why not).
 - ▶ *To re-design* your approach to be even more effective in future.
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Are there limits to what evaluation can tell us?

- With right methods and approach, I think it is possible to measure most outcomes that would be of interest.
- Limits therefore are in terms of:
 - Capabilities / methods knowledge and skill
 - Time horizon and available resources



Overview: Current Approaches in Quantitative Evaluation



Current Approaches

- ▶ Visitor Tracking and Timing
 - A dominant method of evaluation in museums
- ▶ Surveys: Feedback and Management Information
 - Usually used to measure:
 - Satisfaction
 - Comments on effectiveness of particular activities
 - Audience profile
- ▶ Surveys: Impact Evaluation
 - Use repeated measures design (gather data from same individuals pre- and post-visit)
 - Carefully avoid sources of bias



Visitor Observation (Tracking and Timing)

On its own, capable of identifying:

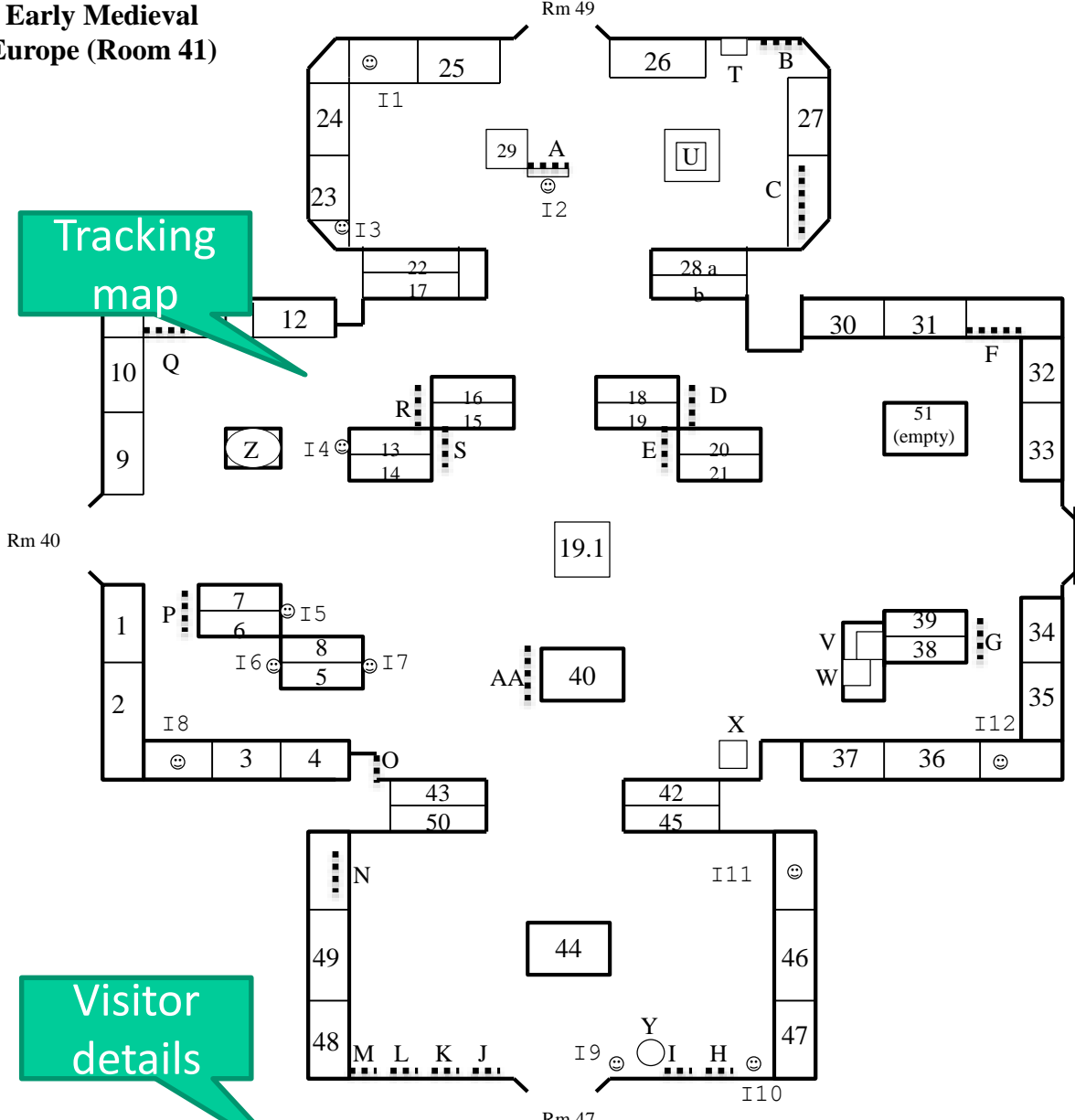
- Visitor Flows to Inform Exhibition Design
- Fundamental Failure of Particular Exhibit / Interpretation / Object to Achieve its Aims



Early Medieval Europe (Room 41)

Tracking map

Visitor details



Refusal to answer

Reason:

Lang. Time Other.....

