
EVALUATING THE OUTDOOR LEARNING EXPERIENCE

A toolkit for practitioners



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ABOUT US

The resources presented within this toolkit are based upon research undertaken at the Sustainable Places Research Institute and the School of Geography and Planning, Cardiff University.

You can find out more about our place-based environmental education research here: www.cardiff.ac.uk/research/sustainable-places/research/projects/place-based-approaches-to-environmental-education

CONTACT US:

Dr Ria Dunkley
Research Associate

Sustainable Places Research Institute, Cardiff University
Email: dunkleyra@cardiff.ac.uk

Dr Thomas Aneurin Smith
Lecturer in Human Geography

School of Geography and Planning, Cardiff University
Email: SmithT19@cardiff.ac.uk

A note about this toolkit

This toolkit will help you, as an outdoor education or interpretation practitioner, to evaluate the outdoor learning experiences you offer. Whether you work for a botanical garden, national or city park, nature reserve, wetland, or arboretum, this resource will enable you to explore the impact of your outdoor learning programmes and interpretation efforts.

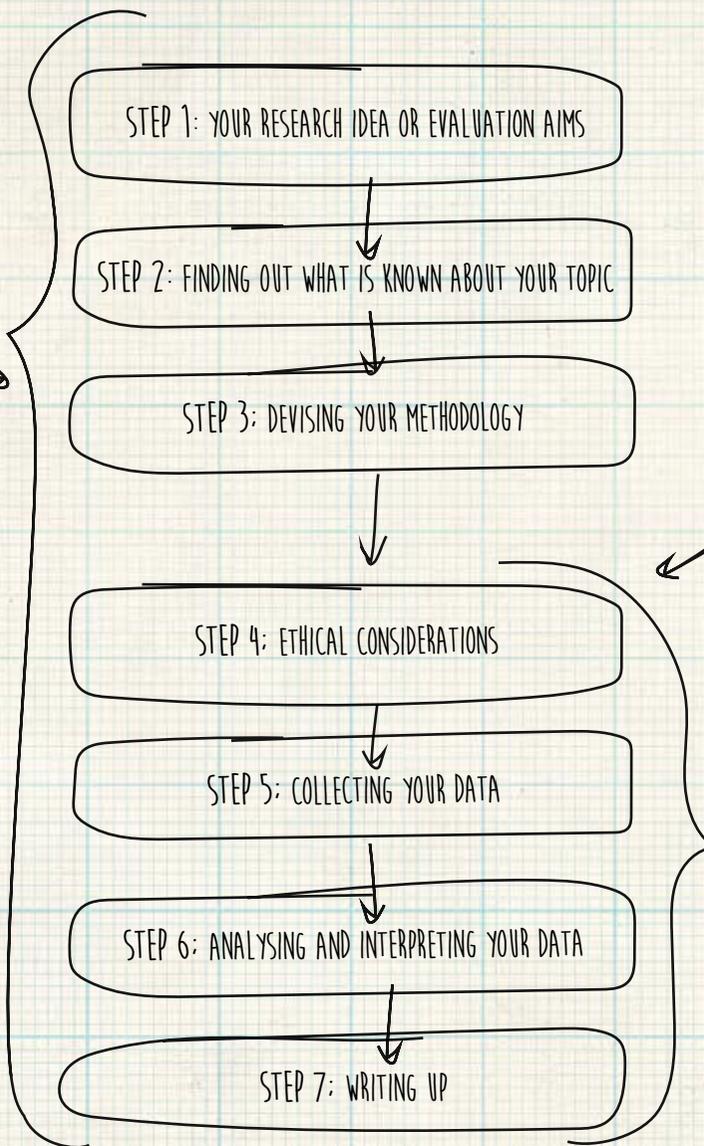


Navigating your way through the toolkit

Section One

DESIGNING RESEARCH AND EVALUATION

This toolkit has been developed to guide you through each stage of the research process for evaluating outdoor learning and interpretation impacts. Section one begins by considering **how you might develop your overarching approach to research** (often referred to as a 'methodology'). Then, the concepts of a qualitative and place-based methodology are described. The final part of section one considers the **how to analyse and write-up research data**.



Section Two

COLLECTING, ANALYSING AND INTERPRETING DATA

Within section two, some place-based, qualitative research methods, which you might think about using in future evaluations are proposed. They are described in step-by-step stages, making them easy to use. You will learn of a range of methods that are particularly well suited for evaluating outdoor learning. Such methods include interviews and focus groups, observational research and participatory mapping, as well as technologically driven methodologies, such as filming and qualitative spatial mapping. This section also provides specific examples of how to analyse data obtained in experimenting with these methods.

FIGURE 1.1 THE QUALITATIVE RESEARCH PROCESS

The qualitative research process

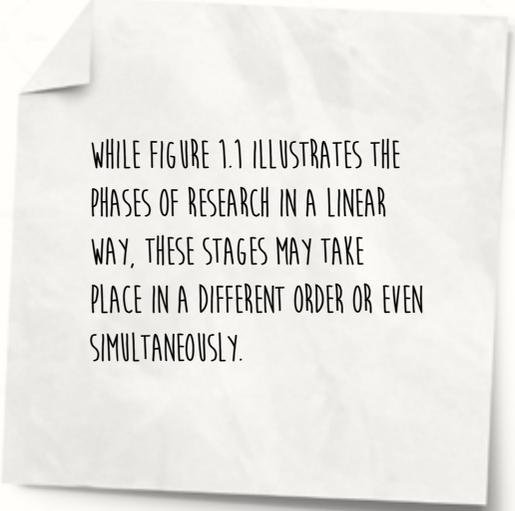
Section one of the toolkit describes each stage of the qualitative research process illustrated in figure 1.1. in detail. Here is a brief outline of the seven step process.

The methods you decide to use will depend upon the ideas underpinning your research (**Step One**). Every research project or evaluation exercise begins with an idea, an aim, question, hypothesis or problem. After you have determined this, the next stage is to find out what is already known about that idea or problem, this will involve a review of relevant literature or policy documents. It may also involve a review of background information from other relevant organisations (**Step Two**). The next stage is to adopt a strategy for conducting the research (**Step Three**). This involves deciding upon the methods you will use for research.

A detailed description of some of the methods that you might like to use are described in section two. At this stage, you will also decide upon your research context (the place or places where you will do the research) and the sample size (the number of people included in the research or evaluation). Next, you will need to gain access to your participants and the sites you would like to study. This may mean contacting official stakeholders or participants (**Step Four**).

You will then be in a position to collect your data, using the methods you have chosen (**Step Five**). Once you have your data, you can analyse it, a process described on pages 11 and 12 and elaborated upon for each specific method in section two. Following this, you can then interpret the data, contextualising your new knowledge

within the existing literature and policy review (**Step Six**). Finally, you will write up your data - how you do this will depend upon your audience (**Step Seven**).



WHILE FIGURE 1.1 ILLUSTRATES THE PHASES OF RESEARCH IN A LINEAR WAY, THESE STAGES MAY TAKE PLACE IN A DIFFERENT ORDER OR EVEN SIMULTANEOUSLY.

Section One:

Getting started: Designing Research and Evaluation

THE AIM, AS FAR AS I CAN SEE, IS THE SAME IN ALL SCIENCES. PUT SIMPLY AND CURSORILY, THE AIM IS TO MAKE KNOWN SOMETHING PREVIOUSLY UNKNOWN TO HUMAN BEINGS. IT IS TO ADVANCE HUMAN KNOWLEDGE, TO MAKE IT MORE CERTAIN OR BETTER FITTING ... THE AIM IS ... DISCOVERY

Norbert Elias (1986) on Social Science

STEP ONE

Your research idea or evaluation aims

The first stage of your research project will involve establishing what topic you want to explore or problem you wish to address.

Your topic or problem may have any number of sources. For example, it might emerge from reading recent research or policy literature (see **step two**). One way of doing this is to begin with a broad aim and devise three or four objectives to help you achieved that aim. Alternatively, you might prefer to phrase these objectives as research questions.

DEVISING AN AIM & RESEARCH QUESTIONS

The aim of an outdoor learning or interpretation project evaluation might be to assess the project's **impacts**. To achieve this, here are some examples of **questions you might ask**:

- What changes have occurred as a result of your project?
- Who has benefited from the project or learning activity?
- How and in what ways have they benefited?
- What have participants learnt? Is this what was intended?
- What kinds of experiences are participants having? How are these experiences meaningful to them?
- What do different participants think and feel about their experiences?
- Have the attitudes or behaviours of participants changed?
- How could the project be improved in future and how?

You will want to consider the **types of evidence** you will need to effectively address your research questions or objectives as you progress. This will inform how you do the research.

STEP TWO

Finding out what is already known about your topic

Before beginning your research project, you will want to find out what is already known about the topic or research problem.

This would involve looking at 'The Literature', which can include previous research or evaluation studies or reports, academic literature in books or journals, or relevant policy or guidance documents, which might relate to your research. After reviewing these, you can adjust your research aims and objectives or questions based on evidence that already exists.

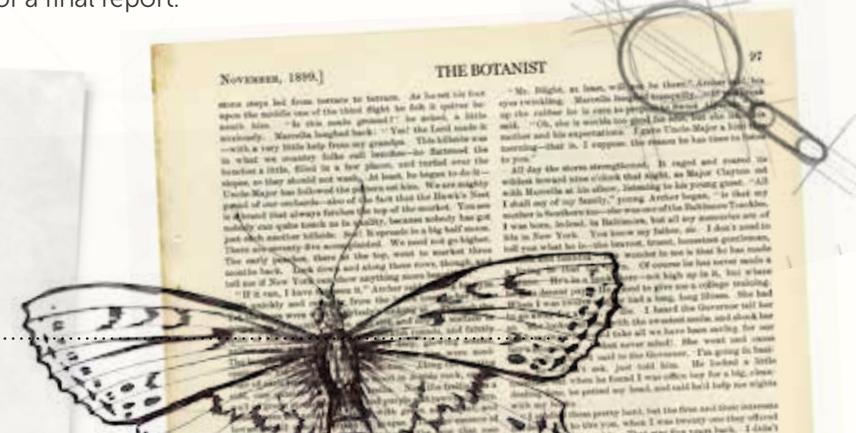
At a later stage, you can write about your data in the context of this literature, enabling you to compare and contrast your study to others and make meaningful observations beyond the initial project.

