The Nominal Group Technique (NGT) as a Tool for Facilitating Pan-Disability Focus Groups and as a New Method for Quantifying Changes in Qualitative Data

Jason Olsen

Abstract
This article reaffirms the value and flexibility of the nominal group technique (NGT) when conducting qualitative focus groups (QFGs). In the project that will be discussed, the methods used expanded the application of the NGT into the realm of pan-disability (i.e., individuals with differing impairments) research. It provides requirements and recommendations for the full inclusion and participation of disabled people into projects where the pertinent source of qualitative data is obtained from QFGs. Furthermore, this article describes innovative additional steps to the NGT that are beneficial to researchers. This includes a method of evaluating the data that is often lost between the NGTs’ stages of initial and final rankings. These new methods ensure pertinent data are not overlooked.

Keywords
disability, research, group, technique, nominal, qualitative, quantitative, disabled, people

Introduction
The World Health Organization (2011) has reported that the employment rate of disabled people is on average less than half of nondisabled people. It also reported that even when employed, disabled people often make less than their nondisabled counterparts.

Northern Ireland (NI) has both problems, but it also has a third problem. In NI, a large number of disabled people are not counted as either employed or unemployed. Instead, they are counted as nonactive in the labor market. The definition regarding whether one is active in the labor market is determined by the International Labour Organizations’ definition of unemployment, the tenets of which are assessed by those who, at the time they were interviewed for the labor force survey, were unemployed, not able to start work within the following 2 weeks, and had not looked for work in the previous 4 weeks. They were also not waiting to start a job they had already obtained (Northern Ireland Statistics and Research Agency, 2018). Those who are not employed and have answered “yes” to conducting any of these activities are considered unemployed and those who answer “no” to all these questions are considered as inactive in the labor market. Those who are counted as being inactive in the labor market are not included in the data that impact unemployment statistics. In NI, the number of disabled people who are labeled as “active” in the labor market is the lowest of any of the 12 regions that comprise the United Kingdom (UK). Conversely, those who are deemed as “inactive” in the labor market are the highest (Northern Ireland Statistics and Research Agency, 2019).

Yet there is little research into the barriers that disabled people face regarding their employment in NI. This lack of disability data appears to be a systemic issue in NI as vital data has not been gathered to conduct in-depth evaluations of the inequalities disabled people face, nor the impacts that these inequalities have upon them. The lack of this data has been presented by nongovernmental organizations (NGOs), by the Equality Commission for Northern Ireland, and by others as barriers to advancing policy and rights for disabled people. This deficiency of data collection has been shown to create
barriers to planning and delivering services (McQuaid & Rae-side, 2014), to evaluating the impacts of public policy (Equality Commission for Northern Ireland, 2015), to examining educational barriers (Education Authority, 2018), to assessing quality of life of disabled people, and to investigating into other areas of interest related to living with a disability (Equality Commission for Northern Ireland, 2016). The project discussed in this article was designed to help address this data gap by providing a small portion of this missing, but essential data. This was done by recruiting people with any type of impairment (i.e., pan-disability) to garner their voices about the issues that most impacted their employment in NI.

The key findings from this project identified that the top five social barriers disabled people face in their pursuit of employment in NI are; lack of disability awareness, accessibility, transportation, reasonable adjustments, and benefits. The focus of this article, however, is upon the qualitative methods utilized to obtain this data. The article provides brief insights into the project results in order to demonstrate the utility of the method described, but it is not an all-encompassing conveyance of the findings discovered during the qualitative focus group (QFG).

It is hoped that these methods will be adopted by others so that the voices of disabled people will be sought, that they will be heard, and that information-based policy will be constructed that is rooted in the lived experience of disability.

A Note on Nomenclature

In the UK, the concept of “disability” has been seen as a social construct, and not just as medical conditions (Kitchin, 1998) in need of a cure, for over four decades. This was the result of the creation of the “social model of disability” that emerged from a group of disabled activists in 1974. The social model of disability, created by the Union of the Physically Impaired Against Segregation (UPIAS), made a clear distinction between what constituted an impairment and what constituted a disability. They defined 

\text{impairment as,}

lacking part of or all of a limb, or having a defective limb, organ or mechanism of the body; and 

\text{disability as the disadvantage or restriction of activity caused by a contemporary social organisation which takes no or little account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities.}

Making a special point to note that, “physical disability is therefore a particular form of social oppression (UPIAS, 1975, p. 20). As a result of this, the use of “disabled people” is preferred over “people with disabilities” in the UK. This is done because it highlights that while people do have impairments, it is society that has disabled them, hence “disabled people.” Since the research project cited was conducted in the UK, this is the nomenclature that was adhered to for this article. The term “reasonable adjustments” is also used for this project. In other countries, such as the United States, the preferred term is often “reasonable accommodations.”