Walkthroughs

#	D	T	GC	DT	ED

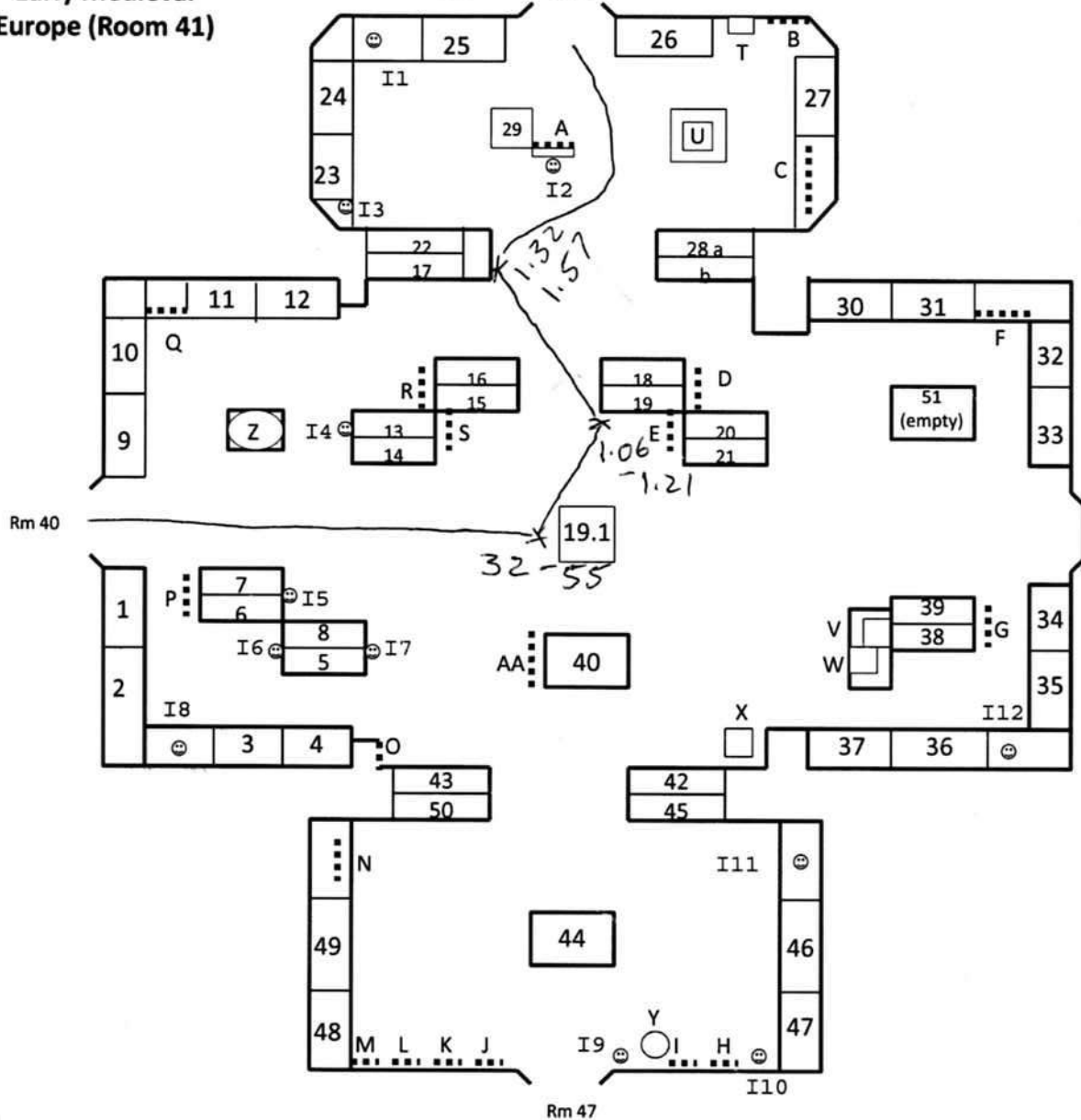
Walkthrough details

- X= Stop
- D= Discussion
- P= Photograph
- A= Audio Tour
- R= Repeat
- B= Browser
- F= Follower
- S= Single
- C= Completist
- D= Door
- T= Time
- GC= Group comp
- DT= Dwell Time
- ED= Exit Door

Viewing Strategy

#	Date	Door	Time	Group Comp.	Dwell Time
Viewing Strat		Notes:			

Early Medieval
Europe (Room 41)



Refusal to answer

Reason:

Lang. Time Other.....

Walkthroughs

#	D	T	GC	DT	ED
1	R40	11.01	2A 1C	41	R49
2	R40	11.03	3A 1I	31	R47

- X= Stop
- D= Door
- P= Photograph
- A= Audio Tour
- R= Repeat
- D= Door
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- ED= Exit Door

Viewing Strategy

- B= Browser
- F= Follower
- S= Single
- C= Completist

Segmentation strategy

- Social
- Intellectual
- Emotional
- Spiritual

#	Date	Door	Time	Group Comp.	Dwell Time
3	17.05.2011	Rm40	11.05	1A:1C	2:36
Viewing Strat		Browser		Segmentation	
		Social		Social	

What is measured in this kind of evaluation?

