Journal of Geography in Higher Education

ISSN: 0309-8265 (Print) 1466-1845 (Online) Journal homepage: https://www.tandfonline.com/loi/cjgh20

A Practical Guide to Focus-Group Research

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Journal of Geography in Higher Education,
Vol. 30, No. 3, 463–475, November 2006

Routledge
Taylor & Francis Group

RESOURCES

A Practical Guide to Focus-Group Research

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ABSTRACT *This article guides readers through the decisions and considerations involved in conducting focus-group research investigations into students' learning experiences. One previously published focus-group study is used as an illustrative example, along with other examples from the field of pedagogic research in geography higher education. An approach to deciding whether to use focus groups is suggested, which includes a consideration of when focus groups are preferred over one-to-one interviews. Guidelines for setting up and designing focus-group studies are outlined, ethical issues are highlighted, the purpose of a pilot study is reviewed, and common focus-group analysis and reporting styles are outlined.*

KEY WORDS: Focus-group methodology, interviews, students, research methods, student experience

Introduction

Qualitative data collection and analysis is always messy. It is useful, therefore, to start by asking oneself: 'What do I ultimately expect to get out of this research?'

Two previously published focus-group studies, one of students' experiences of learning with communications and information technology, and one of geography students' experiences of fieldwork, are used to illustrate how to think through this question, because it is necessary to have an answer to it before it is possible really to judge whether focus-group methodology is appropriate in the first place. This process will also prove useful at the end of the work, when it comes to documenting what was done.

Before launching into sections on how to set up focus groups, designing the focus-group interview schedule, overcoming ethical issues, conducting the pilot study and analysing focus-group data, it is advisable to start by working through the decision-making process that determines the appropriateness of the adoption of a focus-group methodology. Focus groups are time-consuming and result in mountains of data. The researcher also has to rely on everyone showing up at the right time, so it is important to be sure that they are going to give you what you want.

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ISSN 0309-8265 Print/1466-1845 Online/06/030463-13 © 2006 Taylor & Francis
DOI: 10.1080/03098260600927575

After this decision-making process has been worked through, and the 'how to' element is tackled, this article ends with some advice on how to report on focus-group research so that the hard work you have put into developing and conducting a rigorous piece of research is well documented and communicated.

A Case Study

One case study will be used as an example of focus-group research throughout this article. Participants in the case study were undergraduate students who were asked to take part in some institutional research that was intended to inform university policy on the provision of its IT resources. The case study was published in *Studies in Higher Education* (Breen *et al.*, 2001) and has been selected as an example for several reasons. Not only does it demonstrate the use of a very detailed focus-group schedule but it also used recordings of the discussions for a thematic analysis that followed. Most importantly, it made the best use of the key attributes of focus-group methodology for a key purpose of pedagogic research: to generate ideas for the purpose of devising recommendations for future change and improvement in student learning. The case study, along with other examples cited from the field of pedagogic research in geography higher education, will be used to illustrate the journey researchers can expect to take, including the obstacles and dilemmas, when conducting focus-group research.

Deciding to use Focus Groups

Geographers undertaking pedagogic research might decide to use focus groups when they need to know about student experiences of a particular teaching and/or assessment method; when they need to generate ideas among a group of staff for the purposes of curriculum development; or when they need to find out how a new policy will be received by staff and/or students in order to devise appropriate means of implementation. To date though, most published articles describing focus-group research in geography higher education fit into the first category. For example, Kneale (2002) used focus groups to explore student experiences of Personal Development Plans, whilst Fuller *et al.* (2003) used Nominal Group Technique (a more structured and narrow version of focus-group methodology) to explore student experiences of fieldwork.

Articulating what it is that you expect to get out of focus-group research requires time and attention. To assist you to articulate your answer, it is suggested that you use the style illustrated by the case study example and another hypothetical scenario derived from Fuller *et al.* (2003):

'What I expect to get out of this research is' . . .