This article uses “cognitive disabilities” as an umbrella term that encompasses the terms intellectual disabilities (IDs), developmental disabilities, and aphasia; the terms utilized by the authors cited in this piece. This term was selected because it offers a precise term that reflects these phenomena (Carulla et al., 2011) and it is used where applicable. Although, where there is a direct citation taken from an article that has been cited, or where there is a direct reference to an article’s topic, the authors’ original terminology was used.

The Numerous Benefits of the Nominal Group Technique (NGT)

The popularity of NGT grew out of Ven and Delbecq’s (1972) groundbreaking article “The Nominal Group Technique as a Research Instrument for the Exploratory Health Studies.” In it, they state, “the nominal group process is a structured meeting which seeks to provide an orderly procedure for obtaining qualitative information from target groups who are most closely associated with a problem area” (Ven & Delbecq, 1972, p. 338). The NGT allows the meetings’ participants to determine which issues require further, more in-depth inquiry and to draw attention to issues that may have been previously unidentified. The NGT does this through allowing groups to identify, rank, and rate critical problem dimensions without the interference of unbalanced involvement. This is done in part by obstructing domination of group discussion by domineering participants, a recurring issue that was identified as highly problematic in group meetings.

The reverence for the NGT can also be traced back to several of the basic benefits found in its structure, which includes:

1. it limits researcher influence and influence from group dynamics,
2. increases the likelihood of equal participation for all group members;
3. affords equal influence to (conflicting) values and ideas;
4. can be used in an exploratory (phase of a) study as well as to generate hypotheses about topics that are unfamiliar to the researcher; and
5. is useful for determining the ideas of a research population that is socially or culturally different from that of the researcher. (Vander Laenen, 2015, p. 1)

This mixed with the recognition that the NGT generates more high-quality ideas than interacting groups (Roth, Schleifer, & Switzer, 1995), and produces more unique ideas than Delphi groups (Ven & Delbecq, 1974), leads many researchers to determine that it is an appropriate selection for their project. If that does not entice them, the “relatively low cost, [the] short amount of time [it] require[s], and [its] high yield of data” (Owen, Arnold, Friedman, & Sandman, 2016, p. 185) may do so instead.

Previous and Recent Applications of the NGT

Since its creation, the NGT has been adapted for use in evaluating market research and management research (Boddy,
2012), the creation of acceptable definitions for services (Sumasion, 2000), total quality management (Roth et al., 1995), nurse education (Thomas, 1983), meetings of religious groups (Bartunek & Murninghan, 1984), barriers to learning for students both with and without impairments (Porter, 2013), and other avenues of research.

More recently, one of the areas where the NGTs’ flexibility has proven to be of great value is as an accessible group research method involving people with cognitive disabilities. This included those with mild IDs (Bekkema, de Veer, Herhogh, & Francke, 2016; Roeden, Maaskant, & Curfs, 2011), those with ID and developmental disability (Friedman, Arnold, Owen, & Sandmanet, 2014; Owen et al., 2016), and those with aphasia (Garcia, Barrette, & Laroche, 2000; Hinchley, Boyle, Lombard, & Bartels-Tobin, 2014; Wallace et al., 2017). Although, “to date, NGTs have only been employed for people with ID and aphasia, a fraction of the spectrum of disabilities,” and “more research is required to develop a greater understanding of additional NGT method considerations for other disabilities” (Lakhani, Watling, Zeeman, Wright, & Bishara, 2018, p. 2113) The project cited in this article sought to fill this void. It used a pan-disability approach that included those with cognitive, psychological, sensory, and physical impairments within its QFG. It discovered what methods were necessary to conduct a successful pan-disability QFG (i.e., one that includes participants with differing impairments) using the NGT, and it provides recommendations on how those undertaking other projects may wish to proceed.