HOW TO CONDUCT A LITERATURE REVIEW

Your literature or policy review might involve the following stages:

1. **Identify key words, terms or themes** that you wish to search for.
2. **Identify key document sources**, for example, libraries, your workplace and colleagues, professional bodies, government departments, academic journals (search subject-specific ones, such as 'The Journal of Environmental Education'), industry or trade publications, websites and email lists.
3. **Search these sources** using the key words identified. Online tools such as 'Google Scholar' can be very helpful. Look particularly for other literature reviews!
4. **Use the reference lists** from the documents you find to find more sources.
5. As you read, you might consider these questions: **What key themes are emerging?** What do you think is missing from the literature? What questions emerge that your research or evaluation might answer? What methods do other studies use? Could you replicate those that worked? What ideas are commonly used to analyse and understand data? Be constructively-critical! What ideas do you agree or disagree with and why?
6. **Take notes:** you might, for example, attach a record card to the front of each printed article noting, your thoughts on the questions in point 5.
7. Depending on the audience of your research or evaluation, you may **write up your literature** review as part of a final report.

TIP: BEFORE FULLY READING A DOCUMENT, READ THE ABSTRACT — DO YOU THINK READING THE WHOLE DOCUMENT WILL BE USEFUL TO YOU? IF SO, CONTINUE! THIS CAN HELP FILTER OUT DOCUMENTS THAT MIGHT NOT BE SUITED FOR YOUR STUDY.



STEP THREE

Devising your methodology

Once you have your research aims and objectives or questions defined and you know what others have said about your topic, the next step is to devise your methodology.

A methodology can be thought of as **your methods toolkit**. Having an outline methodology, however loosely defined, helps to guide the research process. Moreover, explaining why you have chosen particular methods and analytical techniques will help you to **demonstrate the validity of the research** and produce something that is meaningful and useful to others.

DECIDING ON A RESEARCH APPROACH

This stage involves deciding **the most appropriate way to reach your research aim and objectives or answer your research questions**. To decide upon the most effective methodology, you might think about the following questions:

- What data do you think is most valuable and why?
- What sort of data do you have available to you?
- How much data do you expect to gather?
- What is your preferred method of working with data?
- What kind of data are your funders and supporters hoping to see?
- What kinds of statements do you want to make from your research or evaluation?

Qualitative or quantitative?

You may have heard researchers making a distinction between qualitative and quantitative 'methodological approaches'. If you are interested in collecting numerical data, this can be described as a quantitative or statistical approach and involves methods such as surveys. If you are interested in in-depth data, you are more likely to use qualitative methodological approaches (see next section).

YOU DO NOT HAVE TO CHOOSE ONE APPROACH - DIFFERENT APPROACHES CAN BE COMBINED WITH OTHERS.

STEP FOUR

Ethical Considerations

Participants must not be put at risk of physical or psychological harm in research. In particular, you must consider special requirements of vulnerable groups including: children under 18; those with learning or communication difficulties; those with other physical or mental impairments; people in custody or involved in illegal activities and those for whom English or Welsh is not their first language.

When working with children, there are other important considerations (Christensen and James 2008; Punch 2002). Including members of staff responsible for the children involved in research processes can help build trust and partnership.

Gaining access

The first step in gaining access is deciding who you would like to include in your study. You may be able to contact participants directly, or there may be stakeholders or gatekeepers that you may need to approach to involve them. For example, if you wish to work with school children, you would approach their teachers and parents.

Gaining the informed consent of all participants

Give participants and their parents the information they need to decide if they wish to participate. You will need to get written informed consent from each participant and the parents or carers of children. Typically, you might design a consent form which would:

- **describe in plain-language the research activities.** You would include details of why, when, where and how the research will take place and how the data will be used. This should include contact details for researchers.
- **tell participants, or their parents or carers, that their participation is voluntary,** and can be withdrawn at any time (even after the data are collected).
- **allow participants to provide a signature of their informed consent.** For participants with poor literacy (including young children). Oral consent is also acceptable. NB: written consent should still be gained from parents.

Protecting participants data

Once you have collected data, you should ensure that **any confidential or sensitive data is stored securely**, for example, in a locked PC or filing cabinet. When you write up your research, you can make your participants anonymous by, for example, using pseudonyms.

Your organisations procedures

You should always **check your organisation's own ethical procedures.** You might need to report on your research plans to your supervisors. You may also need to carry out a risk assessment for some research activities. Many organisations have their own child safeguarding policy, which you should consult.

STEP FIVE

Collecting your data

Using Qualitative Methods

Qualitative methods will be particularly useful to you when you are seeking to understand people's experience, perceptions, values, meanings, feelings and ideas. Several qualitative methods can be combined into a single methodology, while you could also combine them with quantitative methods to form a **mixed-method approach**. This would be particularly useful for studies that require diverse forms of evidence.

What is qualitative data and why use it?

Qualitative data represents the **'qualities' of things**, through verbal or written descriptions and visuals (pictures, photographs, maps, film). Qualitative methods produce in-depth, rich data, which can be valuable for evaluating outdoor learning, interaction and engagement in specific places. They can include interviews, focus groups, mapping and drawing, filming and observation. Some of these methods generate both qualitative and quantitative data, for example, spatial mapping using Global Positioning Systems (GPS).

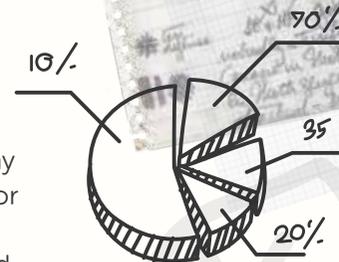
Qualitative methods are subjective – they are based on what people think, and on the researchers' interpretations. This does not make them less valid or reliable than quantitative data. The actions of those we engage in research are often complex, messy, irrational and contradictory. This is difficult to capture and understand using

numbers alone. **Qualitative methods will enable you to better understand and interpret why people do what they do.**

Sampling and Sample Size

The aim of qualitative studies is to gain in-depth insights into people's experiences, it is thus unnecessary to collect data at the same scale as you would if you were gathering quantitative data. **You can gain a lot from interpreting small amounts of data in-depth** and there is no magic number of participants to involve in your studies. Making decisions about how many people or sites to include in your study is a process known as 'sampling'. You may choose to **sample purposefully**, focusing on particular groups, for example, children participating in outdoor learning. Alternatively, you may **sample opportunistically**, based on the participants and resources that you have access to.

One indicator that you have involved enough people is reaching saturation point. This is when the people you are sampling appear to report the same things, and no new ideas are forthcoming. The important thing to remember about qualitative research is that even when sample sizes are low, the data is still valid and meaningful because it provides rich information that could not be provided through employing qualitative methods.





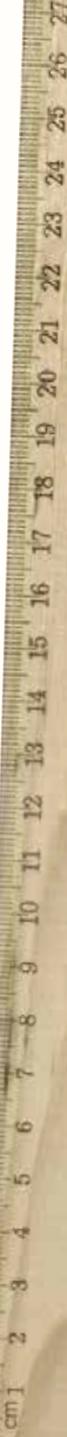
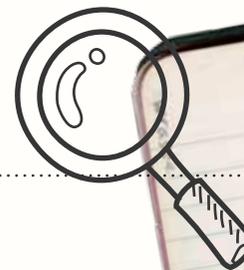
STEP SIX

Making sense of your findings

Once you have gathered your data, you will then be in a position to make sense of that data – this is known as an analytical process.

According to Riessman (1993: p. 8), “investigators do not have direct access to another’s experience. We deal with ambiguous representations of it - talk, text, interaction, and interpretation”. It is, thus, impossible to represent the experiences of research participants directly. Rather, the qualitative researcher’s role is to interpret experiences. Riessman (1993) argues that there are five levels of representation in the research process, which the researcher interprets. These five stages are set out in Figure 1.2.

1. **“Attending”**: This stage involves the research participant making sense of their experience in the moment and on reflection. It **involves the participant choosing what is meaningful in an experience**. The participant may be a learner, tourist, or even you, if you are conducting observational research. In this stage, you need to think about the **social, cultural and personal contexts that influence what we believe to be meaningful**.
2. **“Telling”**: Riessman (1993: p.9) refers to this level as ‘the performance of a personal narrative’. At this stage you would **interview your participants** or, if conducting observational research, **write your field-notes**. This narrative might take a different form as it is told to different people, in different contexts.
3. **“Transcribing”**: This level involves the **representation of accounts from audio, field-notes and videos into written text**. At this stage, you may make decisions over how much detail to include in the transcription. For example, you would decide whether to transcribe verbatim and whether to include “silences, false starts and non-lexical expressions like ‘um’”.
4. **“Analysing”**: Here, you **make sense of your data through interpreting it**. You will make choices about “form, ordering and style” (Riessman, 1993: p.13).
5. **“Reading”**: During this final stage, the **text is shared with an audience**. Before the research is shared more widely, that audience may be co-researchers, research supervisors or research participants. Each member of this **audience will bring their own interpretations to bear upon the research findings**.



THE ANALYTICAL PROCESS

OF COURSE, THIS PROCESS IS ONLY A GUIDE. IT IS LIKELY THAT, IN PRACTICE, YOU WOULD MOVE BACKWARD-AND-FORWARDS BETWEEN THESE STAGES. FOR EXAMPLE, YOU MAY BEGIN THE ANALYSIS PROCESS WHILE STILL TRANSCRIBING YOUR INTERVIEW DATA, OR FIELD NOTES.