1. An understanding of the role that IT plays in student learning, so that university policy relating to the provision of IT can be informed by robust evidence. [Case study example]
2. An insight into student experiences of geography fieldwork, so that future course planning can be more effective by harnessing the best features of fieldwork in future course planning for students.[1]

3. ____-
____-
____ [Your research expectation/s]

From these statements, it is possible to derive your research question/s:

1. How can university policy on the provision of IT best support student learning? [Case study example]
2. How do students view fieldwork (in light of its removal) as a teaching and learning tool? [Fuller et al. (2003, p. 80)]
3. ____-
____ [Your research question/s]

Consider now whether your research question requires you to get participants:

- to share and compare their experiences with each other?
- develop and generate ideas?
- explore issues of shared importance?

If you answered 'yes' to any of the above, then focus-group research is likely to be appropriate.

However, if you respond 'yes' to any of the following, you should consider either complementing your focus-group work with an alternative methodology, or selecting a more appropriate methodology:

(a) I want to make reliable comparisons between groups of people
(b) I need to know about the actual behaviours of people.
(c) I want to get an institution-wide perspective on people's experiences.
(d) I want to understand recent changes/developments that have occurred over tim.

Appendix 1 outlines some example methodological solutions for dilemmas (a)–(d) above.

Choosing Focus Groups over One-to-One Interviews

Table 1 summarizes the key differences and similarities between one-to-one and focus-group interviews. The paragraphs that follow the Table provide more detail on what you

Table 1. One-to-one interviews versus focus groups

	One to one	Focus groups
Purpose	Probe experience	Generate ideas
Researcher role	Interviewer	Moderator
Sample	Aim to reach theoretical saturation (usually $>$ 10–12)	
		Homogenous groups of 4–6 participants in each
Equipment	Tape recorder, lapel microphone, quiet room	Tape recorder, oval/round table/table microphone, props (flash cards, leaflets)

should consider in relation to the ‘purpose’ of the work and the ‘sample’ required to achieve it.

Purpose

The key difference between one-to-one interviews and focus-group discussions is that the latter is far more appropriate for the generation of new ideas formed within a social context. In contrast, one-to-one interviews ought to probe individual experiences, encouraging self-reflection on issues that could be distorted if social pressure were placed on the individual. Research questions for which one-to-one interviews are appropriate might include: ‘What motivates students to learn in different disciplines?’ Here, individuals’ interpretations of what counted for a significant experience that impacted on their decisions to study particular disciplines are required, to get a full explanation of the phenomenon under investigation.

Sample

Both interviews and focus-group data provide qualitative data, which should be recorded, transcribed and analysed, usually by searching for themes that occur across interviews. Deciding how many interviews to conduct should depend on the point at which you expect to reach theoretical saturation when you come to conduct the thematic analysis (Strauss & Corwin, 1990); that is, when you expect a new interview to reveal no new themes. Depending on the complexity of the phenomenon under investigation, theoretical saturation is normally reached after 10–12 interviews. However, in large-scale studies, where gender differences, disciplinary differences etc. are expected to influence analysis, you should expect to conduct 10–12 interviews with women, 10–12 with men, 10–12 with history students etc. Note, however, that whilst qualitative data can help to formulate hypotheses around what disciplinary and gender differences exist, quantitative data are required to demonstrate difference statistically, which would require the development of a questionnaire, for example, and further data collection. Note also that if the focus groups are designed to investigate students’ learning experiences, they should consist of participants who have been exposed to similar experiences. For example, in the case study example, we expected students in arts-related disciplines to use computers for different purposes from science students, so these students were divided into separate focus groups.

How to Set Up Focus Groups

Having decided that focus groups are suited to your research needs (for advantages and disadvantages of focus groups, see Table 2):

- First, consider your timing (e.g. not during exams!), your incentive (cash/book tokens/information/learning experience) and the number of groups you need to interview (see ‘sample’ details above).
- To ensure that students all arrive with the same expectations, those expressing an interest in taking part should be sent the same, pre-prepared introductory letter or email explaining what is expected of them, and why the research is important, noting that the discussion will be recorded and assuring confidentiality.