This article therefore makes multiple contributions to knowledge. The first is that it begins to provide some of the missing data concerning the barriers disabled people face in their search for employment in NI. The second is that it uses the NGT to conduct a QFG that contains people with various types of impairments (i.e., pan-disability). Lastly, it creates a new method of data synthesis that allows researchers to compare original rankings to final group rankings in order to identify unique data.

**Recruiting the Appropriate Participants**

Participants for the QFG cited were recruited in partnership with the largest pan-disability NGO in NI. The NGO utilized its e-mail listserv and its social media outlets to distribute a copy of the invitation to participate in the QFG. People were asked to participate if they have attempted to find work, have attempted part-time or full-time work but who are no longer employed, have attempted part-time or full-time work and remain employed, and/or any of those that fall into one or more of the previously named categories who are no longer seeking work. The reasoning behind the selections of these numerous named categories was based on the intent for this research to identify the experiences that disabled people faced while seeking employment and/or while seeking to maintain employment.

Interested parties would then contact and confirm participation with the researcher. Invitations requested that participants be someone who both met the definition of disability as described in the Disability Discrimination Act of 1995 (i.e., “a physical or mental impairment which has a substantial and long-term adverse effect on a person’s ability to carry out normal day-to-day activities”; Legislation.gov.uk, 1995) and who were between the ages of 16 and 64 (i.e., defined as working age in NI; Northern Ireland Statistics and Research Agency, 2019). All those who attended the QFG were asked if they met these definitions prior to its commencement and all acknowledged meeting both requirements. Utilizing a known NGO provided a trusted referral source. It also increased the likelihood that participants were aware of both the location and the necessary public transportation to access it. The NGOs’ disability friendly architecture provided a meeting space that was both accessible and large enough for the QFG to take place.

**Targeted Group Size and Reasonable Adjustments**

The size of the group is essential when hosting a pan-disability QFG that uses the NGT. The group obtained for the research project contained a total of nine participants. This number was in line with general NGT researchers who state that the goal for a QFG should be between 4 and 7 participants, but that they can also be successfully performed with up to 10 participants (Fox, 1989; Roth et al., 1995).

The researcher for this project was aware that previous research conducted in conjunction with those with cognitive disabilities tended to feature smaller numbers of participants. For example, four of the studies evaluated in Lakhani, Watling, Zeeman, Wright, and Bishara’s (2018) article “Nominal Group Technique for Individuals With Cognitive Disability: A Systematic Review” described the number of participants featured in their QFGs as ranging from 3 to 10 participants with an average of 5 participants per group.

Their systemic review cited that limiting the size of groups was important to give each person the time and respect to share their input (Lakhani et al., 2018). This was an important consideration for the project discussed, as approximately half of the nine participants self-identified as having a cognitive disability (one person did not disclose their type of impairment), meaning that the length of the QFG may have been negatively impacted if it were oversubscribed.

It may have taken extra time to clarify questions to participants, to give respondents time to transmit their ideas through support workers, and for support workers to record the participants’ feedback. However, as the next portion of the article will explain, the streamlined approach of the NGT that was applied to this group appears to have addressed these barriers. The approach used resulted in an average meeting time, despite hosting a larger than the average sized QFG that was inclusive of those with cognitive disabilities and which allowed everyone to fully participate.

As briefly discussed, a pan-disability approach means that people with a mix of impairments may be participating in the
QFG. For this project, this meant that numerous considerations had to be accounted for concerning those with physical, sensory, and psychological impairments, in conjunction with the considerations required for people with cognitive disabilities. While the heterogeneity of disability means that no two pan-disability QFGs may have the same requirements for inclusion, this project identified additional logistical matters and recommendations for what may need to be addressed in a pan-disability QFG. They were identified as: confirming any additional spatial requirements for those with mobility equipment, having an accessible location large enough for all participants, allocating specific space for interpreting services, making entrances and exits barrier free, providing a description of where emergency egress is located, arranging accessible parking for standard and modified vehicles, ensuring that the amount of noise at the location is not distracting to those with cognitive disabilities or interfering with the audiological equipment of those who are deaf/ hard of hearing, confirming accessible toilets are present, making accessible materials available for digital download onto participants electronic devices, giving verbal descriptions of content located on the flip chart being used, and establishing to staff that service animals may be present and are welcomed.