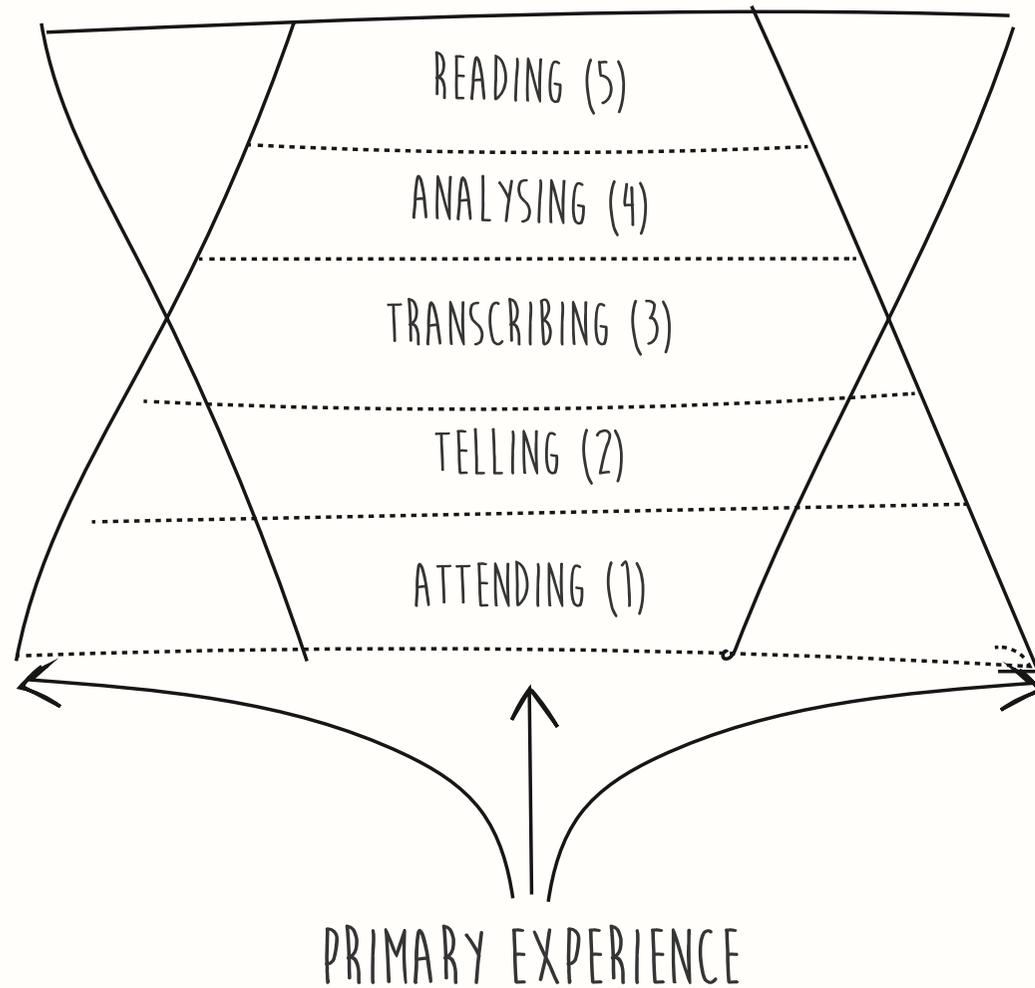
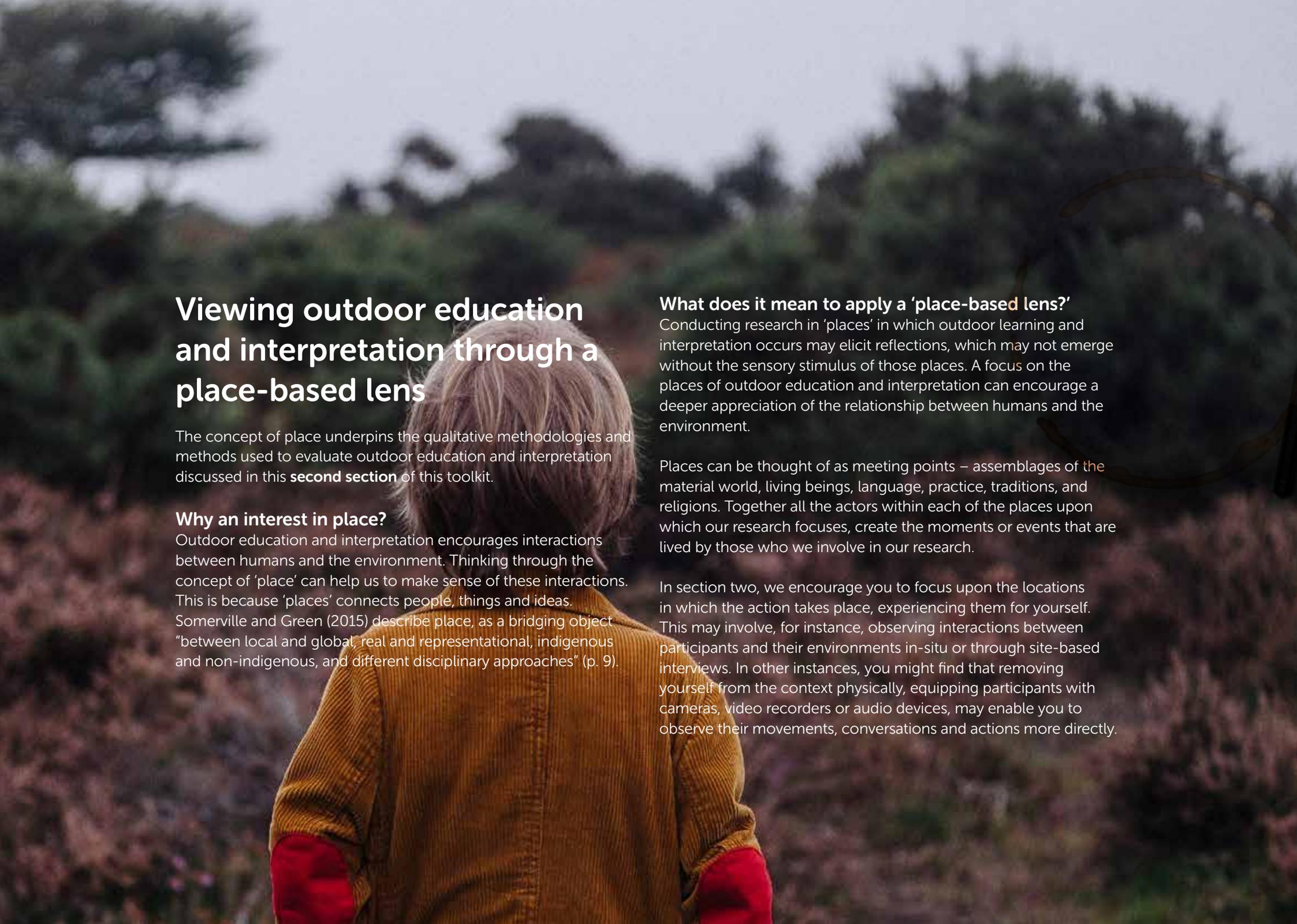


FIGURE 1.2. LEVELS OF REPRESENTATION (RIESSMAN 1993: 10)



Viewing outdoor education and interpretation through a place-based lens

The concept of place underpins the qualitative methodologies and methods used to evaluate outdoor education and interpretation discussed in this **second section** of this toolkit.

Why an interest in place?

Outdoor education and interpretation encourages interactions between humans and the environment. Thinking through the concept of 'place' can help us to make sense of these interactions. This is because 'places' connects people, things and ideas. Somerville and Green (2015) describe place, as a bridging object "between local and global, real and representational, indigenous and non-indigenous, and different disciplinary approaches" (p. 9).

What does it mean to apply a 'place-based lens'?

Conducting research in 'places' in which outdoor learning and interpretation occurs may elicit reflections, which may not emerge without the sensory stimulus of those places. A focus on the places of outdoor education and interpretation can encourage a deeper appreciation of the relationship between humans and the environment.

Places can be thought of as meeting points – assemblages of the material world, living beings, language, practice, traditions, and religions. Together all the actors within each of the places upon which our research focuses, create the moments or events that are lived by those who we involve in our research.

In section two, we encourage you to focus upon the locations in which the action takes place, experiencing them for yourself. This may involve, for instance, observing interactions between participants and their environments in-situ or through site-based interviews. In other instances, you might find that removing yourself from the context physically, equipping participants with cameras, video recorders or audio devices, may enable you to observe their movements, conversations and actions more directly.

STEP SEVEN

Writing Up

How you write-up your evaluation or research will depend upon your intended audience.

Writing a research report

You may provide funders, managers, other professionals and external organisations with a written report. They may be required to be in a specific format (see, for example, HLF, 2012) and guidance may be given on word limits and requirements for each section.

Oral Presentations

You may share findings amongst colleagues at your workplace, at professional conferences or workshops. You might also present your findings to participants, volunteers, and communities who have been involved in or are interested in the project.

Briefing notes and Posters

Briefing notes are normally one or two-page documents. They present the main findings, or describe an innovative method. They can provide colleagues, policy-makers and members of the public or communities with a snapshot of ideas, findings and

recommendations and can be effective for formative feedback. Briefing notes can also be presented in leaflet format. Posters can also be effective for communicating research and evaluation findings.

Multimedia outputs

If you are following a participatory methodology, you may encourage research participants to contribute to research outputs. This might include producing a film which communicates significant findings or ideas, or holding a workshop to demonstrate a particular evaluative method. Alternatively, you may consider communicating your findings through radio, television or newspaper articles.

Providing your organisation and project funder is happy to share findings publicly, you can make them available in print or online. A website might simply be used to host reports produced so that anyone can download them. You might also summarise findings in blog posts. You can also display creative outputs, such as films, presentations (which can be recoded and posted online as podcasts) and posters on websites.

REMEMBER TO PUBLICISE MATERIAL ONLINE AS WELL, USING SOCIAL MEDIA OR THROUGH PRACTITIONER OR COMMUNITY FORUMS AND EMAIL GROUPS.



Section 2: Collecting, analysing and interpreting data

Some examples of qualitative, place-based research methods

THIS SECTION DESCRIBES A NUMBER OF QUALITATIVE METHODS THAT CAN BE USED TO COLLECT DATA. WITH EACH METHOD YOU WILL ALSO FIND A SECTION DESCRIBING SOME WAYS OF ANALYSING THE DATA PRODUCED AS A RESULT OF USING THESE METHODS.

The second section of the toolkit will describe some qualitative, place-based methods that you might take in exploring the impacts of your projects and initiatives. Here you will find **step-by-step guides** for each of the methods discussed. You will also find some pointers for how you might go about **analysing your data** in this section.