Table 2. Summary of the advantages and disadvantages of focus-group methodology

Advantages	Disadvantages
• Attitudes and opinions are socially formed; focus groups provide a social environment in which to articulate them	• More expensive and time consuming than quantitative evaluating procedures
	• Harder to get everyone in the same place at the same time
• Gives us a deeper understanding of the phenomenon	• Problem of obtaining a biased sample
• Gives us new insights	• Reliability of thematic analysis
• By gaining an understanding of students' expectations for the future, we can make a more educated guess as to how they will react to policy change	• Reliability of perceptions (not always accurate)
• Complements and further explains statistical information obtained from other evaluative processes	• Difficulties preventing a particularly vocal or dominant participant from coercing others to agree with his/her views
	• Data obtained are very context-specific and therefore not generalizable to other institutions or contexts

- You may need to categorize your participants by relevant demographic variables if this is relevant to the purpose of the study (e.g. mature, international, part-time students, arts, sciences). Ensure that your groups are homogenous, and comprise between four and six people in each.
- Location is an important consideration. Does the university provide the right environment or should the discussion be conducted off site? Location should be primarily a matter of what is most convenient for the participants.
- Gather the equipment you need (oval/round tables promote discussion, tape recorder, Table microphone). Since focus groups often focus participants on an issue that requires new ideas for its resolution or progression, material may also need to be brought into the room, such as leaflets, or flash cards. These are used to help remind participants of the breadth or focus of the issue. For example, flash cards were used in the case study example, to illustrate the range of software that students use regularly in support of their studies.

Designing the Focus-Group Interview Schedule

It is useful to write out an interview schedule, not just because there is a lot to remember to do, but in order to ensure that there is consistency across the various focus groups in the way that you treat them. The focus-group interview schedule should follow the following stages:

- the welcome;
- an overview of the topic;
- statement of the ground rules of the focus group, and assurance of confidentiality;

- the questions (beginning with general experiences and progressing to specific problems);
- obtainment of background information (gender, age etc.).

Examples of how to welcome the group and the structure of the topic overview are provided in Figures 1 and 2. Many focus-group interviewers simply use a note-taker, rather than a tape-recorder, as is evident from the example above. It is worth considering what you may lose and gain by using this approach, and whether you should ask a focus-group participant to take notes, or bring in an outsider. Recording a discussion or bringing in more outsiders can make participants uneasy, especially in organizational contexts. The expense of the required equipment may also be too steep for a research budget. To help ascertain whether you are likely to lose anything from a lack of recording, you could conduct a couple of pilot studies and look at whether the notes provide an adequate representation of the richness of the discussion. Whether or not you record a discussion, it is good practice to summarize the main points that arose during the discussion and obtain participants' agreement that you have summarized the discussion adequately.

Types of Focus-Group Questions

The focus-group moderator should spend a large portion of the discussion time probing participants' experiences, asking them to share and compare experiences, and discussing the extent to which they agree or disagree with each other. It is not until the final third of the interview that the moderator should start to actively engage the participants in the key research questions for which she/he requires the answers. Indeed, many experienced focus-group researchers emphasize the importance of 'warm-up' time. This may require the moderator to provide the participants with some information on the current situation that has led to the important question. For example, in the case study example, we revealed to students that the 1998 Dearing report recommended that every student should own his/her own computer by 2006, before progressing with the questions which began to probe opinion and attitude on whether and how the university ought to implement this policy recommendation.

Krueger (2000) provides a useful guide on different categories of questions, and on how they ought to be used throughout the interview. Krueger's question types appear in Table 3, with example questions from the case study example.

Additional tip. It is useful to note in the margin of your interview schedule the time that you intend to spend on each question, to ensure that you do leave adequate time for the key questions, as discussions can get interesting, and out of hand!

Overcoming Ethical Issues

Focus-group research is often seen as a way of getting people to 'buy into' new ideas before they are implemented. Participants are usually aware that they are involved in a process that intends to stimulate some kind of change in their attitudes or their behaviour. Therefore, participants tend to come to the situation believing that they will learn something, particularly if the focus group is used as part of a consultation process. It is always worthwhile and even necessary, perhaps, to consider the quality of the learning experience you are providing for participants. For some people, sharing experiences with

