

Pages 2 and 3

Non-probability sampling allows the researcher to make decisions about the sample that is selected. Non-probability sampling can be used to select:

- convenient locations for spatial data to be sampled. The choice could be based on accessibility or safety.
- times for temporal data to be sampled. The choice could be based on convenience or availability.
- people to be interviewed or surveyed. The choice could be based on opportunity (who happens to be available at the time) or pragmatism (who is willing to be interviewed).

Page 4

Use these images to discuss possible theoretical contexts which might be investigated using non-probability sampling. Specialised concepts, such as identity, globalisation, inequality, representation, risk and sustainability, are all concepts that have potential for investigation in urban environments. Perception studies require students to survey the points of view of local residents or key stakeholders. Any NEA that involves a perception study, such as perception of a regeneration project or perception of place identity, will almost inevitably involve the use of non-probability sampling.

The photos show:

- | | |
|-------------|--|
| Top left | Bicycles for hire in Elephant and Castle, London. Students could use non-probability sampling to select locations where transport management is assessed as part of an investigation of sustainable communities. |
| Top right | Birmingham's Central Library – part of a large regeneration project of Centenary Square. The library is one of Birmingham's flagship buildings. It opened in 2013. Centenary Square underwent another major period of redevelopment between 2017 and 2020. Students could use non-probability sampling to select 'experts' such as planners and councillors to conduct in depth interviews about the impacts of projects such as this. |
| Bottom left | Limehouse Basin in London. Students could use non-probability sampling to select residents to survey as part of an investigation of perceptions of gentrification. |

Bottom right Graffiti in Brick Lane, Shoreditch. Students could use non-probability sampling to select sample sites for a Graffiti Index (a specialised type of environmental quality index). Alternatively, they could investigate perceptions of street art and graffiti as part of an investigation of place identity and use non-probability sampling to select the participants.

Page 5 Review

Ask students to:

1. Suggest possible research questions or hypotheses. It should be possible to prove/disprove a hypothesis by the use of empirical evidence. In perception surveys, a research question is usually more appropriate. Discuss whether the suggested hypotheses are suitable or whether a question would be more appropriate.
2. Justify their suggested questions and hypotheses by making a firm link to a concept or theory that is included in the specification.
3. Discuss the likely spatial scale of this research. Try to focus their minds on smaller scale studies.
4. Discuss why it may be necessary to use non-probability sampling in their proposed investigation.

Page 6

In random sampling, the sample is selected using random numbers or another method, such as flipping a coin or rolling dice.

In random sampling, every potential sampling point has an equal chance of being selected. This makes random sampling the least biased option. In theory, it should give a representative sample that truly reflects the whole population.

However, random sampling can be time consuming when conducting a questionnaire or survey. This is especially the case when complete strangers are randomly selected (for example, in a street survey) because of the high rejection rate. For this reason, it is more pragmatic to use non-probability sampling.

Page 7

Students sometimes confuse random sampling with opportunistic sampling; for example, they describe:

- choosing sites 'randomly' across an urban area to collect data on footfall or EQI or subconsciously
- selecting 'random' respondents in a questionnaire.

In many cases the sample has actually been selected for pragmatic or opportunistic reasons rather than by the use of random numbers.

Non-probability sampling involves making subconscious decisions to select the sample rather than random decisions like those generated by a random number app. For example:

- Locations are chosen because they are safe or easy to access.
- People are chosen because they look friendly or because they engage eye contact.
- Plants are selected at 'random' in a sand dune are selected because they look interesting.

Non-probability sampling is often used to select respondents for a questionnaire. Researchers subconsciously select some individuals and reject others. Participants are selected because they look friendly, engage eye contact or are in a similar demographic to the researcher. Similar types of people are selected each time and if the investigation were repeated, similar people would be selected for a second time. This is potentially a biased sample that does not represent the whole population.

Page 8

Non-probability sampling has a major limitation – the sample is unlikely to be as representative as that collected using systematic, random or stratified sampling. In other words, this method of sampling can introduce sample bias. However, it has strengths which relate to the fact that this is a pragmatic solution to some common issues faced by researchers. Students should be able to justify their sampling strategy, so knowing its strengths is important. They will also need to evaluate their strategy, and a good evaluation will provide a balance between strengths and weaknesses.