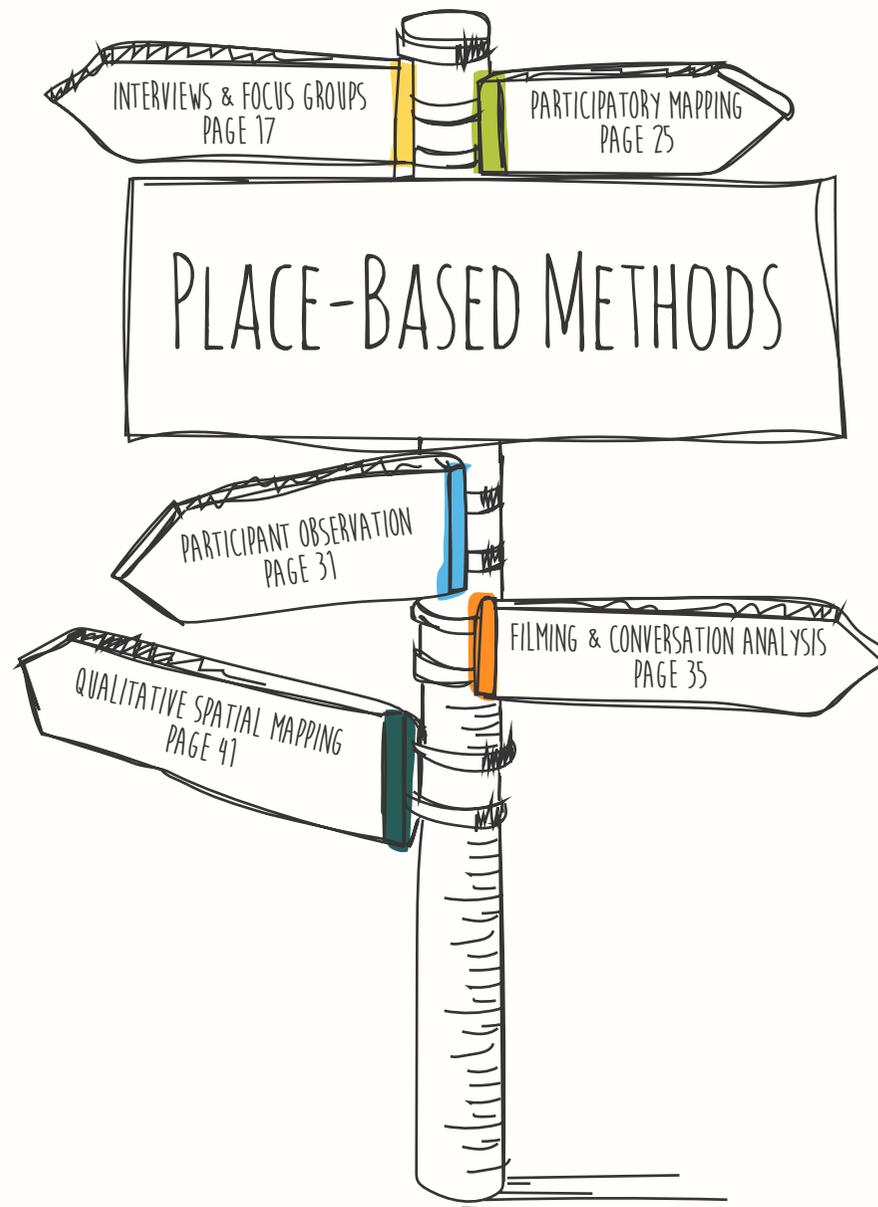


FIGURE 1.3 DIRECTIONS IN PLACE BASED RESEARCH

INTERVIEWS AS CREATIVE CONVERSATIONS

Why in-depth interviews?

Interviews present researchers with an opportunity to gain **unique and in-depth insights** into participant's everyday experiences. Interviews can be **structured, semi-structured or unstructured**.

They could be conducted with visitors, participants, volunteers, trainees, staff, or local community members.



CREATIVE CONVERSATIONS CAN HAPPEN ANYWHERE!

The process:

1. **Find a place** to carry-out your research. This is likely to be dictated by your research aims and the requirements of your organisation.
2. **Find your participants.** You might know them, through your job, or you can ask a person leading a programme or activity to be introduced them.
3. If possible, engage in a **shared experience with the participants.** This might mean accompanying them on a tour or during a learning experience.
4. Approach individual participants to **ask if they would be happy to be interviewed** as part of your study.
5. **Find a quiet spot** for the interview. This might be a café, for example, or at the back of the bus on a tour.
6. **Explain** to the participant that you would like them to **talk openly and freely** during the interview. Ask them if they have any photographs, recordings, or other prompts that would help to guide your conversation.
7. **Ask an open question**, such as, “how did you find the experience”? Then, record the experience using a voice recorder or camera.
8. During the interview, be sure to use lots of **verbal prompts and non-verbal signals**, to show your excellent listening skills!
9. At the end of the interview, thank the interviewee and tell them about your intentions to **keep them updated** with the research as it progresses.
10. When you get home, make sure you **back-up** the audio file; you don't want to lose that!

WHAT YOU'LL NEED:

An audio or video recorder:
This could be a Dictaphone, alternatively many mobile phones and tablets offer this facility.

An interview guide:
This could be a 'crib sheet' of questions or verbal prompts; photographs and other visual prompts. These might be supplied by you or the participants.

EXAMPLE

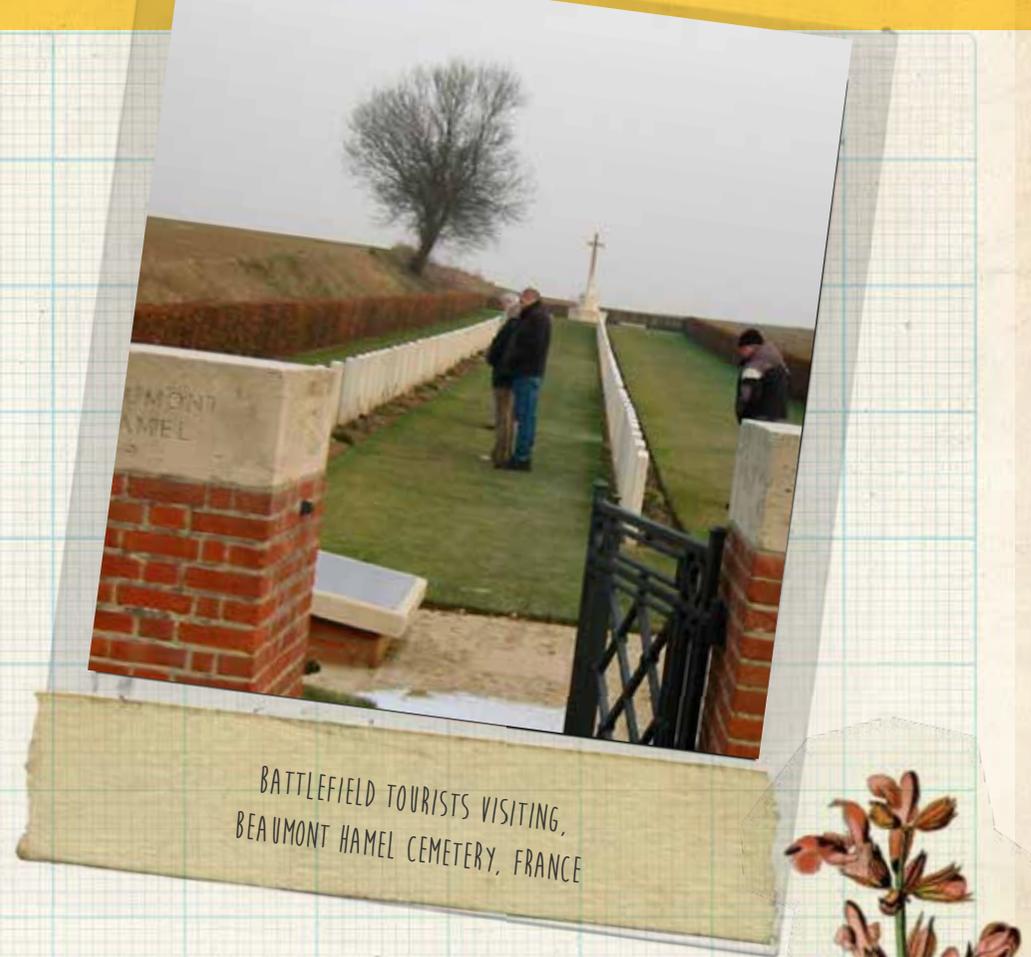
Interviews as Creative Conversations

The study:

Unstructured interviews can be used to explore the **experiences of participants in outdoor activities**. In this example, they were used to understand the motivations and experiences of those who visit the battlefields of World War I. The study aimed to understand how social, cultural and individual **ways of seeing influenced the experiences of battlefield tourists**. In-depth interviews were chosen to explore their motivations and emotional reactions.

The Place-based settings:

These research interviews took place **during the battlefield tour**. A **follow-up interview** was also conducted, with a number of participants, at their homes one year after the experience to consider **long-term effects**. Each interview lasted between 45 and 90 minutes.



A conversational approach:

The **unstructured approach** employed involved a break with research convention, which typically places the interviewer in the driver's seat. Instead of having a set of pre-determined questions for each participant, the interview began with the **open question**: "How was the experience for you?" The researcher then used their (finely attuned!) **listening skills, probing for further information** on the points that the interviewees raised. This in-depth, unstructured approach to interviewing is much in the same spirit as oral history research approaches, which involves collecting 'oral reports' from individuals (Fontana & Frey, 2000: p. 657).

The benefits:

Adopting a more conversational approach to interviewing increases the likelihood that they will provide insights into issues that participants deem relevant. As such, the conversations might redress the power balance between interviewee and interviewer. By allow the conversation to flow, interviewees get to choose how to direct the interview in terms of topic and form.



TOURISTS VISIT NEWFOUNDLAND MEMORIAL, FRANCE

FOCUS GROUPS OR GROUP INTERVIEWS

Why use focus groups?

Focus groups, **also referred to as group interviews**, can capture multiple views and opinions on events. They enable participants to **develop their thoughts, based upon their interactions with others**.

The method also has advantages extending beyond data collection. For example, the process itself **can help groups and communities to explore issues** they feel are most important to them and to consider their plans for the future.



TABLECLOTH RECORDING PARTICIPANTS RESPONSES
FROM A "WORLD CAFE" WORKSHOP



The process:

1. **Identify and approach the group of people** who you think could help you to explore your research question. Focus groups are usually made up of six to ten people. If you want to include more people, you could use a “World Café” style discussion (www.theworldcafe.com). Try to include people from a variety of backgrounds.
2. As with in-depth interviews, if possible, it may be effective to **share the experience that you wish to explore** with the participants.
3. **Consider the location and venue.** Making the room welcoming for participants can make a difference – consider using round tables, background music, perhaps even flowers and candles!
4. **Pick someone to guide the process** – this might be you, or a research facilitator.
5. **Chose a discussion format** - you may use a list of themes or questions as a guide. Alternatively, you could use prompts, such as photographs, artwork or film clips.
6. **Hold the focus group** - they usually last one hour or more.
7. **Record the discussions:** you might use an audio or a video recorder. Video footage can be particularly useful for recording multiple voices in a focus groups. You might also give individuals paper tablecloths to write and draw upon, as well as craft materials.
8. Group dynamics may mean that some voices are heard more than others are. **Facilitation skills are very important** to keeping this in check!
9. At the end of the focus group, thank the participants and tell them about your intentions is to **keep them up-to-date** with the research process.
10. As with interviews, when you get home, make sure you **back-up** the audio file or video footage.

WHAT YOU’LL NEED:

 **A thematic guide: or other verbal or visual prompts:**

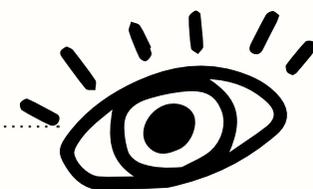
You, or the participants, may supply these. This might include collaging materials or photographs.

 **Recording devices:**

This could be a video camera, Dictaphone, paper or washable tablecloths, post-it notes, craft materials and cameras.

 **Tea and cake!**

This can be especially useful!



