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Determining the Sample in Qualitative Research

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Abstract

This paper focuses on the considerations in determining the number of participants for qualitative research because of the lack of clear guidelines in this area. The study has employed a semi-systematic literature review that is embedded with the researcher's experience. The study has concluded that the purpose of the research, methodological choices, theoretical framework and analytical strategy, data saturation, researcher's knowledge and experience, and institutional and supervisor's requirements need to be considered while choosing the participants in qualitative research. In addition, the focus has been to explore in-depth information from small number of participants. Generally, participants in qualitative research can be added or removed during the research process rather than the prior determination. This paper suggests that the researchers are autonomous to select the participants in qualitative research and they can choose from a single to twenty samples that can be varied upon the depth of the information required and the nature of the inquiry. While conducting the narrative inquiry, one to twenty or more participants can be selected with justification.

Keywords: Participants, narrative inquiry, purposive sampling, experience, identity

Introduction

The sample size determination is one of the major concerns of researchers for many years particularly in carrying out qualitative research in social sciences. Many scholars have paid attention to the issues of deciding the sufficient sample size in qualitative studies (Barkhuizen, 2014; Blaikie, 2018; Morse, 2000; Wimpenny & Savin-Baden, 2013). Particularly, positivist researchers have been criticising the lack of generalisation in qualitative studies since it employs a small sample.

The intent of qualitative research in social sciences is an in-depth exploration of the phenomenon (Hong & Cross Francis, 2020), rather than representing the study population

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(Boddy, 2016; Moser & Korstjens, 2018; Nakkeeran, 2016). However, the adequate sample size in qualitative research is debatable, and that makes the researcher confusing particularly to novice ones (Barkhuizen, 2014; Mason, 2010). Therefore, discourses on 'examining the sufficient sample size in qualitative research' (Young & Casey, 2019) is still relevant that invite a systematic exploration.

The dominance of the positivist approach nowadays is gradually decreasing since many of the graduate students have been motivated as they have been carrying out their research by employing qualitative research. However, in doing the academic study, both the master's degree students as well as PhD scholars, have been facing the problem of determining the proper sample size for their qualitative studies. Generally, samples in qualitative research are called the 'participants' or 'informants' rather than respondents (Nakkeeran, 2016; Padgett, 2013). Hence, the debate of sample size turns into determining 'the number of participants' (Barkhuizen, 2014) for the qualitative research. I have also faced a similar problem and remained in a dilemma to determine the participants for my doctoral study at Graduate School of Education (GSE), Tribhuvan University (TU), Nepal as Barkhuizen (2018) confirmed that determining the number of participants is one of the dilemmas of qualitative research. There are multiple designs such as ethnography, grounded theory, case studies, narrative inquiry, phenomenology, and action research (Padgett, 2013). In addition, Padgett (2013) suggests that sampling varies upon these qualitative research designs as narrative inquiry, phenomenology, and case study use small samples. On the other hand, ethnography and grounded theory permit comparatively large samples. Fundamentally, "qualitative research is used to build theories, in which scholars embrace bias by considering human interactions between researchers and their participants" (Crick, 2021, p. 6). However, the epistemological base of qualitative research is the co-construction of knowledge from the researcher and the participants through in-depth exploration from small number of samples.

I am also a teacher educator at TU and I have supervised the master's degree theses. Most of the students under my supervision have carried out qualitative research and faced the problem of determining a sufficient number of participants for their study. They used to ask me about the appropriate number of participants for their qualitative research. Likewise, I have been carrying out a narrative inquiry for my PhD study having six participants. During the proposal development, I was confused about the sufficient sample for my study.