1. Median dwell time
2. Walkthrough rate
3. Median number of stops
4. Stops
5. Stopping time
6. Specific types of visitor behaviour

Mean add up all the numbers, then divide by how many numbers there

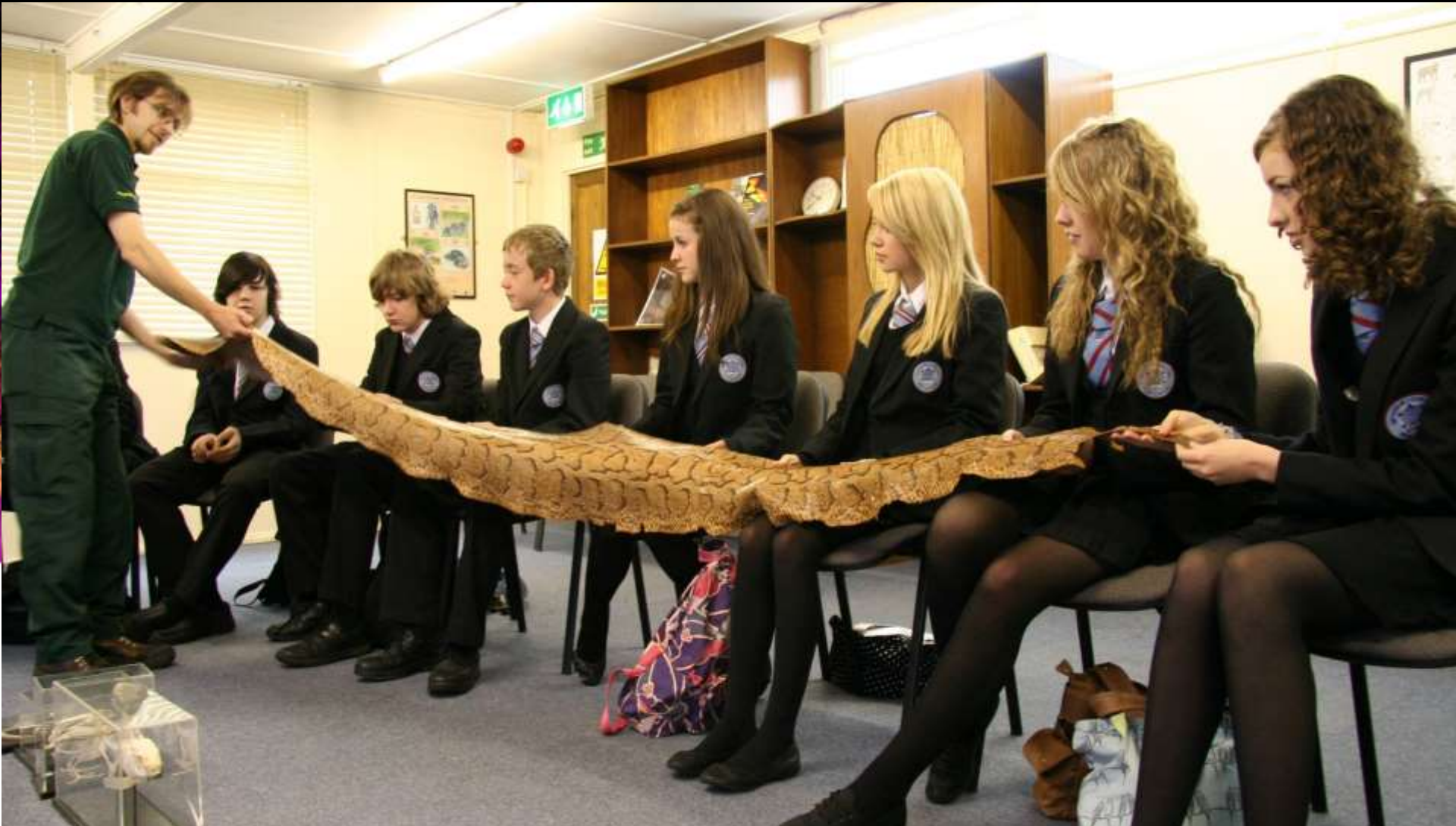
Median the "middle" value in the list of numbers.