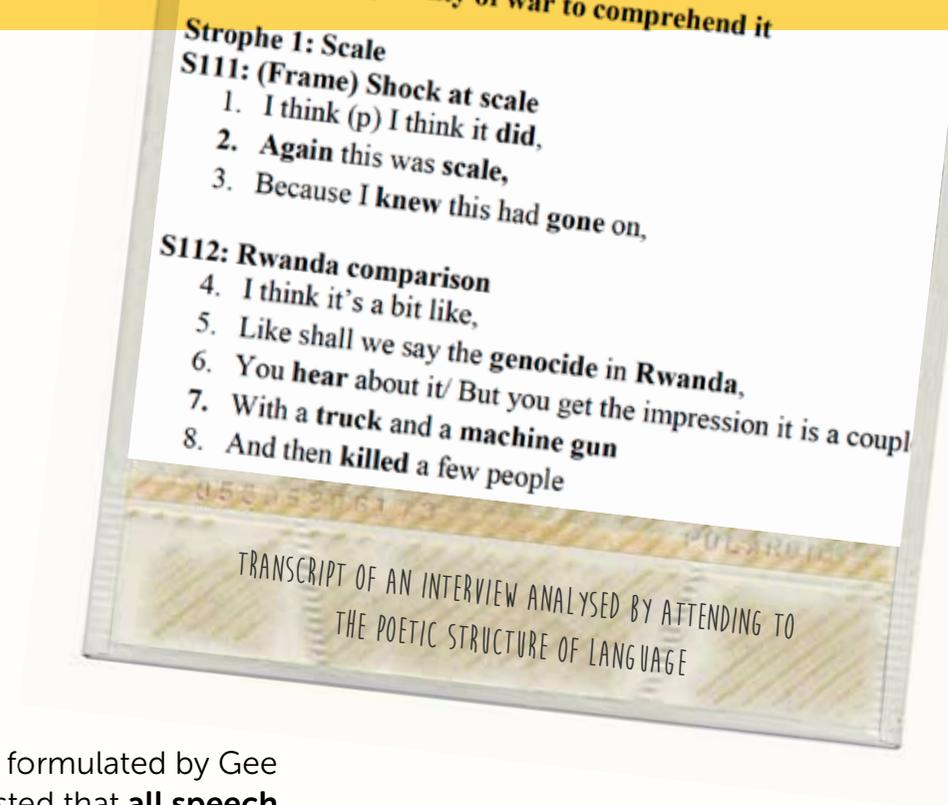
NARRATIVE ANALYSIS.

Attending to the poetic structure of interview and focus group transcripts

Why use narrative analysis?

The process of transcribing audio files and working with written transcripts is central to making sense of interview data. Looking at the **poetic structure of interview data** (Gee, 1991 and Riessman, 1993) enables in-depth explorations of the motivations and experiences of learners, visitors and tourists. It pays close attention to both **what is said in interviews and how it is said.**

The approach was formulated by Gee (1991), who suggested that **all speech is poetic in form.** The process involves repeated listening's to the recorded interview. The transcriber highlights how **participants use linguistic devices such as metaphor, simile, tone and humour to accentuate significant experiences** (Gee, 1991). The speech is then divided into parts, stanzas and verses, decided upon by paying attention to the poetic devices used by interviewees.

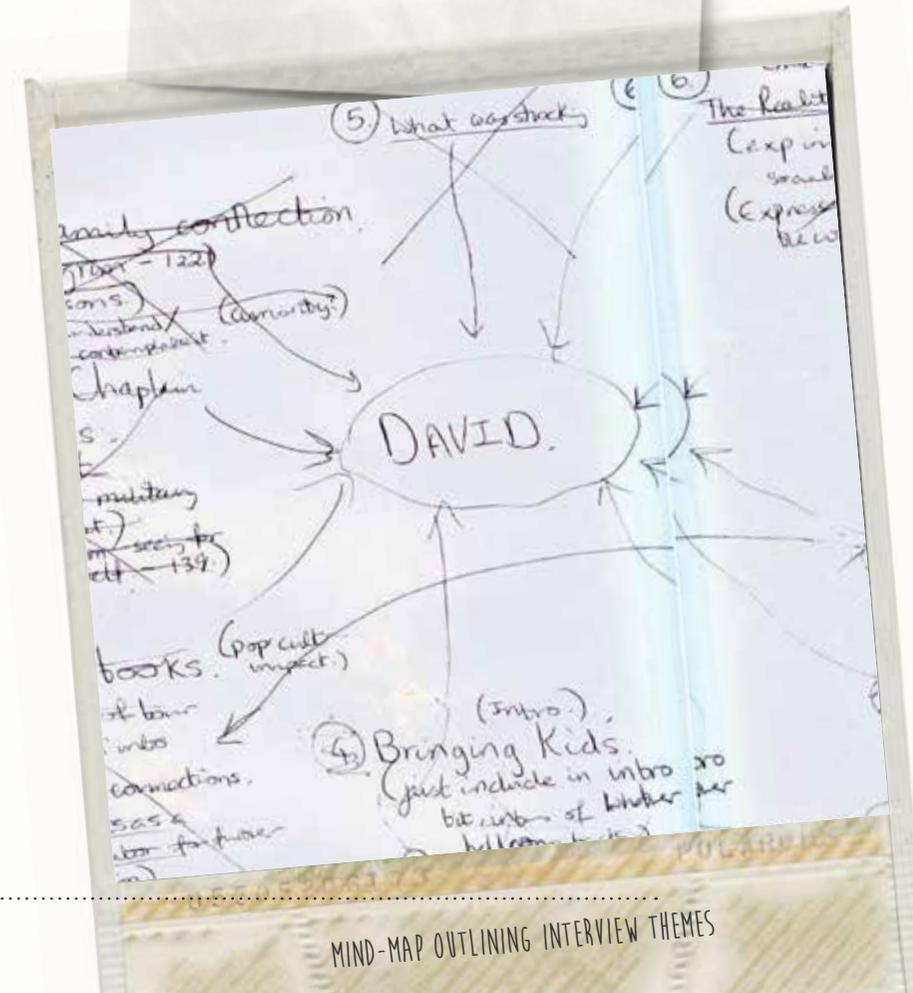


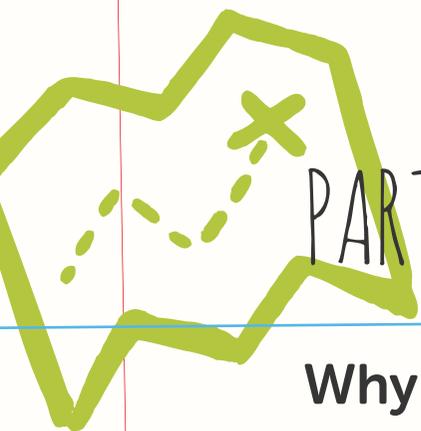
The process:

The process involves nine-steps, each of which focuses upon unpicking how an experience is represented in an interview. These stages are:

1. **Transcribe** the interview word for word, from an **audio** recording.
2. **Locate** the words that participants **stress**, signalled by changes in **pitch or tone**. **Highlight** these words and divide the transcript into lines.
3. **Note grammatical choices**, looking for **pauses** and non-lexical expressions, like **"Uh", "So" and "well"** help to identify the beginning of stanzas.
4. **Divide** transcript into four-line **stanzas** (sometimes longer or shorter).
5. **Locate** related pairs of **stanzas** (strophes) and **parts**.
6. **Look** for psychological subject ("**you**", "**I**", "**we**"), use of **literary devices**, adverbs, metaphor, keywords, verb tenses, etc.
7. Give each stanza, part and strophe a **title** in the transcript. Copy these titles onto a **one-page document**.
8. Outline significant themes using a **mind-map**.
9. Begin the **writing** process, using **quotations** from interviews, interwoven with interpretation.

TO NOTE: THE BASIC PROCESS OF IDENTIFYING THEMES WITHIN TRANSCRIPTS, REFERRED TO AS 'CODING' IS ALSO DISCUSSED IN THE 'OBSERVATIONAL METHODS' SECTION. YOU CAN ALSO ANALYSE YOUR TRANSCRIPTS USING THE THEMATIC ANALYSIS PROCESSES DISCUSSED THERE.





PARTICIPATORY MAPPING

Why use participatory mapping?

Making maps and talking about them is an engaging way to evaluate and to link conversations and meanings to places. **Making maps can help you understand what people know about places and how they use and value them.** The process is called participatory mapping because people create the maps together with a facilitator. The aim is not just to make a map, but to encourage discussion about the map.



What you'll need:

- ✓ A thematic guide for the facilitator: **what** do you want participants to map and how? **What questions** might you ask during the mapping?
- ✓ **Materials to map onto:** either a large plain **piece of paper** or a printed '**base-map**' of the place or area you want to map.
- ✓ **Materials to create or annotate the map:** coloured paper, pens, pencils post-it notes, stickers, play-dough and pipe cleaners (and any other creative materials).
- ✓ **A recording device:** This might be a Dictaphone, camera or video camera and/ or a notebook.

The process:

1. Decide what **place you want to map and at what scale**. Maps can be made for small scale (a garden), medium scale (a park or heritage site), to much larger scale sites (an entire landscape, national park, a city, the whole country!)
2. Decide **what you are interested in mapping** with participants. You could test the accuracy of their knowledge of an area, investigating their perceptions of places. You could map how they feel in different areas. You could explore what places they find significant, meaningful or enjoyable, or what they use different spaces for.
3. Consider **who your participants will be**, and how many you need. You could produce individual maps or maps in pairs. Participatory mapping is typically done in small groups (4-8 people), more than this can be difficult to facilitate.
4. **Choose a venue**. Somewhere which is familiar, comfortable and convenient for participants is best. Provide refreshments!
5. **Choose a facilitator** – this could be you, or a member of the community. The facilitator should guide the participants about what to map, and how to map it. You can be prescriptive, or provide very open-ended guidance.
6. Choose how to **record** the mapping and the conversations that take place around it – you could take notes, record sounds with a Dictaphone or video the map making.
7. **Create the map!** You can create maps on paper, using a range of materials to draw and to create two-dimensional and three-dimensional objects on the map. Either create the map **from scratch or give participants a 'base map' to annotate**.
8. Alternatively, you could **create maps online**. There are simple online tools to create maps on which participants can **annotate** simple features, for example, annotating areas which they see as 'safe' or 'unsafe' (<http://map-me.org/>)
9. **Listen to** (and occasionally prompt) discussions between participants as the map is being created. For example, ask participants why they have put things in particular places, why these areas are important to them, or what makes some places special.
10. At the end of the mapping, **take a picture of the map!** Ask participants for final thoughts, and afterwards keep them in touch with the research process.
11. As with all other methods, make sure you **back up** all recorded information and write-down your own reflective thoughts from the exercise.

EXAMPLE

Creative Maps with Children

The Study

Creative maps can be a **fun way to work with children and young people for evaluation and research**. In this example, the research study was interested in how children valued different places within the Brecon Beacons National Park. This was to inform an understanding of **what children knew about the National Park** as a whole, and what places within it were significant to them.