However, narrative inquiry utilises a small number of participants in comparison to the other qualitative inquiry approaches. This confusion led me to reflect on my proposal for deciding the number of participants. As a qualitative researcher, I have been motivated towards the discourse on the number of participants. In this way, the motivation for writing this article has two folds: first, my confusion about the sufficient samples for my study and the fear of being questioned or rejected by the GSE doctoral research committee. Second, my PhD supervisor advised me to pay attention to the justification of the small number of participants. As a result, I have included the justification section to select a small number of participants in my PhD proposal. Similar to my experience, Mason (2010) concluded that PhD researchers have been facing a problem of determining the participants in designing their qualitative research projects.

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Sampling and sample size debate in qualitative research is one of the major components that is not emphasised enough in literature (Robinson, 2014). There is no rule of thumb or straightforward guidelines for determining the number of participants in qualitative studies (Patton, 2015), rather several factors affect in deciding the samples. For instance, in her foundational work, Morse (2000) identified the factors as the scope of the study; the nature of the topic; quality of data; study design, and the use of shadowed data (p. 4). Like the master's degree students, the concerns of the number of participants for qualitative studies are equally confusing for the PhD researchers too (Gentles et al., 2015). I have also spent a couple of weeks deciding the number of participants for my doctoral study. Similarly, number of participants is related to the researcher's identity since the construction of academic identity is a common phenomenon of the PhD scholars (Inouye & McAlpine, 2019). I wanted to make my identity as a narrative inquirer in my doctoral research. For example, in studying the sample size issues of PhD research, Mason (2010) found that "constituting sufficient sample size is frustrating for the PhD researchers" (p. 4). I have also experienced similar kinds of challenges earlier in the process of my proposal development. For instance, I was nervous about possible questions from the research committee on the number of participants in my doctoral research during the proposal defense.

Sampling strategies and the number of participants play roles in maintaining the research rigour of any scholarship. This paper contributes by offering the considerations to determine sample sizes for qualitative inquiry so that the paper will be helpful to the novice researchers particularly for the master's degree and doctoral students of education and social sciences. Additionally, this study briefly mentions about the researcher's identity considering the number of participants in qualitative inquiry that is lacking in literature. Therefore, this paper focused to explore and offer some guidelines in deciding the number of participants in qualitative research. More specifically, the paper aimed to answer the three research questions: (1) How could the sample of the qualitative research be determined?(2) What is the rationale behind utilising the small samples in qualitative research? and (3)What is the optimal sample size in qualitative research?

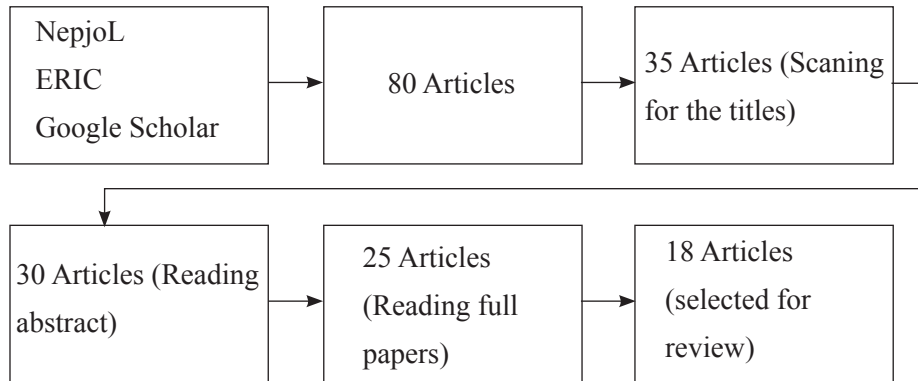
Methodology: Semi-systematic Review

This paper is based on my experience to determine the participant numbers for my PhD study. In addition, I have embedded my experience with existing literature. In qualitative research, the researcher himself or herself is both a tool and a participant. Therefore, the researcher's positionality and reflection influence the study (Berger, 2013; Tracy, 2020). Searching literature itself could be a methodology rather than just a review (Snyder, 2019). I have reviewed journal articles, books, and PhD dissertations in this study. For the review, this study adopted the semi-systematic literature review. This approach focuses on fulfilling the gaps that the existing literature has created (Snyder, 2019) to determine the number of the participants in qualitative inquiry.