Page 9

If non-probability sampling is chosen, then students should consider ways of making it as representative as possible. The simplest way to do this is to increase the sample size. WJEC recommends that students who rely heavily on data collected in a questionnaire should interview a significant number of people to get a representative cross-section of opinions. Fifty or more questionnaires would be considered a significant number.

One key consideration is, therefore, whether or not the whole population can be considered to be heterogeneous or homogeneous. If the population considered by the investigation is relatively homogeneous then the sample size could be reduced a little. So, for example, in a perception study, instead of investigating the views of every sector of society, the researcher could focus on one demographic or socio-economic group. Alternatively, they could compare the views of two discrete and reasonably homogenous groups. For example, a researcher could compare the perceptions of students (aged 18-22) with those of people who have retired.

Page 10 and 11

If students want to select a smaller demographic or socio-economic group for their investigation, they should use secondary sources to identify the main characteristics of the whole population. Details of age structure, ethnicity and socio-economic background for small neighbourhoods can be easily found online. Students should focus on small scale neighbourhoods for their NEA. One Lower Layer Super Output Area (LSOA) is an ideal scale.

Page 12 Review

In a homogeneous population such as this, a smaller sample should be reasonably representative. In this case, WJEC would accept a sample of about 35.

Page 13

Another way to reduce the sample size in non-probability sampling is to select people because they are likely to represent different points of view on the same issue. For example, in an investigation of the effectiveness of a regeneration project, it might be sensible to select participants who are likely to have strong views (for or against) the project because they have experienced it first-hand. These are sometimes referred to as players or key stakeholders.

If non-probability sampling is chosen, then students should select a small group of people to represent the views of each group of players that has been identified.

Page 14 Review

In this example, players might include:

- local residents – these could be subdivided into two or three smaller groups by demographic or socio-economic group

- local businesses such as the owner of this bar/restaurant or estate agents that sell or let local properties
- local decision makers, such as councillors or planners.

Page 15

Expert sampling is really an extension of the ideas described on slides 13 and 14. This is a useful strategy where the opinions of players who have 'expert' understanding of the issue are of interest to the investigation rather than the views of the general public. Non-probability sampling is used to select 'experts' who are available and willing to speak to the researcher about the issue. The student will need to justify their choice of 'experts'. For example, an investigation of rebranding could include local politicians, planners, social media commentators or all three.

The use of 'experts' will usually mean that the researcher conducts longer interviews with open questions. Interviews can then be analysed using coding.

Page 16

Snowball sampling is a type of non-probability sampling that allows the researcher to collect a larger sample size than might otherwise be possible. It is usually used for pragmatic reasons – the researcher may not be able to find enough people to take part in the survey. The researcher designs a survey that can be completed on paper without a face-to-face interview. They then interview everyone who is available. Each participant is then asked to interview two or three more people, so the survey grows like a snowball.

Students might use this strategy if the target population is sparse or difficult to meet. For example, in an investigation located in a rural environment it may be difficult to meet enough participants face-to-face.

Page 17

Use **Modal instance sampling** if you want to sample the views of people who appear to be 'typical' of a certain group who are significant to your investigation. For example, imagine you want to make sure that you get the views of people who commute to work by bicycle but you are worried that very few people in a random sample of 100 people would commute by bike.

First, you do a pilot study to identify what a 'typical' person who commutes by bike is like – perhaps by talking to a few.

It may be that these cyclists are usually male aged between 20 and 35. If so, in modal instance sampling, you would target only males aged 20-35 to take part in your investigation. This type of sampling should prevent a lot of wasted time because only relevant people are questioned. However, it only works if a pilot survey is used to identify the target group accurately. Some lazy researchers use this method without a pilot survey – in which case the wrong group of people may participate!

Page 18 Review

Ask students to:

1. Suggest possible research questions or hypotheses.
2. Justify their suggested questions and hypotheses.
3. Discuss how non-probability sampling could be used in this investigation to select:
 - a) participants for a survey/questionnaire
 - b) locations within the urban area for a Graffiti Index or EQI.
4. Identify the strengths and weaknesses of non-probability sampling in this context.