Invitations asking disabled people to participate should include a request for them to ask for any reasonable adjustments with the researcher upon their acceptance of participation. Upon being contacted, the researcher should also verbally ask participants this question. Reminders to request any reasonable adjustment that may be required should similarly be included in any additional communiqué, such as those reminding participants of the events approach.

The Altered Steps of the NGT for a Successful QFG

The NGT normally involves four essential steps for it to be successful. They are “(i) silent generation of ideas by each individual, (ii) round-robin recording of ideas, (iii) structured and time-limited discussion of ideas, and (iv) selection and ranking of ideas (voting)” (Moore, 1987). For pan-disability groups, the addition of the following “prestep” to the standard NGT was a positive addition to the project discussed and should be considered by those wishing to conduct a similar effort.

The Addition of a Necessary Prestep to the NGT

Although not in its original structure, adding the prestep of sharing the aims of the focus group with the participants prior to their attendance was shown to be key to a successful pan-disability QFG. Providing this information served multiple purposes. The first is that it gave participants the opportunity to begin to think about their own contribution to the issues under discussion (Boddy, 2012).

The second is that it gave participants time to ask for clarifications on questions pertaining to their role, their involvement, and what would be expected of them. Those with cognitive disabilities could state privately if something was unclear and ask for further explanation or clarification. Lastly, it provided an additional opportunity, beyond that announced on the invitation to participate, for participants to ask for any additional reasonable adjustments that may be required during the QFG and to use the information as needed. For those who needed interpreting services, it provided not only something for them to brief themselves with, but it provided something to give to their interpreters so that they were also aware of the purposes and goals of the group. For those with visual impairments, it allowed information to be shared in a format regarded as being accessible to screen reading software and provided the chance to download these materials onto their personal assistive devices.

Sharing this information digitally also provided an accessible format of the materials for anyone who attended the QFG but who did not request accessible materials prior to their participation. A printout of this information was also provided in person to participants prior to the QFG beginning. This gave them something to reference during the groups’ meeting. In conjunction with providing this in a paper format, prior to the meeting commencing, it was also read aloud and questions on clarity were sought. This proved to be a successful means of providing the same information in various formats that could be absorbed based on different cognitive abilities and learning strategies.

Ven and Delbecq’s (1972) original article lays out some of the requirements and approaches to successfully navigate and to utilize the NGT. The first is that before quantitative research can truly begin, a qualitative understanding of the parameters of the problems, as viewed by those impacted by the issues, needs to be understood (Ven & Delbecq, 1972, p. 337). As Ven and Delbecq (1972, p. 338) explain, it is the participants who clarify the problem’s dimensions and fill in the gaps that quantitative data do not fully address. In essence, it is the lived experiences of participants alone that can provide insight and interpretation to the nominal labels often ascribed to the data that is collected, but that is rarely understood in its real-world applications.

Ven and Delbecq advocate that for researchers to be successful, they must obtain qualitative information from the groups that are most closely associated with a problem area and “whose experience, expertise, or perceptions directly relate to the problem area being explored” (p. 338). For this research, disabled people in NI served as this group and as these experts. Hence, obtaining their experiences, their perceptions, and their voices was at the core of this project.

It cannot be emphasized enough that the only way for researchers to acquire the authentic voices they need to obtain this core information is to truly recognize, acknowledge, and respect the participants’ expertise. This includes recognizing the participants’ expertise in what they will require (i.e., reasonable adjustments) so they can fully and effectively participate in the QFG, the provision of which is an indispensable component of a fruitful pan-disability QFG.
**Steps 1 and 2: Individual Generation of Ideas and Round-Robin Recording of Ideas**

The NGT typically has an introduction by the planner. Here, the purpose of the meeting and the value of the participants’ contribution to it are typically explained and emphasized. For this introduction, as in all other phases of a pan-disability QFG, plain language was essential. The use of plain language and a streamlining of the process meant that the original and complex approach recommended by Ven and Delbecq was altered. The original process of asking participants to differentiate their view of a problem into both subjective and objective components was not applied. Instead, general responses were taken to the question posed.