I have searched the articles in different databases related to determining the number of

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participants in qualitative research. For instance, I have visited three databases namely the google scholar, Educational Resource Information Centre (ERIC), and Nepal Journals Online (NepJOL) for literature search. For the search, I have used keywords such as, 'sample size in qualitative research', 'qualitative sample size', 'number of participants', and 'qualitative sampling'. Besides the database search, I have also selected the books, PhD dissertations, and other relevant articles from free search. The articles selection process for the review is as follows:



I have employed the inclusion and exclusion criteria adopted by Wimpenny and Savin-Baden (2013) for determining the related papers on qualitative sample size. I have narrowed down the article through inclusion and exclusion criteria as shown in Table 1.

Table 1
Inclusion and Exclusion Criteria for Article Review

Criteria	Inclusion	Exclusion
Date	2000 to 2021	Before 2000
Topic	Qualitative sampling	Not directly related to the sample size in qualitative research
Location	National and international literature	Sources that are not in the English language
Publication	Peer-reviewed journals Education-related and from other disciplines	Gray literature (reports, conference proceedings, articles in non-peer-reviewed journals)

Source: Wimpenny and Savin-Baden (2013, p. 315)

First, I visited Nepal Journals Online (NepJOL) which is currently a popular database of journals published from Nepal. Nevertheless, after reading the titles of articles (n=54) obtained from NepJOL, I concluded the articles were not relevant to this study. Hence all the articles obtained from NepJOL were excluded from the study. Second, I found a few of the relevant articles while visiting Google Scholar and ERIC and employed the inclusion and exclusion criteria mentioned in Table 1. Finally, I experienced that the papers obtained

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from the databases were not adequate for the study and then searched for the more relevant resources besides the above-mentioned databases such as the ProQuest database. Then, I found a few more relevant resources such as PhD dissertations, books, and articles related to methodology (n=21). I read the abstract first and listed the relevant resources and finalised the additional resources (n=21) for this paper. Finally, the total number of resources (n=38) were selected.

Many scholarly works have offered narrative inquiry as a suitable methodological approach to study experiences (Butina, 2015; Caine et al., 2013; Clandinin, 2006). Additionally, the narrative inquiry could be "a unique methodological consideration" (Karpa, 2021) in capturing the lived experiences and reflecting the self. I have employed the narrative inquiry approach to relate the story of my experiences.

Findings and Discussion

The findings have been discussed on three themes: determining the sample size in qualitative research; small samples in qualitative research, and optimal sample size in qualitative research.

Determining the Sample Size in Qualitative Research

Determining the participants in qualitative research is problematic since various scholars have conceived it in their way. Deciding the participants remain under the sampling plan. The sampling plan refers to 'who, what, where, how, and when to choose sources for data collection (Tracy, 2020). Various sampling strategies are applicable in qualitative research, and purposive sampling is the mostly applicable and relevant sampling technique for all kinds of qualitative research designs. Purposive sampling provides the researcher an in-depth understanding of the study phenomenon (Patton, 2015, p. 463), rather than generalising from one's study. Moreover, Tracy (2020) highlights the importance of purposive sampling that "good qualitative researchers, at the very least, engage in purposeful sampling, which means that they purposefully choose data that fit the parameters of the project's research questions, goals, and purposes" (p.82). In the same vein, I had adopted purposive sampling in my PhD study because purposive sampling allows me to select the rich-information participants that generally cannot be obtained from other participants. In addition, I had developed the inclusion and exclusion criteria for the participant selection for my PhD research.