[Explain that I am going to read out the welcome and instructions so that all focus groups follow the same procedure]
Welcome & Instructions
Thank you for agreeing to participate in a discussion about student learning and the use of computers by students at this university. In developing its teaching policies, the university wants to ensure that students views are listened to and while your views are highly valued your identity will not be disclosed to anyone outside the research team. We are interested in the experiences and attitudes of students, not of particular individuals. I am going to ask you some questions about your experiences of non-traditional learning, especially information technology (computing) at this university. I hope these questions will stimulate discussion amongst you. I will not be contributing to the discussion, but I am here to moderate the session by keeping track of time and making sure that all of the issues in which we are interested are discussed. You can ask me to repeat a question if you need to, but apart from that, I will contribute as little as possible.
I am also going to record the discussion, so please speak clearly and remember that the tape-recorder will not pick up actions such as nodding in agreement etc. So try to voice everything but not at the expense of interrupting each other, as we might find the discussion difficult to decipher later, if you speak over each other.
I will now tell you about the topic, then we will introduce ourselves and check that the tape-recorder is picking up our voices.

Figure 1. Case study example: how to welcome the group. *Note*: These focus groups were conducted on the university campus at a time convenient to the participants.

others is a rewarding therapeutic experience in itself. Others may expect to go away with a greater understanding of a new initiative or policy. Either way, it is useful to be ready with advice, and to offer your contact details for any questions about the research that may arise at a later date.

Some golden rules for overcoming common ethical issues are:

- Put your interviewee at ease.
- Assure confidentiality.
- Establish a rapport.
- Explain the interview format and the sequence of topics.
- If necessary to make notes, explain why.
- Provide supplementary exploration; prompts.
- Avoid bias.
- Avoid piling questions on top of each other (confuses).
- Keep pace up and stick to time.
- Be ready with further advice.

Conducting the Pilot Study

When the stages outlined above have been completed, a pilot study should be conducted. This is extremely useful and can dramatically improve the data you get. Conduct pilot

Overview of Topic

We all know that students learn from tutors and lecturers, and we all know they learn from library materials such as textbooks and journals, but there is also an increasing range of less traditional information sources. Examples are workbooks and learning packages, purpose-made videos and CD-ROMS, special-purpose software and the Internet. Learning based on sources other than teaching staff and traditional textual material is known as Resource-Based Learning (RBL). Resource-based learning that requires computers is called IT-based learning (IT-BL).

On the table in front of you is a range of flashcards that give examples of both resource-based learning materials. [Indicate flashcards showing the following examples of RBL and IT-BL: module handbook, textbook, workbook, Complete Course Book (MBA), video, Internet News, Email, CD-ROM, Web pages and Microsoft Excel]. You are probably already familiar with module handbooks like this one [Example shown] and of course textbooks but there are other forms of resource-based learning such as workbooks like this one [Example shown], and texts which completely replace lectures like this one [Example shown]. There are also flashcards that give examples of resource-based learning which involve the use of computers, which you may or may not have come across. Here we have Internet News, which gives you access through a computer to up-to-date world news events and stories and shows pictures and news text like newspapers do. Email is electronic mail allowing you to write to other students, lecturers and anyone worldwide who also has email. Through CD-ROM applications such as Psychlit, Bids and Sociofile you can access references and brief reviews of books and journal articles written in the relevant fields. Web pages, like the university's Web pages, give you information of public interest about an organization or a company, or a product. Microsoft Excel is a flat file database for organizing and rearranging related pieces of information but can also be used for statistical tasks. So when I talk about resource-based learning materials, I mean all these sorts of materials. To distinguish between resource-based learning which requires a computer and resource based-learning which does not require a computer, I shall use the terms 'computer-based learning' and 'non-computer-based learning'. When I talk about 'resource-based learning', I mean ALL of these types of learning aids. These flashcards will remain in front of you for the duration of the discussion to remind you of examples of resource-based learning if you need them. But remember that they are just examples; it is important that you try to talk about experiences of resource-based learning methods that you personally have had. [Check everything has been clearly understood]

This discussion is aimed at gaining an understanding of your experiences of resource-based learning methods at this university, your attitudes towards them and in particular your thoughts about learning with computers. The study will be used to assist staff in understanding present student experiences of learning and will also contribute to the policy debate within the university concerning the role of IT and the style of learning towards which the university should move over the next decade.