The NGT “is a single-question technique and its success depends on the unambiguity of a question that can generate a wide range of answers” (Tuffrey-Wijne, Bernal, Butler, Hollins, & Curfs, 2007, p. 82). But clarity is not the only issue that surrounds posing the appropriate question to a QFG. Creating a question that has a freedom from bias is just as important. A good example of what not to do can be found in Ven & Delbecq’s (1972) article which utilized a “Nominal Group Task Statement Form” (p. 339). The article instructs the planner to provide participants with this form and then to read the task statement (i.e., the question listed on the form asking participants about their experiences). Following this, the planner is instructed to provide a few examples of previous barriers identified concerning the topic in question. This attempt, which is discussed as trying to ensure nonbias, may in itself result in bias, as it may encourage participants to focus on barriers similar to the ones with which they were presented.

This type of presuggestion should be avoided whenever possible in favor of a non-biased question that can be posed to the group. For example, the question used for this project was:

What are the top five things affecting disabled people getting jobs in Northern Ireland?

Note that this question did not imply barriers nor solutions to the problem. This meant that respondents could reply with barriers that they have experienced while trying to obtain employment, but they could also reply with positive experiences with programs, policies, or other employment-related matters, which may have assisted them in their pursuit of employment. After the question was posed, there was a silent generation of ideas.

In previous QFGs, which contained only participants with cognitive disabilities, support individuals were included to assist participants (Lakhani et al., 2018) as a nonreasonable adjustment. Prior to their participation, these support individuals are always instructed that they are present to help participants but not to influence their responses (Owen et al., 2016). This approach was included in this project’s QFG as well. However, the pan-disability method revealed that there is often a need for the provision of extra assistance as a reasonable adjustment to those who did not initially request it.

As an example, one participant who had a visual impairment did not ask for a reasonable adjustment prior to attendance but needed assistance. In response, the researcher sat with the participant and acted as his scribe (as a reasonable adjustment) as he voiced his input. Another example involved a participant with a cognitive disability, who did not have a support worker present, but who required a reasonable adjustment in the form of assistance with clarifying questions and being reassured her answers were satisfactory. This role was also filled by the researcher.

Researchers who have conducted previous studies with participants with cognitive disabilities stated that while using the NGT, the role of the facilitator, or in this case the researcher, was not only to be a listener and recorder but also to serve as a tool for clarifying anything that was not understood (Porter, 2013). This project revealed that this is not just a requirement for conducting studies with those with cognitive disabilities but may also be a requirement for those with other impairments as well. It demonstrates that extra assistance by individuals trained in both NGT and support worker’s duties should be present during a QFG to provide assistance (as a reasonable adjustment) to those who may need it, yet who did not request it.

After the question had been posed, participants were requested to list their top five responses on a 3 × 5 index card. Once completed, participants were then asked to rank the ideas that they had written down from 1 to 5. To ensure understandability, and to remove confusion, a reverse Likert-type scale was used (i.e., the problem that they felt was the biggest problem was to be listed as the #1 problem, the second biggest problem was to be #2, etc.). This is the opposite of a standardized Likert-type scale where the most (i.e., largest problem) would typically be labeled as 5.

The second stage of the NGT is typically a round-robin listing of ideas on a flip chart. Each person is called upon to provide their feedback on one problem they identified. For this project, the first and second stages were combined. Since the participants had already ranked their items from 1 to 5, the discussion was pushed back to occur following the collection of everyone’s contributions. To collect this input, the planner handed out a data collection form to the first person in the group. The data collection form was simply a sheet of paper labeled as 1 = most. Each participant was then asked to utilize the rankings from their cards and to write the issue that they felt most affected the topic, in this case, the employment of disabled people in NI. This data collection form was then passed to the second participant and so on. This data collection form was followed by forms labeled as 2 = some, 3 = moderate, 4 = little, and 5 = least. An exact copy of these rankings was attached to the wall for reference and used as an example on how rankings were to be allocated.

This altered method of data collection served multiple purposes. First, it freed up the facilitator to assist any individuals who may require assistance, such as aiding with writing
responses, reading materials aloud, explaining what was requested, and so on. Second, it protected the anonymity of those who submitted their ideas. No one was required to verbally express their idea to the group, thus further reframing the focus upon the idea and not the author. It is believed that this approach aids in addressing anchoring bias, a bias that occurs when participants try to set their responses in relation to group opinion (Davies et al., 2011).