The intent of selecting a sample is to collect data from the participants. To collect the data, a specific method is required after deciding the sampling procedure and the number of participants for the study. The interview is the major and widely used data collection method (Robinson, 2014) for almost all qualitative research. The sampling plan decides "how many interviews are needed to ensure that the finding will contribute rich data" (Moser & Korstjens, 2018, p. 10). However, several factors have agreed on issues such as the purpose and research questions and nature of the study (Mason, 2010; Patton, 2015); nature and scope of the study (Morse, 2000); data type and collection method (Mason, 2010; Nakkeeran, 2016); data saturation (Boddy, 2016; Guest et al., 2006; Hennink & Kaiser, 2021;

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Mason, 2010; Young & Casey, 2019); budget and timeline (Tracy, 2020); theoretical bases and theoretical framework (Butina, 2015; Francis et al., 2010); analytical strategy (Morse, 2015) and the availability of the participants and one's research knowledge (Barkhuizen, 2018) have contributed in deciding the number of participants in the qualitative study. Therefore, the literature informs that there is lack of specific prescriptions in deciding the number of participants. For instance, above mentioned scholars offered different perspectives in the determination of the sample for qualitative study. Regarding my ongoing doctoral research, I chose small sample since my research methodology is narrative inquiry.

I have been carrying out my PhD research on the identity of teachers in a contextual setting of different schools. I intend to explore the phenomena through an in-depth study. The qualitative inquiry focuses on multiple realities which is subjective. The knowledge construction is a collaborative enterprise between the researcher and the participants. The qualitative inquiry follows an inductive process "where concrete, context-specific evidence are collected, then patterns and commonalities are identified to build abstract ideas and the theories" (Hong & Cross Francis, 2020, p. 2). Similarly, qualitative research explores the phenomena through inductive reasoning that utilises the thick description in data analysis. This informs me to explore the phenomena of teacher identity. For instance, inductive reasoning seeks patterns from the data to answer the research questions (Blaikie, 2018), whereas thick descriptions provide detailed context that "someone who did not observe or experience the phenomenon can make meaning of the behavior, statement, or object" (Hong & Cross Francis, 2020, p. 6). In the same way, small sample size allow me for the thick description which is not easily possible from the larger samples. Morse (2015) revisited her previous work (Morse, 2000) and offered the analytical strategy as the major factor in contributing to the number of participants. She further offered developing categories and themes in data analysis determining the samples that researchers ask themselves whether they need further data from the participants or they reach the stage of data saturation. Similarly, the concept of data saturation has been highlighted by other scholars. For instance, Guest et al. (2006) suggest that data saturation guide researchers decide the sample size based on the data obtained from the participants. Moreover, Hennink and Kaiser (2021) stress that purposive sampling and data saturation determine sample size. The concept of data saturation allows researcher to add more participants in their study.

Consulting the relevant literature, I tried to find if there is a straightforward way to determine the number of samples for my study. Nonetheless, I found there is no such way for deciding the number of participants in qualitative inquiry (Butina, 2015; Patton, 2015). Rather several factors need to be considered to constitute the number of participants for someone's study. Institutional policy and structure are one of the major factors that are also related to the researcher's identity (Inouye & McAlpine, 2019). For instance, GSE policies on carrying out PhD research also determined my identity as a researcher. There is not enough autonomy so I cannot go beyond the GSE guidelines. In my doctoral research, I have

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to capture the lived experiences of primary teachers and the small number of participants allows the in-depth exploration (Clandinin, 2006). From this kind of flexibility of taking small samples, I am developing my identity as a qualitative researcher with a small number of participants.