Other uses of structured observation for evaluation



Using observational methods to evaluate education practice



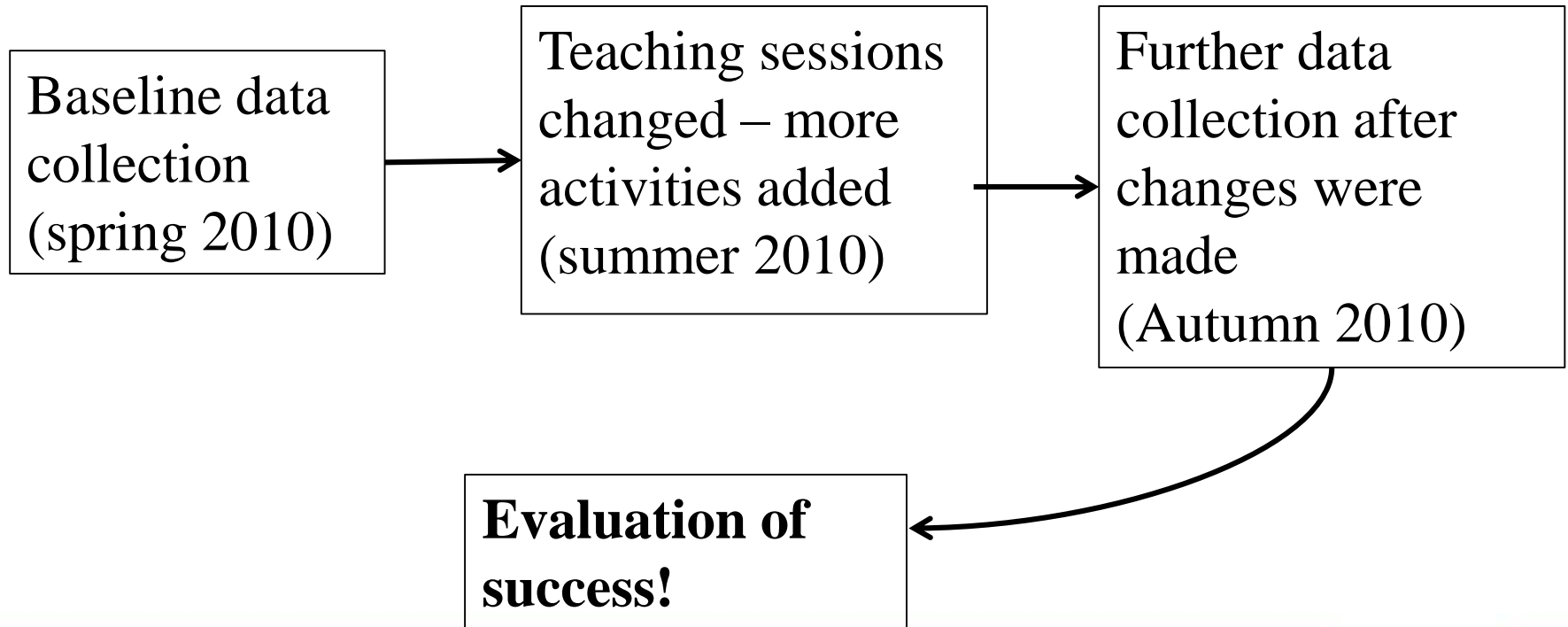
Andy Moss, Conservation Social Scientist, Chester Zoo

Introduction

- Chester Zoo wanted to increase the amount of student-led ‘activity’ in our teaching sessions.
- They wanted to measure the success (or not) of this.



Research Design

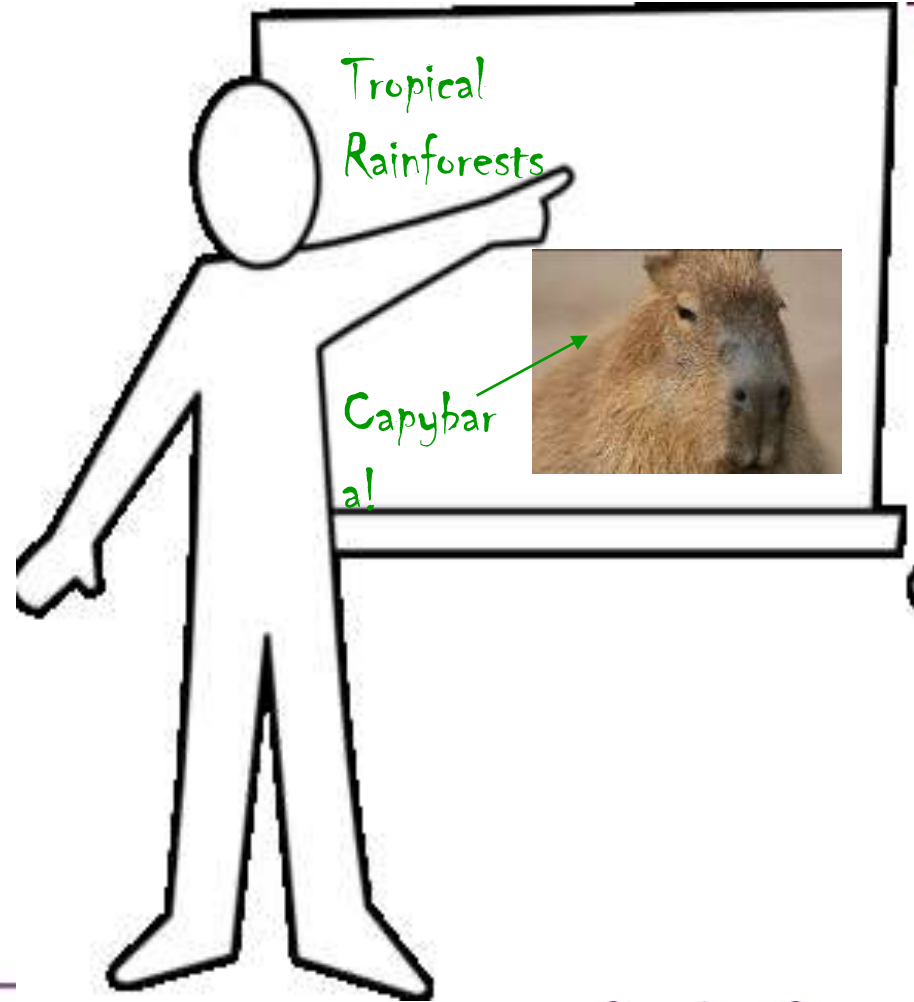


Method

- Range of teaching sessions observed by Andy Moss.
- Each session was divided into 5 main teaching 'components':
 - Chalk and Talk
 - Question and Answer (Q&A)
 - Activity
 - Artefact use (by Education Officer)
 - Animal Encounter

Chalk and talk:

Solely educator-led content, with or without the use of other media (such as photographs or video).