It may also be useful in limiting social desirability bias, a bias that occurs when respondents try to provide answers that are aimed at portraying themselves in the most socially desirable manner possible (Boddy, 2012). Lastly, and most importantly, it gave those with cognitive or communication impairments time to provide their data in an accurate manner that truly reflected what they had written, a fact that was verified by collecting their original cards and comparing them to what was written on the data collection forms at the conclusion of the QFG.

This method removed pressures from participants to issue timely responses or to feel intimidated by the process, giving them a comfortable way to respond to the question in a non-public manner. There were no time limits given for how long each person should take to transcribe the answers from their cards to the data collection forms, permitting participants to take as long as necessary. This approach did not have a negative impact on the time it took to complete the QFG (75 min in total). The use of data collection forms appeared to not only accommodate many of the participants' needs but also required less time than asking each person to call out and list each of their ideas in the typical verbal round-robin fashion, an approach that allocated this precious time from verbally transmitting what was already written on the cards to accurately transferring them onto the form.

**Steps 3 and 4: Structured and Time-Limited Discussion of Ideas, and Selection and Ranking of Ideas**

Following the gathering of the data collection forms, the consolidation of the participants’ feedback for the items listed as most was transcribed onto the flip chart. The planner then read all of them aloud and ensured that what was written on the chart was communicated fully and clearly to everyone in the room.

If questions were asked about what was written, participants clarified what their item meant. If participants expressed a lack of understanding, the researcher explained the topic in a more comprehensible manner.

In lieu of a weighted vote on the items listed on the flip chart, as those listed on the first page of the data collection sheet that identified each participants’ first priority issue, a discussion was held on the appropriate categorizations and rankings listed on the chart. The topic that came in second place was then moved to the next page to see if the feedback from the some categories supported its placement as the second most important issue. This step was repeated for the last three forms as well.

The NGT typically requires each individual to assign various values (weights) from 0 to 100 on the items the group has recommended, but this can be a confusing undertaking for participants. In 2007, Tuffrey-Wiljne et al. (2007) identified that the process of sorting and ranking feedback was shown to be a large problem for people who lacked literacy skills. In 2018, Lakhani et al. concluded that an important consideration for those with cognitive disabilities in a focus group should be upon a structured, simplistic voting system. The previously discussed voting system for this project accomplished this. Using this method in the QFG supported the participation of those with cognitive disabilities and provided a clear method of discussion for those with other impairments as well.

The approach taken to ranking topics in this project verified that the similarity to real-world discussions and conversations found in the NGT does indeed provide an accessible method of participation for those with cognitive disabilities (Owen et al., 2016). However, it also revealed that it does so for those with other impairments too. Through this open discussion, a consensus was garnered on the priority of issues identified. In this case, it was the appropriate ranking of the barriers disabled people faced in NI that most impacted their employment.

**Results and Rankings From the QFG**

Emerging from the discussions and feedback that was obtained, five distinct barriers were expressed as currently impacting disabled people’s employment efforts in NI. They were:

1. Lack of disability awareness
2. Accessibility
3. Transportation
4. Reasonable adjustments, and
5. Benefits.

**New Methods of Data Analysis Using the NGT**

The rankings above are where a typical NGT method may end, but this project’s approach to the NGT discovered a process for transferring normally nominal data into ordinal data and then using the results to conduct further investigation.

The final five top topics (i.e., barriers to employment) were reached through discussion with, and consensus among, participants. This research was then evaluated to determine how far opinions had changed from the original data reported by participants. This was accomplished by comparing the final rankings reached at the end of the groups’ discussion period to those provided on the data collection forms.

The first step in completing this process was to change the data collected on the sheets from nominal data into ordinal data and from qualitative data into quantitative data. This is different than other tactics which have used the numerical rankings from individuals to reach a conclusion as to which critical elements of a problem needs addressing first. This former version would consolidate numerical feedback and produce what they would term group consensus (Andersen & Fagerhaug,
2000). Individual preferences and priorities would never be known, and neither would the variance from the original rankings. This variation can prove to be important data to aid in determining the impact of the group’s interactions, its influence upon individual data, and the identification of important data elements that exist between the two rankings.