Small Samples in Qualitative Research

Qualitative research focuses on the in-depth exploration of the study phenomenon rather than the coverage in the breath. The purpose of the qualitative methods is not to generalise the findings to the larger population. Therefore, qualitative inquiry is value-laden and does not focus on the objective finding that lacks neutrality (Padgett, 2013). That's why small samples are the best suited for my PhD research. A small sample allows the researcher to be focused on the in-depth understanding in a particular social and cultural context which generally is not possible through studying the larger samples. Since the knowledge is co-constructed through the researcher and the participants, the qualitative research adopts the constructivist approach. Instead of using the larger samples "in constructivist or in-depth qualitative research, a single example can be highly instructive" (Boddy, 2016). In the same vein, I employed a small number of participants through purposive sampling, i.e. six primary teachers from the public schools (community schools) of Kaski district for my PhD research. Employing a small number of participants, I am recognised as a 'certain kind of a qualitative researcher' (Gee, 2000). That's why selecting only six participants for my PhD research fundamentally proves to be implacable. Similarly, as Gee (2000) notified there exists multiple identities even within an individual. These identities are both personal and professional. For example, I play various roles in different places just like teacher educator, teacher trainer, researcher at my working institution; PhD scholar at graduate school; father at home; member of the community in my society, etc. Additionally, I am writing research articles during my PhD research that labels my academic identity as a doctoral researcher.

The number of participants in qualitative research depends on the problem under study. For instance, a single participant could be sufficient to get insight into the problem in some particular context and cases. Due to these kinds of small samples, qualitative research is criticised by positivists as biased and lacking rigour (Crick, 2021). Larger samples do not allow an in-depth exploration of the study phenomenon in the qualitative study. That's why I have chosen a small sample for my PhD. The relationship between the researcher and the participants is an important aspect of the qualitative inquiry. Only a small number of participants allows the researcher to build such a relationship which is almost impossible from the larger samples. Generally, researchers spend a substantial amount of time in the field for their research to build a close relationship with the participants. The staying field of qualitative researchers remained to continue until they reached the stage of data saturation, particularly in grounded theory (Hennink & Kaiser, 2021) and ethnography. Data saturation is the stage that the participants repeat the same data they shared earlier with the researcher. When data saturation occurs, new data comes to stop from the same participants even doing the next series of interviews with them again and again. In addition, qualitative data, such as in ethnography are context-specific that a researcher explores from the particular cultural context as an insider (i.e., emic perspective). Emic perspective demands the inductive approach of doing research and data analysis. Tracy (2020) calls the emic perspective a

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"bottom-top or little big approach" (Tracy, 2020, p. 26). I have been collecting data by continuously engaging in the field in my PhD which is only possible from a small sample.

The larger samples do not support the in-depth understanding. Moreover, the larger sample size leads towards the superficial data. Most qualitative researchers collect the data by using open-ended interviews. For instance, Robinson (2014) states that an interview "typically seeks a sample size that is sufficiently small for individual cases to have a locatable voice within the study, and for an intensive analysis of each case to be conducted" (P. 29). Likewise, as Robinson (2014) suggested, the interview is the major data collection method in my PhD.

Researchers' needs and judgment play a major role in constituting how many samples are required in a particular study. The research purpose guides the researcher to take such a decision of participants' determination. Sample in qualitative inquiry is emergent since flexibility is the major concern of qualitative research. Therefore, participants can be added or removed as per the study needs and the level of sufficient data collection. Regarding the emergent nature of sample size, Patton (2015) notes that "the size and composition of the sample can be adjusted based on what is learned as field work is conducted and the inquiry deepens" and that "the emergent nature of qualitative inquiry applies especially powerfully to sample size. The sample can grow, or if saturation is achieved sooner than expected, the size can be reduced" (p. 474). Considering these kinds of suggestions, a small sample allows me to be flexible to add or remove the participants based on the sufficiency of the collected data. Qualitative researchers like me who are carrying out their academic research at their graduate school adopt small samples whereas the large-scale funded qualitative researches have been employing a large number of participants.