The Place-based setting

The creative maps were made during a 'summer club' held for children at Craig Y Nos Country Park in the Brecon Beacons National Park. The maps were created during the day over one hour with groups of three or four children.

A creative approach

The children were provided with an A1 sized base-map which showed the boundary of the Brecon Beacons National Park, and had some major features (lakes, rivers, roads and towns) marked on it. The children labelled the map with their favourite places, and used play-dough and pipe cleaners to make objects which they thought were important. The researchers observed the children making the maps and asked them why they chose certain places, or to represent some activities on the map.

PARTICIPATORY ANALYSIS OF MAPS

Why use participatory analysis?

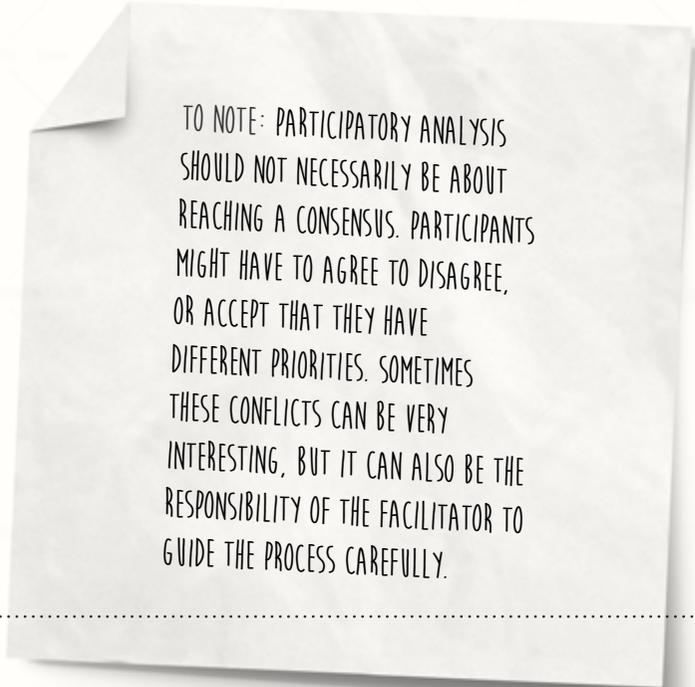
Doing research and evaluation with maps can be a participatory process, not only in the creation of maps with people, **participants may analyse their own maps**, rather than relying on your own analysis.

This process is called participatory analysis (Kindon et al. 2007). Participatory analysis **allows participants to reflect on their own knowledge, ideas and perceptions**. It can encourage participants to take action in their own communities by building community knowledge and identifying places or issues that need attention. Participants might also analyse the maps of other groups alongside their own to reflect on what issues might face a particular place or community.



The process:

1. Decide **when and where** to hold the analysis session with participants. This could happen immediately after a map has been created, or at a later date to allow more reflection.
2. Consider **what to include in the analysis**. Will participants examine their own map, compare it with others or with a 'real' map (e.g. an ordinance survey map)?
3. **Prepare an analysis guide for participants** (much like an interview guide). Encourage participants to be reflective and critical of their own maps and those of others, what places have they emphasised over others, and why this might be.
4. As with other methods of analysis, encourage participants to **identify themes** that emerge. Maps can also be coded by assigning similar features, pictures or images on the map to a theme or code. This can be done visually by drawing on the map.
5. **Discuss the key themes** or codes that emerge. You may consider ranking which are more or less significant, which have the greatest implications, or which are in more immediate need of action.
6. **Discuss what the outcomes are for participants**, their communities or the place being mapped. What actions (e.g. in the community) should take place, and how could they be achieved.
7. As the participatory mapping methods, participatory analysis should also be **recorded using note-taking, a Dictaphone, or film camera**. You can share the recording with participants.
8. **Write-up a report on the analysis**. This can also be done in participation with the participants themselves, or you can provide them with a summary of the analysis and action points.



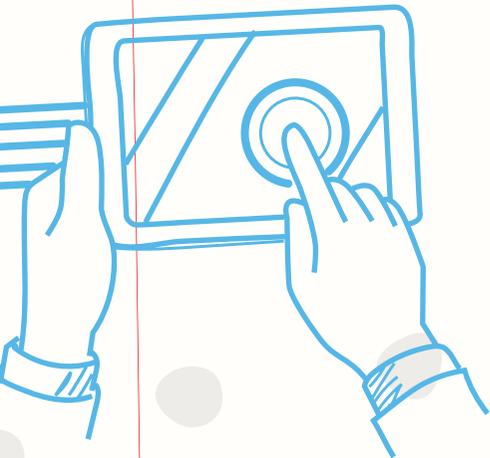
TO NOTE: PARTICIPATORY ANALYSIS SHOULD NOT NECESSARILY BE ABOUT REACHING A CONSENSUS. PARTICIPANTS MIGHT HAVE TO AGREE TO DISAGREE, OR ACCEPT THAT THEY HAVE DIFFERENT PRIORITIES. SOMETIMES THESE CONFLICTS CAN BE VERY INTERESTING, BUT IT CAN ALSO BE THE RESPONSIBILITY OF THE FACILITATOR TO GUIDE THE PROCESS CAREFULLY.

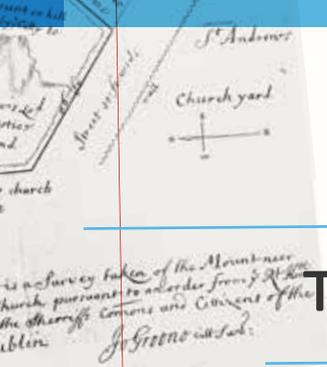
PARTICIPANT OBSERVATION

Why use participant observation?

Vinten (1994) describes participant observation as a process through which **“a researcher seeks to become a member of a group, organization or event under study”**.

Participant observation enables the researcher to gain a rich appreciation of **project contexts** (Angrosino and Mays de Perez, 2000).





The process:

1. Identify the **setting and approach the group of people** you want to observe.
2. Gain participants **informed consent** and if involving children or vulnerable adults, their parents or carers consent.
3. **Design your approach.** Participant observation can be **overt** (the participants know they are part of a study) or **covert** (the participants are unaware they are being observed). Recently, more innovative approaches have emerged. For example, **auto-ethnography** (Reed-Danahay 1997b), where the researcher analyses their **own experiences**.
4. Decide how you will **record your observations**. For example, you might want to record basic data about **how many people** access a site at a particular point in the day. If so, movements on and off-site can be recorded with a simple clicker device. Gaining deeper insights may involve **taking photographs**, keeping a **reflective journal**, and recording interactions using a voice recorder or video camera.
5. **Carry out the observations.** Participant observations may fulfil different roles at different phases of a research process. For example, during your **first visit** to the field, you may want to become familiar with the site and **share experiences** with participants. Consecutive visits may enable you to **observe participants** gaining direct insights into their experiences. As an active participant, you can build a rapport with users.
6. **Keep a live record:** Regardless of the approach you choose at step four, always keep a notebook with you. You may keep a list of prompts that remind you of your aims.
7. As always, **back up any audio files**, photographs or video footage and safely store your notes or reflective journal ready for analysis.

'AS I SAT AND LISTENED,
I LEARNED THE ANSWERS
TO QUESTIONS THAT I
WOULD NOT EVEN HAVE
HAD THE SENSE TO ASK IF
I HAD BEEN GETTING MY
INFORMATION SOLELY ON AN
INTERVIEW BASIS.'

(Whyte, Street Corner Society
1955:303).

ANALYSING DATA GAINED THROUGH PARTICIPANT OBSERVATION

Participant observation is an effective means of **exploring the experiences** of those taking part in outdoor activities. For example, you might use them to understand the learning experiences of young people and adult learners, participating in education and training programmes.

Participant observations can be particularly effective in assessing the impacts of such programmes on participants. The information gained from doing so, may be **analysed on its own**, or it may help you to **contextualise interview and questionnaire data**.



CHILDREN ORGANISING THEIR BUG-HUNT FINDINGS IN A COUNTRY PARK, WALES

The process:

The wide range of materials gained through participant observations, including audio accounts and video recordings, means that many of the analysis techniques described within this toolkit could be used to explore data gained through observations. However, this six-step process suggests how you might use **software packages** to assist you in analysing your data:

1. Observational research can generate a wide variety of data sources, compile all of your sources in either a **physical or online folder**. It will be easier if you begin this process early on in your research.
2. Begin to **organise your data**. This stage involves inputting your multimedia data into, for example, Excel spreadsheet, or a software package, such as NVivo or Leximancer.
3. **Categorise your data**: if time is limited, you might **highlight themes** as they emerge from written notes or multimedia. You can **annotate your notes** within many software programmes to help you keep track.
4. Organise your highlighted themes under **specific codes** for each theme of analysis. At this stage, you will start to look at the relationships between your themes.
5. **Explore your data**. Many software packages allow you to, for example, **search for key words**, or count words, or to find out how many times a particular word appears in relation to another.
6. **Interpret the data**, reflecting upon what **themes emerged most prominently** from your various sources.
7. Begin the **writing process**, using your multi-media sources to support each theme you discuss. Some software programmes enable you to create summary reports.



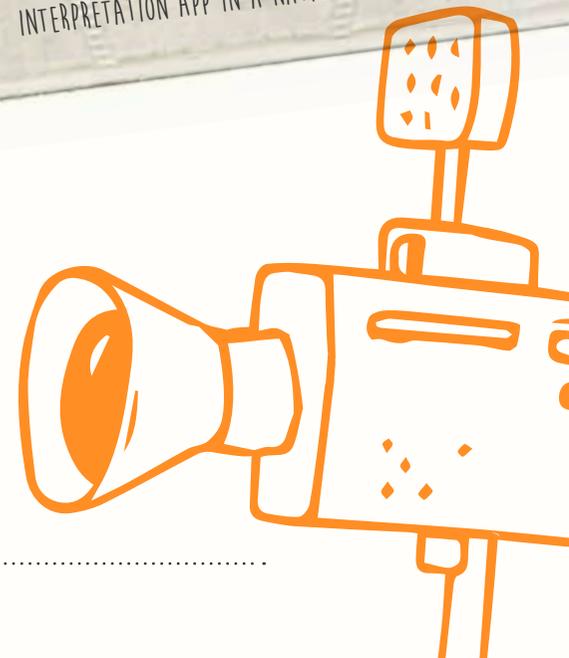
TO NOTE: ALWAYS ENSURE
YOUR ANALYSIS FILES ARE
BACKED UP

FILMING IN RESEARCH

Why use filming to collect research data?

There are three problems with observing people in person. Firstly, you cannot be in all places at all times. Secondly, your presence can mean that people modify what they do because they feel 'watched'; thirdly, you cannot watch the action again.