The transition of this data from qualitative to quantitative begins by transferring the assigned values of input back to the original numerical values assigned when using the Likert-type scale system. This simply requires reassigning numerical values. Instead of most being 1, as collected in the focus group, the most numerical value was deemed to be 5. This was repeated for other numbers.

For example, all those topics that were submitted as impacting disability employment the most from the original data (individual), prior to discussion and reorganization, were given the point value of 5. Those deemed as some would receive 4 points, those as moderate remained at 3 points, those at little received 2 points, and those deemed the least received 1 point (Appendix A).

Then the categorization of the data under the five headings of lack of disability awareness, accessibility, transportation, reasonable adjustments, and benefits was performed, and the original data were placed in its intended location (Appendix B). At the conclusion of this process, points were totaled to see how far the consolidation of the original (individual) data had deviated from the final rankings (group).

Within this project, the resulting quantitative data showed significant parallels with the rankings created utilizing the nominal data in an ordinal format. The one exception in the symmetry of the rankings occurred between the topics of transportation and reasonable adjustments. Before translating the feedback to quantitative data from the individual rankings, transportation was ranked as third and reasonable adjustments as fourth in the final rankings. In the quantitative model, however, reasonable adjustments were listed as the third largest issue affecting employment and transportation was listed as fourth (see below).

| Quantitative Rankings (Individual) | Final Rankings (Group) |
|-----------------------------------|-------------------------|
| Lack of disability awareness      | Lack of disability awareness |
| Accessibility                     | Accessibility           |
| Reasonable adjustments            | Transportation          |
| Transportation                    | Reasonable adjustments  |
| Benefits                          | Benefits                |

The identification of this difference led to a further review of the QFGs’ transcripts. Here, data revealed that there was a type of “chicken and egg” scenario between these two topics. In the transcripts, participants indicated that they felt that reasonable adjustments may be of more importance than transportation. But, during the discussion, it was raised that transportation may be more problematic because without transportation to take them to the locations where reasonable adjustments may be needed, the necessity for reasonable adjustments would be invalid. Others added that they may not use transportation to travel to locations where they knew there was no accessibility and where no reasonable adjustments would be provided. It was a topic of debate.

One participant asked the others, “Which is more important to you transport or reasonable adjustments in the workplace?” Another participant responded, “I think both are very important,” another parroted this response out loud, “both!”

After discussion, it was determined that transportation was more important than reasonable adjustments, although they often worked in tandem. One of the arguments on behalf of transportation to be higher on the list was that, “It’s more beneficial for when you’re not at work as well.”

While this in itself was revealing, the transcripts provided other examples of how these two topics intermingled with other disability issues as well, such as benefits. In NI, the Access to Work program offers grants that can be used for adaptations to a vehicle so recipients can get to work. They can also be used so that recipients can have access to taxi fares for work if they cannot use public transport (Access to Work, 2019).

One participant stated how the issue of reasonable adjustments and transportation are intertwined. He stated that:

As a blind person, Access to Work doesn’t kick in until you’re in the role for several weeks. The recruitment agency won’t put in screen-reading software for me to use the computer, the employer won’t put in screen-reading software because it’s not a full-time post, Access to Work won’t put in screen-reading software cos I’m not in the post. So, you can’t get the job because you can’t access the computer, you can’t get the applications to access the computer until you’re in the job.

This participant’s example demonstrates how access to transportation through the Access to Work program can be blocked due to a lack of employment. It also reveals that the same program blocks his employment, by not providing the reasonable adjustments necessary to acquire and perform the duties of the job, until after he has been transported there and worked for several weeks.

Another person added that the role that transportation plays can be heavily dependent on if an employer considers your transportation as a reasonable adjustment and how much they are willing to reimburse for your use of it. She stated that:

Well, considering how much you get, as opposed to how much you will earn, how much you will have to pay out for transport for example, and how much the company will reimburse you. You kind of have to weigh that all up […] I’m so reliant on taxis or whatever. It just is like how much can I feasibly travel distance-wise. I actually have a very small window that would make it worthwhile for me to even try to apply for a job because it may not improve my quality of living. I might actually be paying to go to work if you went too far outside a very small area.