Optimal Sample Size in Qualitative Research

I have discussed the considerations to decide the adequate number of participants for qualitative inquiry in the above sections. Therefore, this section focuses on the adequate number of participants in different qualitative studies, including the PhD thesis. Finding the acceptable number of participants in qualitative inquiry is an ongoing debate (Mason, 2010) in social science research practices that lack a straightforward answer. It's not easy to decide the optimal number of participants for qualitative research (Barkhuizen, 2014). PhD scholars often faced similar problems of participants' decisions in their doctoral study. I had a similar issue that 'how many participants is adequate for me?' at the beginning of my doctoral study designing stage as Mason (2010) indicated. The issue of the number of participants in one's PhD is also a matter of one's academic identity (Inouye & McAlpine, 2019). One of the main reasons for this confusion is lacking the clear guidelines and criteria for selecting the optimal samples in qualitative research. There exist several pieces of literature that have discussed the issue of the number of participants for qualitative inquiry. While the number of participants in inquiry is one of the considerations for researcher identity and evaluating the research output, number of participants remains the issue of qualitative inquiry.

The number of participants could be an important factor in evaluating the output which opens the possibility for future publications based on the study findings. So, my identity as a qualitative researcher has been assimilated to the sample size. For instance, Mason (2010) examined the sample size in 560 PhD qualitative theses based on the interview as

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only the source for data collection. This study reported that the average sample size was 31, the median sample was 28, and the largest was 95. However, the smallest sample size was only one on life history (narrative) research. He also found that "the most common sample sizes were 20 and 30 (followed by 40, 10 and 25)" (Mason, 2010, p. 10). Moreover, Mason (2010) reported that there is no logical (or theory-driven) reason in selecting the sample of the multiple of 10. The sample size used in qualitative inquiry is varied rather than uniform. For instance, I looked at the sample size of a recent PhD thesis from the reputed universities of the world that were using a varied number of participants. For example, Barkhuizen carried out his doctoral research having a single participant as a sample in his narrative inquiry (Barkhuizen, 1988 as cited in Barkhuizen, 2018). Furthermore, Barkhuizen (2018) argued that "a single participant was appropriate in this case since I aimed to gain an in-depth, intensive understanding of the teacher's interactional patterns" (p. 120). Similarly, I have examined several recent PhD theses employing qualitative inquiry constituting a small number of participants that were below 10. Both the qualitative research studies carried out for acquiring an academic degree and other academic purposes have extensively employed a small number of participants. There exists diversity in using the number of participants in qualitative inquiry. Here are some of the examples of different qualitative approaches having participants ranging from three to ten. For example, three-participants narrative inquiry (Wise, 2020); four participants-narrative inquiry (Bentley, 2021); five participants-narrative inquiry (Gao, 2021); seven samples-narrative inquiry (Bryant, 2021); eight participants-narrative inquiry (Tiffany-Kinder, 2020); 10 participants-narrative inquiry (Crawford, 2021; Magalhaes, 2019). Moreover, I have found many studies besides the PhD research were also carried out with a single sample such as Barkhuizen (2021); Zhang (2020); Huang (2021).

Research design is another important contributing factor in selecting the sample for qualitative inquiry. In his study, Mason (2010) found the different number of participants in the various qualitative research designs. Based on the findings from Mason (2010) and other researchers indicates that the number of participants varies in different qualitative research designs are as follows:

Ethnography: Moser and Korstjens (2018) 25- 50 interviews

Grounded theory: Morse (2015) 30-50 participants; Morse (2000), and Moser and Korstjens (2018) 20-30 interview; Gentles et al. (2015); (Morse, 2015) at least 25 interviews;

Case studies: Barkhuizen (2014) 1- 135 cases; Gentles et al. (2015) 4-10 cases; Mason (2010) 1-95 cases

Narrative inquiry: Mason (2010) 1-62 (life history)

Phenomenology: Gentles et al. (2015) 10- 30 interview; Morse (2000) 6-10 participants; Moser and Korstjens (2018) fewer than 10 interview

Qualitative research (general): fifteen is the smallest acceptable sample size (Bertaux, 1981 as cited in Guest et al., 2006, p. 61)

Action research: Mason (2010) 3-67

The above-mentioned scholars have offered a different number of participants in qualitative research. However, researchers do not need to be rigid and structured to

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follow hard and fast rules in deciding the number of participants in their study. Moreover, qualitative research does not recommend using a particular number of samples rather it is generally varied on the type of data to be collected.