Question and answer:
Educator-led
questioning with one
student (at a time)
answering



Activity:

Either whole class or smaller group investigative activities where all students participate.



Artefact use:

Demonstration by educator in whole-class situations. Does not include artefact use in activity components.



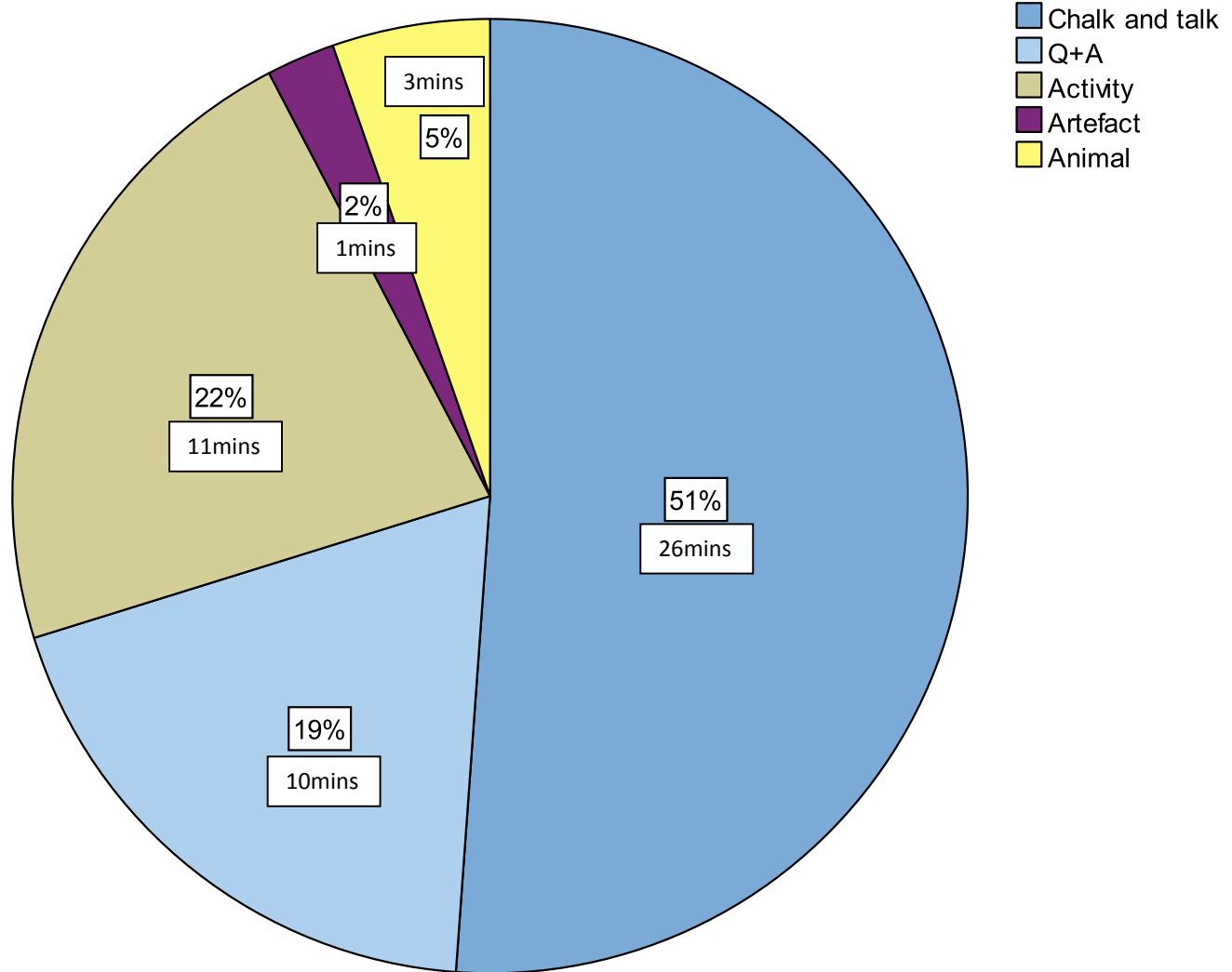
Animal encounter: Educator-led, whole class encounter