Although filming does not eliminate these problems, **many people act more 'naturally' when being filmed than if directly observed** (although at times the researcher may need to hold the camera). Filming without the presence of the researcher can capture more naturalistic behaviour, which may otherwise go unrecorded. Filming can be useful to understand how and why people behave in certain ways in relation to particular environments, sites or learning activities, and how they interact with others, with objects, or with different forms of interpretation.



The Process:

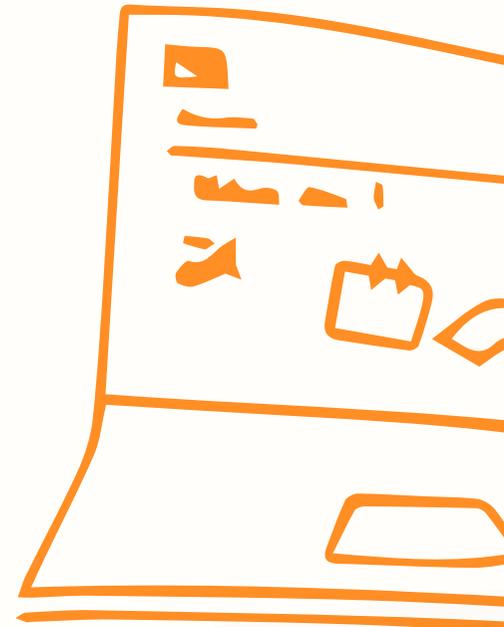
1. Decide **what it is you want to record**: is it a site, and activity, or a moving experience (e.g. participants exploring an area on foot)? Consider who you want to record: is it recruited participants testing an activity or experience, or the public?
2. What you want to record will determine what type of video camera, or cameras, you use to do the filming. There are four basic options:
 - **A Fixed video camera** provides a stable recording, which you might use if you are interested in a place or object. Static cameras are commonly used in museums for recording interactions with displays.
 - **On-body video cameras** are small, weather-resistant cameras, attached to participants on head- or chest-straps. This is a good option for recording in outdoor environments, but filming is limited by shorter battery life.
 - **A roving, hand-held camera** allows you to follow participants. However, you must be present (and watching participants) and able to control the camera.
 - **Participant controlled filming** enables individuals to use their own cameras: smart-phones and digital cameras to record short films. This can provide enjoyment and motivation, particularly for children and young people.
3. Consider **how many cameras** you will use. Will a single camera capture everything, or do you want to record from multiple perspectives?
4. Once you have established what camera(s) you will use, check the following:
 - What is the **storage capacity** of the camera? Most now record video electronically, and have expandable storage.
 - What is the **battery life** of the camera?
 - What is the **sound quality** of the recording like?
5. How will **participants consent** to being recorded? If you are filming with recruited participants, they can sign a **consent form**, but if recording in a **public space consider putting up signs**.
6. **Test the filming**. Review the footage and check for: camera angle and field of view; quality of recording; quality of sound. If the sound quality is poor consider using a microphone or a radio wireless microphone.
7. **Do the filming!** Keep checking the recorded footage regularly. If filming in a public area, you should be on hand to answer questions. You may record over just one day or session, or over multiple days.
8. **Compile and review the footage**. Make notes or mark on the footage sections or activities that stand out as significant or important.

VIDEO ANALYSIS AND CONVERSATION ANALYSIS

Why use Conversation Analysis with recorded film?

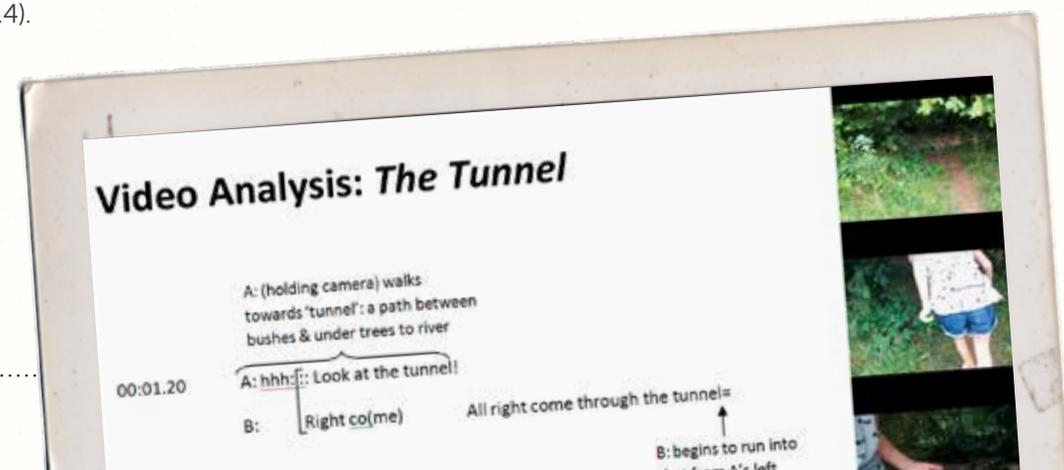
A lot can be gained from in-depth observations of video material. Watching video recordings whilst considering what participants do and the challenges they face, what they enjoy, and what captures their curiosity, can inform evaluation. The same techniques could be used to analyse observations of film as are used above in the participant observation section, for example coding what participants say or what they do to establish frequent or significant themes.

A more in-depth form of analysis is called 'Conversation Analysis'. This technique allows you to examine in detail what participants say and how their actions correspond to what they are talking about. This can be very useful in determining why people might act in particular ways.



The process:

1. Simple **video editing software** (often freely available) allows you to **cut and save segments** of video. Each might be anywhere between 1 and 10 minutes long.
2. You can then **review** these segments, **re-watching** them multiple times (and with colleagues) to pick out what are the significant themes.
3. Simple analysis may involve **counting** how many times people interact with a specific thing or object, or recording how much **dwell time** they spend in an area.
4. You can **transcribe the conversations** in video clips to allow you to analyse what people say and do in more detail. There are no 'correct' ways to transcribe, but there are techniques that are useful for video analysis (see: Heath et al. 2010). You can write each sentence spoken by each participant on a separate line, illustrating where their conversation overlaps. You can **use symbols to represent utterances in conversation**, like pauses, hesitations and changing volume of speech.
5. Next, you should **annotate the lines of conversation** with the actions of participants in the video clip, to show where **conversation and action** are linked together (Figure 1.4).
6. Following this transcription, you may choose to **analyse the material** in more detail. 'Conversation Analysis', which is used to understand social situations. This process examines the sequence of what people say alongside their interactions with each other and the environment (See Heath et al. 2010, Knoblauch et al. 2006 & www.sedit.org.uk).
7. **Review the transcripts alongside the video footage.** Consider what recurring patterns of interaction take place between people, the environment and the objects that they interact with. What kind of processes do people go through to achieve a particular action together? Is this as you would expect, or as you have designed?
8. **Consider what implications this has for your work:** This might relate to interactions with a display, a learning experience or outdoor activity.
9. **Write up your analysis.** What significant themes have emerged? What implications are there for practice and design? What evidence comes from the video footage?



EXAMPLE

Walking with Romans

The study

On-body video cameras offer opportunities to study what people do in remote locations, without the intrusiveness of the researcher holding the camera. Research was conducted between Cardiff University and the Brecon Beacons National Park Authority to evaluate a mobile application titled '**Walking with Romans**' (www.breconbeacons.org/walking-with-romans-app). The app takes people on a **tour of a Roman Marching Camp and Fortlet**, and participants were asked to follow the tour, whilst wearing the on-body cameras. These recorded participant's interactions with the application and **how they navigated the site using the interactive map**. An interview was conducted afterwards to gather participants reflective thoughts.

The place-based context:

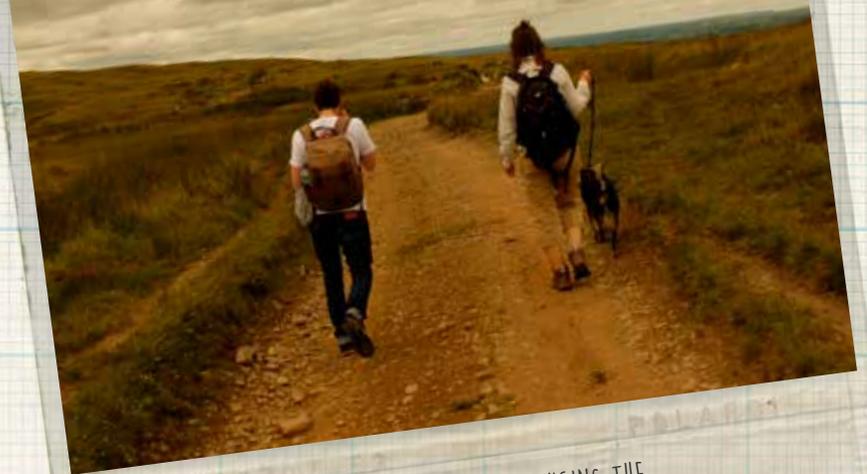
The mobile application takes participants on a tour of Y Pigwn Roman Marching Camp and Waun-Ddu Fortlet. **Both sites are on relatively remote hill tops within the Brecon Beacons National Park**. There is very little signage at the sites, and the app was developed to provide visitors with a tour on their mobile phones. Although a great deal of research has been done on mobile applications in indoor and urban environments, there is **little research and evaluation of their use in outdoor, remote and natural sites**.

A Conversation-Analysis Approach

Video was recorded from **8 groups of 2-4 participants who visited** on separate days. The groups include families with **young children, middle-aged adults and retired adults**. Following the technique described in the previous section, the **film recordings were used to provide a detailed analysis of various issues with using the application**. Editing software used to synchronise two recordings from two cameras, allowing multiple perspectives to be viewed simultaneously. Short snippets were selected and transcribed for more detailed analysis. Post-experience interviews were also transcribed for comparison with the video.

The benefits

The filming revealed how participants combined their **own knowledge of navigation and experience of the terrain with the interactive map**, how some adapted to the technology better than others, and **how young children used the mobile application and device differently to adults**. The research demonstrated that using a mobile application can enhance visitor experiences in remote landscapes, but that there are important considerations particularly for mapping and navigation to such sites.



RESEARCH PARTICIPANTS USING THE
"WALKING WITH ROMANS" APP

QUALITATIVE SPATIAL MAPPING

Why qualitative spatial mapping?

Recording location data using a GPS is increasingly easy now there are low-cost devices available. **A GPS-enabled device (for example, a smart-phone, camera, or watch) can record traces** of where people go, and where photographs and videos are taken.

These traces can be displayed, or visualised, on a map. **Location data can also be linked to other types of data, such as photos, videos and audio data.** Some devices can record accelerometer data, which can be used to indicate levels of physical activity.