The above discourse on the number of participants for qualitative research has multiple applications for qualitative researchers in general and PhD scholars and master degree students in general. For instance, this paper has discussed the considerations for determining the number of participants along with the justification for qualitative inquiry. Likewise, Hennink and Kaiser (2021) also stress the rational justification in deciding the sample size for qualitative inquiry "rather than responding to the concerns of a more dominant positivist paradigm and their numerical expectations" (p. 8). Moreover, the paper focused on an adequate number of participants for qualitative research. Fundamentally, the number of participants for qualitative research varies upon the methodological choices and the nature of the study problem. Despite all the variations in deciding the appropriate number of participants, there is a common consensus that the qualitative inquiry employs a small sample. I have employed a narrative inquiry as a methodological approach to study the phenomenon of teacher identity in my PhD. This approach demands making sense by capturing teachers' lived experiences through their stories. By the nature of the study problem, the small samples helped me to understand the identity of teachers that is generally not practicable through the large samples. That's why I have chosen only six participants as optimal samples in my ongoing PhD research.

Conclusion

The paper focused on the considerations for determining the number of participants and the justification of a smaller sample for qualitative research. Determining the adequate number of participants in qualitative inquiry is an ongoing debate that created a dilemma. Several contributing factors decide the participants in one's qualitative inquiry. The purpose and research questions are the major factors to decide the participants. While the qualitative inquiry is a flexible methodological approach, there are no strict rules about participants number that need to be selected prior. However, the focus of the qualitative research should be on fulfilling the research aim rather than representing the large samples.

The purpose of qualitative inquiry is to unravel the phenomenon in-depth rather than the generalisation of the findings. Similarly, data saturation, time and budget available, methodological choices, theoretical framework and analytical strategy, researcher's knowledge are other major concerns. Besides, institutional and supervisor requirements are to be considered while taking decisions about the number of participants. However, the researcher's knowledge, research design, and methodological design are the concerns that need to be considered while determining the participants in one's qualitative inquiry.

I reflected on myself to decide the participants that are adequate to answer the research questions. As I am employing narrative inquiry as a methodological approach to explore teacher identity, I decided to select six primary teachers for my study.

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The qualitative inquiry believes in subjective and multiple realities as its ontological stance and co-construction of knowledge. Concerning this focus, small samples through purposive sampling allow the researcher for an in-depth understanding from the rich-information participants and thick descriptions. The small samples allow the researchers to build a closer relationship with the participants since they have to spend a long time in the field and explore the phenomena in-depth. A larger sample selected from the probabilistic sampling method does not ensure finding the desired participants and also leads towards the superficial data.

The number of participants is guided by different methodological approaches of qualitative inquiry. For instance, phenomenology, narrative inquiry, and case study accept small samples, i.e., from a single case to 20, whereas ethnography, grounded theory, and generic qualitative research utilise larger samples. In this way, it could be 10-50 or more participants depending upon the nature of the study and the information to be collected. Compared to the individual academic research, large-scale qualitative research utilises a larger number of participants, i.e. up to 100- 300. Rather participants in qualitative research can be added or reduced based on the information sought and the stage of data saturation. In the above section, I have presented examples of a few studies having a varied number of participants. Therefore, I suggest including from a single to 20 participants for the qualitative research whichever is suitable in a particular study.

This study implies determining the participants for qualitative research. More importantly, the paper offers useful guidelines to novice researchers who are in the developing stage of their academic research project for acquiring an academic degree. Finally, I argue for providing autonomy to the individual researchers to determine the number of participants with justification in carrying out their research project at the graduate school. This study is limited to the selected available papers and other resources and focused on the participants for qualitative only. Therefore, I recommend a similar and more comprehensive study in the future covering the number of participants and sampling strategy for different qualitative research designs.

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