Results



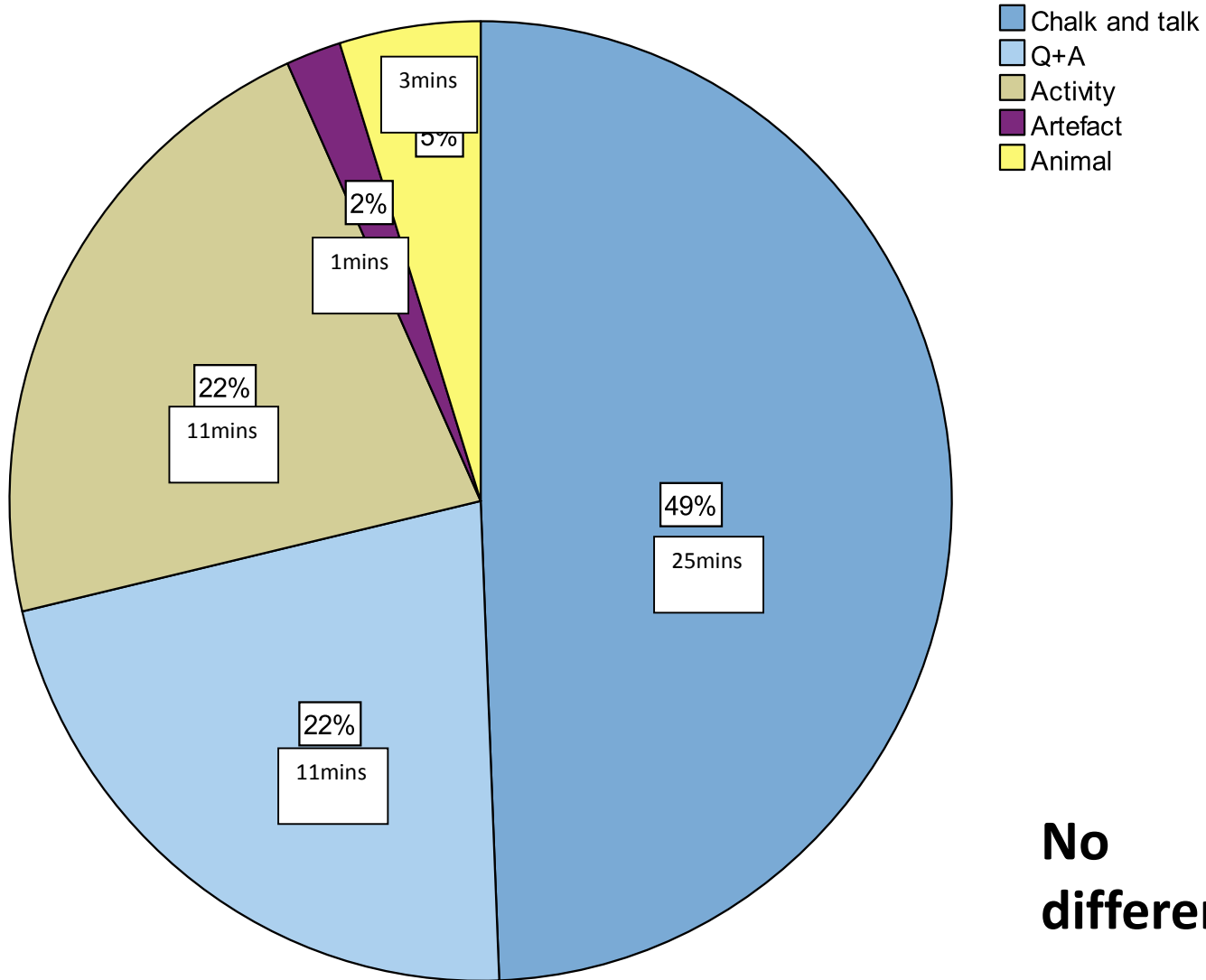
Baseline data - Spring 2010



Lots of changes
made to sessions
during the
summer!