These kinds of data, visualised in an interactive map, can be used for evaluating **where visitors go** at a particular site, or where people move during outdoor learning exercises.



CHILDREN LEARNING HOW TO USE A GPS DEVICE
AT A COUNTRY PARK, WALES

The process:

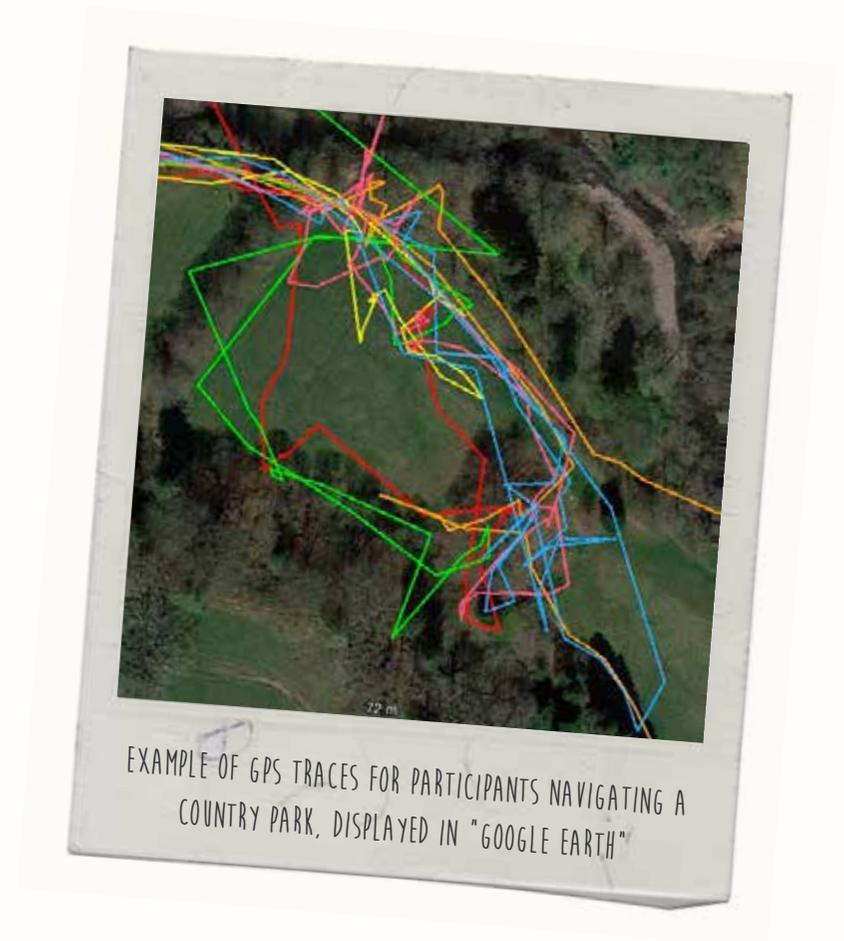
1. Decide **what it is you are interested in mapping**. Do you want to map how visitors move around a specific site, how much time visitors spend in a place, or what captures people's curiosity? Do you want to accompany the map with other data, such as participant's thoughts or feelings in specific places, or photographs?
2. Choose the most appropriate device to use. A range of devices can allow you to record a **GPS trace**. There are purpose-made GPS devices, however free apps are available for smart-phones and some photo and video cameras have **GPS technology** that records the location of where photos and videos are taken. GPS devices are also in **sports wristwatches**.
3. **Check the details** of your device: what is the **battery life**? How much **storage capacity** does it have? What type of files does it record data in? **How many devices** will you need? Do you get good **GPS signal** where you will collect data – you may encounter problems in woodlands, and GPS devices generally do not work indoors!
4. Consider how you will **recruit participants**, and what **instructions** you will give them, depending on the activity. You may simply ask them to **wear a GPS watch** during a visit, or **take GPS-linked photographs** on a theme, or just what interests them.
5. **Collect the data**: Give the device to participants with instructions of what you want them to do. Consider how to **hand out devices** to participants, how they will return them to you, and how to download and store the data.
6. **Take notes during the data collection** – consider the weather during each period, the different groups of participants (e.g. age or gender), or observations of participants responses to the activity. You may also be able to observe participants as they record the location data.
7. Once you have all the data, consider how best to **map it** (see Qualitative Mapping Analysis section below).
8. **Create the map**: There are software packages that allow you to display GPS traces and way-points. Geographical Information System (GIS) packages, such as, ArcGIS and QGIS (freely available at www.QGIS.org) take more time to learn, but produce better quality images compared to free options such as Google Earth, and are more powerful in manipulating data (see analysis, below).

CONSIDER PILOTING (TESTING) THE TECHNIQUE YOU WANT TO USE FIRST BEFORE COLLECTING ALL OF THE DATA. IF YOU WANT TO COLLECT DATA FROM 20 PARTICIPANTS, TRY THE TECHNIQUE ONCE FIRST, INCLUDING DISPLAYING THE DATA ON A MAP, TO CHECK THAT THE DEVICE WORKS AS YOU INTENDED, AND THAT YOU CAN SUCCESSFULLY CREATE A MAP FROM IT. ONCE YOU ARE HAPPY THE TECHNIQUE WORKS, YOU CAN COLLECT THE REST!

ANALYSING QUALITATIVE SPATIAL MAPS

The traces that people produce are not random, they convey meaning through visualising the choices people make and movements they engage in (Jung 2014). They can communicate the **spatial experiences** that people have, and how they **interact with elements of the landscape and other people**.

They can **visualise both routine and extra-ordinary** place-based interactions, and communicate levels of physical activity. Visualising GPS data on a map can allow you to trace where people go. It can also enable an appreciation of their interactions with their environments. There are no strict rules about how to qualitatively analyse mapped spatial data, and **many of the other analysis tools in this toolkit can be adapted to analyse these maps**.



The Process:

1. **Consider the main focus of your project** before choosing a type of analysis. Are you interested simply in what areas people visit, or are you interested in how individuals experience particular places? This will guide the kind of analysis you use.
2. Consider **how much time you have** to learn mapping software. You could learn to use advanced GIS packages such as QGIS and ArcGIS. If you have less time, data can be displayed relatively quickly in Google Earth.
3. **GPS traces can be accompanied with other data for analysis.** Think about what other data you have and how you will map it. Participants can take **photos** linked to a GPS location. You might ask participants to make **voice** recordings of their thoughts as they move around. **Observations** of activity can also be coupled with GPS recordings.
4. **Map GPS traces of movement:** If you choose to use Google Earth, you may first need to convert the location data files. GPS devices record data in different file formats (e.g. .LOG). To import a trace into an application like Google Earth, you may need to convert the file to a .gpx format – there are free online tools.
5. If you have **photos with GPS data**, they can be displayed in Google Earth using Picasa 3 by exporting them into a .kmz file. These can then be imported into Google Earth.
6. **Once imported, Google Earth can display data** in a range of ways (see Google Earth Tutorial in “Useful links” section). Multiple traces can be displayed or turned on and off, and pictures and icons can be overlaid. Now, consider how you will analyse the data.
7. **Consider participatory analysis of GPS traces** (following ‘participatory analysis’ on page 29). This can reveal what it is about places or experiences participants find attractive. Ask them to comment on the accurate maps of their movements you have created.
8. Alternatively, **use the maps of GPS traces as a prompt for map-based interviews with participants**, encouraging them to talk about specific experiences in places. These can be annotated onto the map (see Bell et al. 2015).
9. Similarly to other forms of qualitative analysis, maps and other data linked to them (voice recordings, interviews, images and video) can be **coded and analysed** for recurring or significant themes.
10. You can also **visually analyse** the traces that people make through their movements (see Jung 2014). For example, what areas do people congregate in? Do people move rapidly or slowly through certain areas? What areas are well used and which are neglected?

USEFUL LINKS

Section One:

Getting started: Designing Research and Evaluation

Defining Aims, Research Questions, Literature Reviews & Methodology

1. Bryman, A. (2012) *Social Research Methods*, Oxford: Oxford University Press.
2. Cloke, P., Cook, I., Crang, P., Goodwin, M., Painter, J., & Philo, C. (2004) *Practising Human Geography*. London: Sage.
3. Heritage Lottery Fund (2012) *Evaluation: A Good-Practice Guide*: <https://www.hlf.org.uk/evaluation-guidance>
4. Kindon, S., Pain, R. & Kesby, M. (2007) *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place*. London: Routledge
5. Kumar, R. (2011) *Research Methodology: a Step by Step Guide for beginners*, London: Sage.
6. Randolph, J. (2009) A Guide to Writing the Dissertation Literature Review, Practical Assessment, *Research and Evaluation*, 14(13): 1-13

The Research Process as a process of representing participant experiences

7. Riessman, C. K. (1993). *Narrative Analysis*. London: Sage

Gaining Access: Ethics and Consent

8. Christensen, P., & James, A. (Eds.). (2008) *Research with Children: Perspectives and Practices*. London: Routledge.
9. Clifford, N., Cope, M., French, S., & Gillespie, T. (Eds.). (2016) *Key Methods in Geography*. London: Sage.
10. Punch, S. (2002) Research with Children: The Same or Different from Research with Adults?. *Childhood*, 9(3), 321-341.

Using Place-based Methods:

11. Massey, D. (2005) *For Space*. London: Sage.
12. Somerville, M. & Green, M. (2015) *Children, Place and Sustainability*, Basingstoke: Palsgrave-Macmillan

Section Two:

Some Qualitative, Place-Based Research Methods

Interviews as Creative Conversations:

13. Clandinin, D. J. & Connelly, F. M. (2000) *Narrative Inquiry: Experience and Story in Qualitative Research*. San-Francisco: Jossey-Bass.
14. Fontana, A. & Frey, J. (2000) *The Interview: From Structured Questions to Negotiated Text*. In: Denzin, N and Lincoln, Y. (Eds) *Handbook of Qualitative Research*. London: Sage: 645-672.

Focus groups or Group Interviews:

15. *World Café Organisation*: <http://www.theworldcafe.com/>

Narrative analysis: the poetic structure of transcripts:

16. Dunkley, R., Morgan, N., & Westwood, S. (2011) Visiting the Trenches: Exploring Meanings and Motivations in Battlefield Tourism. *Tourism management*, 32(4): 860-868.
17. Gee, J. P. (1991). A Linguistic Approach to Narrative. *Journal of Narrative and Life History*, 1(1): 15-39.

18. Riessman, C. K. (2002). Analysis of Personal Narratives, in Gubruim, J. F. and Holstein, J. A. (Eds) *Handbook of Interview Research*, Thousand Oaks: Sage: 695-710.

Participatory and Creative Mapping:

19. Kindon, S., Pain, R. & Kesby, M. (2007) *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place*. London: Routledge.
20. 'Pathways through Participation' Project:
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