[Introductions]

[Playback tape to make sure all voices are heard]

Figure 2. Case study example of a topic overview

Table 3. Progressiveness of focus-group questioning

Kreuger's categories	Case study example
Opening question	What experiences have you had of resource-based learning methods?'
Introductory questions	In which of your courses have you encountered resource-based learning methods?
Transition questions	What do you like about resource-based learning methods?
Key questions	Given that computer-based learning methods require everyone to have a computer and universities will not be able to afford this, how would you feel about being expected to provide your own computer to support your studies at university?
Ending question	Finally, is there anything connected with resource-based learning methods which has not been discussed that you feel strongly about and would like to bring up now?

studies with at least three groups, then you will get an impression of the kind of approach and questioning that works best for you and what structure feels most comfortable. If your interview schedule does not change dramatically as a result of the pilot studies, you can use the data obtained as part of the main investigation.

Why Conduct a Pilot Study?

Below are some reasons to conduct a pilot study:

- To obtain comments on your how your interview questions come across from representatives of your target group—i.e. to check for meaning.
- To help revise the question structure, decide whether more need to be included, whether some need to be deleted, etc.
- To learn about your effectiveness as a moderator—do you need to modify the amount of involvement you are having in the interview?

What if it is Not Possible to Conduct a Pilot Study?

In cases where the target population is very small, or resources for research are scarce, slight modifications to the research design will allow you to achieve the key benefits of a pilot study:

- The focus group can be extended in length so that questions are checked for their meaning during the session itself. Make it clear to participants that they should ask you to clarify or expand on questions they feel unsure about. At the analysis stage, be aware of any misinterpretations of questions. An alternative strategy is to send the questions to the group in advance of the session and check that participants do not anticipate having any problems responding to them.
- Set up a second session with the same group of participants after an initial analysis has been conducted if there are further questions arising that were not initially included in the schedule.

- Be reflexive and critically aware of the amount of influence you had during the interview when you review the recording and be careful about attributing opinions to the group in cases where you introduced that opinion to the group.

Analysing Focus-Group Data

Any formal analysis of focus-group data should include a summary of:

- the most important themes;
- the most noteworthy quotes;
- any unexpected findings.

An analysis of focus-group data therefore aims to achieve the same aims as many one-to-one interview analyses, *except* that through the process of trying to arrive at group consensus in the session, some recorded comments may change in their level of importance, as they may be made by one individual and then refuted by others. Some of the most interesting findings arise from placing an analytical perspective on the social interaction itself, particularly in heavily politicized environments. Wiles *et al.* (2005, p. 90) describe how geographers can use narrative analysis in taking up the challenge of interpreting and understanding "layers of meaning in interview talk." A particular social group may use ways of talking that are particular to their social context. A narrative analysis extends beyond what people say, and into how they say it.

In extracting themes from the interviews it is important to take account of the *extensiveness*, *intensity* and *specificity* of comments made, and more weight should be assigned to such quotes. You might also consider including the most noteworthy quotes in your report, to give readers a flavour of what statements were made in support of particular themes. At the beginning of your research, you should have made notes on what you expected to get out of the research. Now is the time to revisit those notes, and to consider whether there were any unexpected findings.

Whilst it is advantageous to record and transcribe interviews, it is doubly advantageous if you are able to manage the data electronically using a qualitative data-management package such as Atlas ti* or Nu*dist. These software packages make it is easier to assign codes to each emerging theme. Codes can be merged using this software, or relationships can be established between them.

The process of picking out themes and assigning each one a reference number is known as *axial coding*. Once codes have been assigned to sentences, or to a collection of sentences, it is easily possible to calculate the frequency of codes, or themes, both across and within groups or individuals. Code frequency supplies researchers with an objective measure of the prevalence of an attitude between and within groups. However, qualitative analysis is necessarily subjective and, to ensure objectivity, a reliability check should be employed before making claims about attitude prevalence. For example, an independent researcher might be given the list of codes, and asked to identify sentences/groups of sentences that match each code. Code-to-sentence matches should occur in at least 80 per cent of cases to claim high reliability. The themes extracted from the case study example are reported in detail in Breen *et al.* (2001) and Lindsay *et al.* (2002).