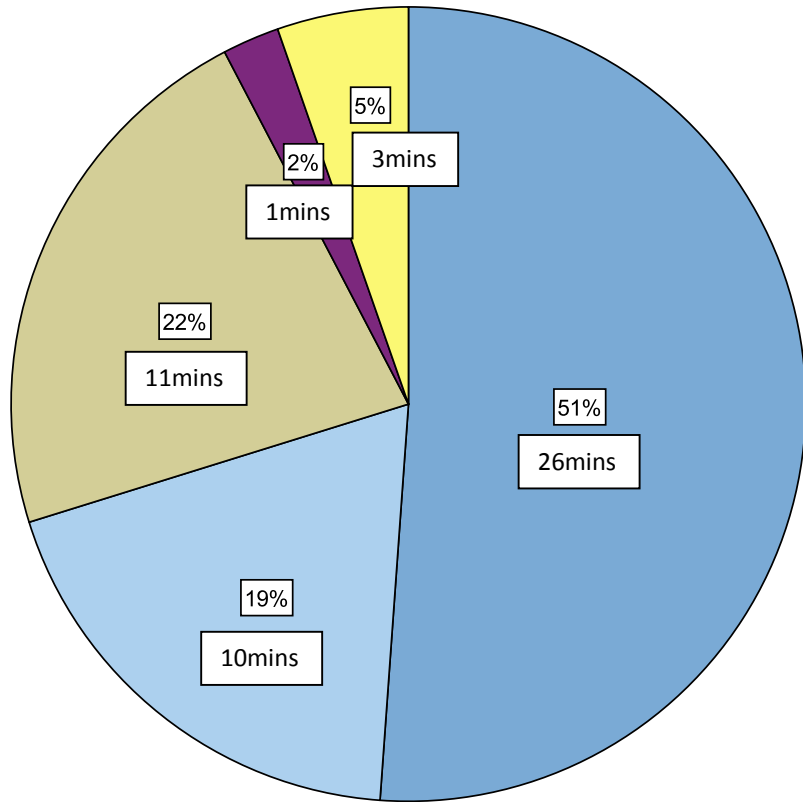
Data after changes - Autumn 2010



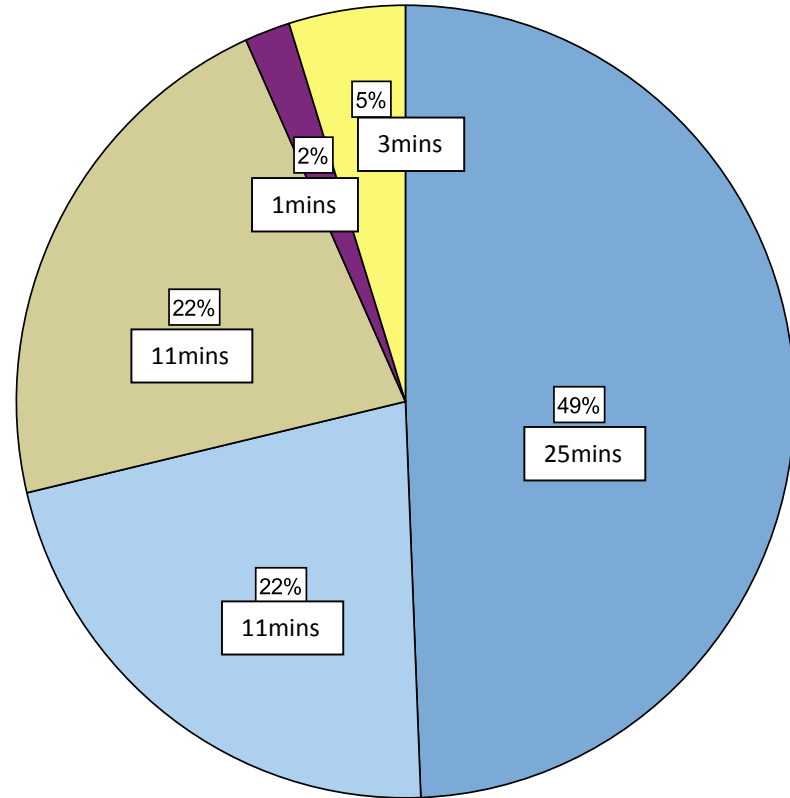
**No
difference!!**

Comparison

Spring 2010



Autumn 2010



- Chalk and talk
- Q+A
- Activity
- Artefact
- Animal

'Explanation time'