Finally, two good indicators of the reliability of your focus group data are (a) the extent to which participants agreed/disagreed on issues (look for issues on which there is general agreement and treat issues on which there is disagreement with caution) and (b) the frequency of participant opinion shift during the discussion (treat higher frequencies of opinion shift with caution).

Reporting on Focus Group/Interview Investigations

It is important to provide as much detail as possible (without revealing participants' identities) on the sample population and how they were accessed, in order to show that members of the target population had equally good chances of hearing about the work and participating in it.

The interview process should be detailed. How did you introduce the topic? What was the order of the questions and how did you decide on their order and progression? What was changed or modified as a result of the pilot? How long did each interview take?

In qualitative research it is always important to demonstrate reflexivity as an interviewer. In other words, to consider how your own viewpoint or position on the topic, or in relation to the students, might have influenced the way that you moderated the discussion, or the participant's willingness to be truthful in the discussion. It is always worthwhile to note any measures that you took to minimize interviewer effects.

Explain also the measures you took to maximize the reliability of your data: Did you use an independent researcher to cross-check your codes? Did you look at the level of agreement or disagreement between participants? Did you assess the frequency of opinion change among respondents?

A Final Word

Focus groups should provide your participants with a rewarding learning experience of their own. Through the activity of generating and sharing ideas, your participants are establishing the relevance *to them* of your new policy, idea or issue. Careful selection of your population sample is thus important. When the topic is irrelevant to participants' work or personal goals, a disservice is done to the research as well as the participants.

Acknowledgements

The author would like to thank Bernice Melville and the anonymous referees for comments and suggestions on earlier drafts of this article.

Note

[1] This is a hypothetical example as Fuller *et al.* (2003) did not articulate an intention to apply the data in assisting with future course planning.

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Appendix 1: Example solutions to dilemmas (a)–(d)

(a) I want to make reliable comparisons between groups of people

Reliable comparisons between groups of people require statistical analysis of data, which can only be acquired from quantitative data collected from a sample of people who are representative of the whole population. It is, however, possible to derive quantitative data from focus-group research. For example, Lindsay *et al.* (2002) compared the frequency of positive and negative comments made about lecturer involvement in research between undergraduates and postgraduates. Half of the focus groups comprised undergraduates only, and half comprised only postgraduates, both from a range of disciplines (and therefore thought to be representative). After coding each sentence recorded from the discussion as ‘positive’, ‘negative’ or ‘neutral’ (with regard to their perceptions and experiences of lecturer involvement in research) the authors asked an independent researcher to do the same. Although, in this case, the authors argued that reliability was achieved because over 80 per cent of the sentences were coded in the same way by the independent researcher, it is unlikely that reliability could be achieved if the coding had been any more complex than simply the identification of ‘positive’, ‘negative’ and ‘neutral’ statements.

(b) I need to know about the actual behaviours of people

The actual behaviour of people is difficult to glean from focus-group discussions regarding their activities because of factors such as hazy memories and social desirability (manipulating the truth to meet the expectations of others). However, in the case study example, it was considered important to know about the actual behaviours of students in order to fully understand the role that IT plays in their learning. It was decided, therefore, to triangulate focus-group methodology with computer-diary methodology to find out about how much time students spent using different computer applications (reported in Breen *et al*., 1998). The triangulation (Webb *et al.*, 1966) of these methodologies added reliability to the study by revealing the extent to which student *perceptions* of what they do matched the reality of their *actual* student behaviour.

(c) I want to get an institution-wide perspective on people's experiences

There is often a decision to be made about how well-informed you already are about a phenomenon under investigation. If you already have a good idea of the range and content of people's experiences, then it will not be necessary to collect qualitative data on the subject. Instead, develop a questionnaire, asking them about the extent to which they experience the various features of the phenomenon. A questionnaire can be used to access a much larger number of people, especially if the whole population uses email. It will then be possible to explore the range of perspectives across the organization using, for example, tests for differences between groups of people making up the divergent groups using *t*-tests or analysis of variance.

(d) I want to understand recent changes/developments that have occurred over time

Longitudinal, quantitative methodology would be required for this research aim.