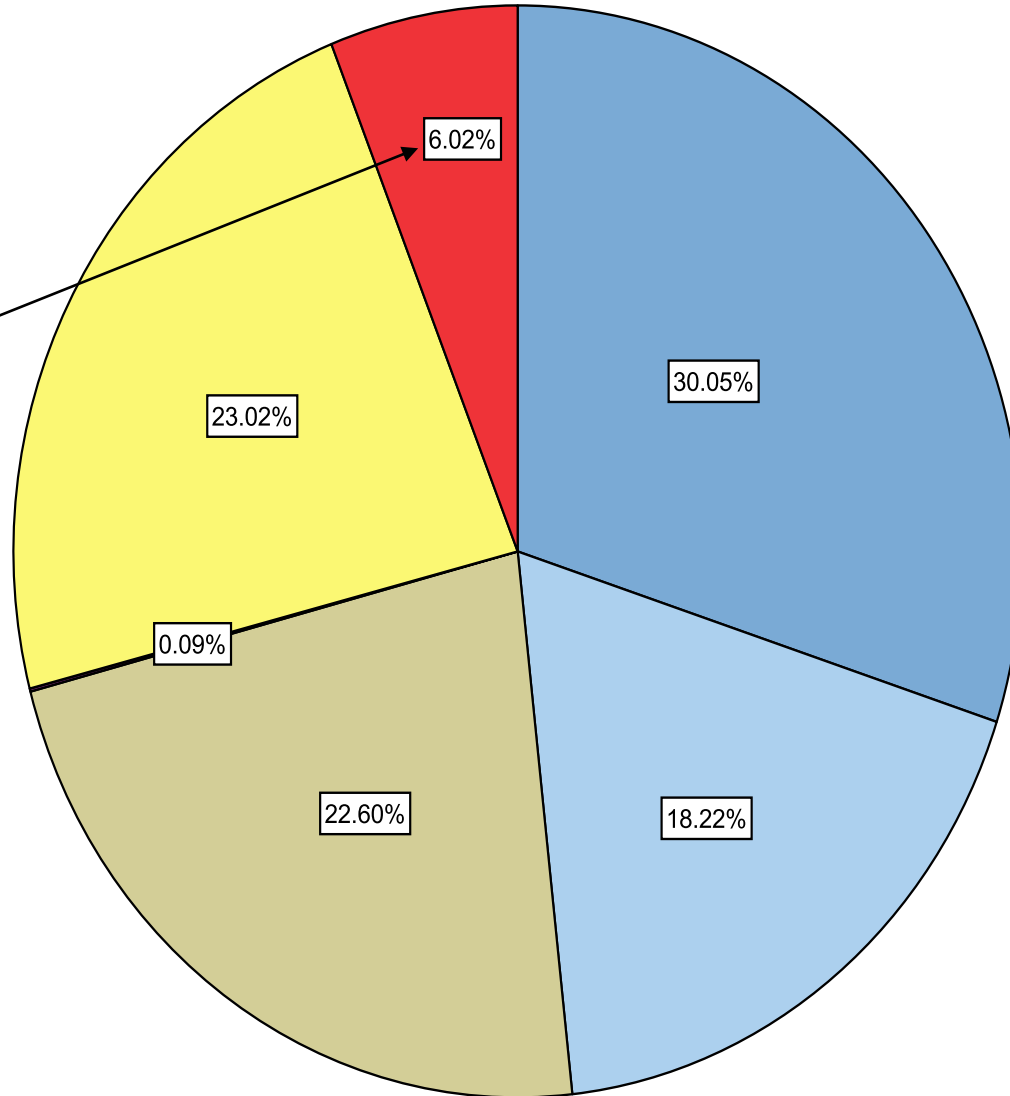


So, had another look in 2011...



Session component type

- Chalk and Talk
- Q+A
- Activity
- Artefact
- Animal encounter
- Explanation time



6% of each session is spent on explaining activities

Explanation time average = 1 min 12 secs

So every time a new activity was added, another bit of explanation time was also added.



Summary

- Don't assume organizational changes will actually yield intended output.
- Wouldn't have known this if it hadn't been evaluated.
- Teacher feedback stayed the same throughout this study – so don't just rely on teachers for your evaluation.
- This is not getting to the point of evaluating outcomes / impact for children, just testing outputs.



Conclusion on Visitor Tracking

- ▶ Cannot robustly infer visitor motivation, interest or learning from visitor behavior alone
- ▶ To get at relationship between visible behavior and outcomes, must usually combine observations with other data collection methods (e.g. surveys)



Conclusion on Visitor Tracking

- ▶ To understand **why** a particular exhibit or object is gaining greater or lesser amounts of visitors' time and attention, one must typically use:
 - Additional feedback from visitors, OR
 - Experimental Design (comparative)
- ▶ These additional sources of information can offer basis for making positive changes



Using Surveys for Evaluation



What is a survey?

- ▶ Standardized method of data collection.
- ▶ Can be used for both qualitative and quantitative data.
- ▶ Used to collect data from individuals, not groups or on behalf of someone else.
- ▶ Surveys are often used for gathering information about recent actions and experiences, or current thoughts and opinions.

What are surveys good for?

- ▶ Can be used for describing patterns in a large population.
- ▶ Can determine individuals' characteristics.
- ▶ Can be used to assess general population patterns from individuals' perspectives.
- ▶ Can compare the perspectives of different sets of individuals within a population.

Using surveys for gathering visitor feedback



Visitor Feedback

- ▶ Can be very useful in providing pointers and identifying **possible** directions for developing exhibits.
- ▶ To make any quantitative generalisations, should be **representative** of visitor population.
 - Limitations of Current Evidence:
 - Self-selected samples
 - Market research approaches (e.g. quota and convenience sampling)



Visitor Feedback: Opportunities

- ▶ Many museums have both quantitative and qualitative data collected through paper feedback forms.
 - Closed-ended quantitative questions on these forms are often poorly designed to the point that they are unusable (e.g. lopsided agreement scales)
 - However, open-ended qualitative items sometimes generate data that could be analysed systematically to glean broadly useful information.
 - Secondary analysis could therefore be employed to draw out important lessons for museum practice



Using surveys for impact evaluation



Defining Impact

- ▶ I define impact in terms questions like:
 - What difference have you made in people's lives?
 - What ideas, relationships, interests, motivations have been transformed as a result of your intervention? (and in what ways?)



Defining Impact

- ▶ That is, the overall net effects or results of an activity or intervention (intended or unintended).
- ▶ Note that changes or ‘impacts’ can be in negative or dysfunctional directions!



Defining Impact

- ▶ Impacts could include:
 - development in learning
 - attitude and behaviour change
 - a greater sense of self-efficacy
 - enhanced curiosity or interest in a subject
 - improved skills
 - greater connectedness with others
 - improved understanding of self and the broader world / universe
 - improved confidence or skills, etc.



Defining Impact Evaluation

- ▶ The systematic collection and/or analysis of information to provide **useful** and **focused** feedback on the effects of an activity or intervention.



Indicators of good quantitative evaluation

- ▶ **Look at the assumptions built into research design**
 - e.g. the visitor will have had an experience ranging from neutral to very positive
- ▶ **Sampling**
- ▶ **Questionnaire Design**
 - Self-report vs. direct measures



Indicators of Good Evaluation

- ▶ **Allows for Possibility of Negative Outcomes**
- ▶ **Qualitative: Audio Recording and Transcription**
 - Not just scratching down part of what people said (avoid bias creeping into your data from the start)
- ▶ **Systematic Data Analysis**
 - Must be **systematic** to avoid tendency to select quotes based on personal bias, preferences.



Over to you:
**Have you seen
evaluation reports
that discuss negative
impact?**