These examples demonstrate the value that this comparative analysis can provide. The identification of a difference of rankings can be used to indicate locations where imperative discussions took place. It can reveal the existence of variables that
impacted categorizations that are not recognized in final findings alone. These variables are clearly important to participants in the QFG and influential upon the decisions they reached in their rankings of the topics. They should not be ignored.

**Limitations and Future Research**

Due to the heterogenous nature of disability, the recommendations for successfully conducting a pan-disability QFG contained in this article should not be considered all-inclusive. The focus group consisted of nine participants and should not be considered as representative of the entire population. However, it does provide a starting point for further research and should be used as such.

It is hoped that this work will result in more pan-disability QFGs that use the NGT to obtain the voices and experiences of disabled people to create materials and/or information-based policy rooted in the lived experience of disability. It is also hoped that those conducting ‘mainstream’ QFGs will utilize these methods to include those with impairments into their research as well.

A factor that was not discussed was the positionality of the researcher as a person with an obvious impairment. Hahn (2001) has argued that disabled researchers may receive more truthful answers from disabled participants. Greene (2014) has stated that the “pros” that stem from this “insider research” include knowledge of the environment, a more natural interaction with participants, and an ability to garner quicker access based on acceptance. Although, Greene also highlighted some of the “cons” that accompanies and inside perspective as well. They include both the possibility for a loss of objectivity and the possibility of being biased. However, due to the methods exemplified in this article, which highlight how the QFG was truly led by the participants’ voices, the impact of the positionality of the researcher, as a person with an obvious impairment, was not believed to have benefited, nor limited, the value of the methods described.

**Conclusion**

The NGT has been a useful tool of research for nearly half a century. Its transferable methods have led to its multiple applications in numerous focus groups concerning business, nursing, and more recently, cognitive disabilities. The research project discussed in this article took on the challenge to use the NGT in an inclusive QFG that contained those with more than just cognitive disabilities (Lakhani et al., 2018).

One of the strengths that the pan-disability approach provides is a macro level of findings that may be generalizable and comparable to the quantitative data often gathered by governments for those categorized as “disabled.” The NGT’s use in this projects pan-disability QFG successfully identified numerous macro social barriers facing the disability community in NI and provided not just a voice for disabled people but also essential data previously not present in NI. Identifying issues in this manner can aid legislatures, law makers, policy creators, and others in pinpointing which social problems may warrant the greatest attention. It can also serve as a means of identifying areas of study that should be considered for further research.

The research project discussed in this article resulted in the creation of recommendations on how researchers can successfully host a pan-disability QFG that utilizes the NGT. It created a new method of data synthesis that allows researchers to compare individual rankings to final group rankings and determine the amount of variance between them. It also demonstrated to researchers how to identify important data that may lie between these rankings that are typically lost or ignored in other NGT applications.

**Appendix A**

**Categorization of Responses by Rank**

What are the top five things affecting disabled people getting jobs in Northern Ireland? (based on Likert-type scale):

**Most.** Lack of disability awareness: 5
- Employers’ lack of workplace education re reasonable adjustments: 5
- Employers not recruiting enough disabled people: 5
- Employer view of disabled: 5
- Finding out where the help is: 5
- Lack of support: 5
- Not being treated equally/treated like a child: 5
- Stigma: 5

**Some.** No access for people using mobility equipment: 4
- Accessibility: 4
- Jobs are sometimes not suitable: 4
- Confidence: 4
- Stigma: 4
- People can’t drive: 4
- Not enough help out there: 4
- Lack of part-time positions’ flexible working hours: 4
- Disabled people themselves: 4

**Moderate.** Learning/education (lack of): 3
- Not having the opportunity to being employed: 3
- Adjustments for disabled people in the workplace: 3
- Confidence: 3
- Environment: 3
- Understanding: 3
- No buses: 3
- Failure to drive—travel issues: 3
- Employer inflexibility with hours: 3

**Little.** Poor transport networks: 2
- Bad transport: 2
- No help available for those with learning disability: 2
- Employers think that making adjustments in the workplace are too expensive: 2
- Transport: 2
- Small p politics: 2
Appendix B

Categorization of Responses by Chosen Topics

What are the top five things affecting disabled people getting jobs in Northern Ireland? (based on Likert-type scale):

Lack of disability awareness—Socially and by employers total: 47.
Lack of disability awareness: 5
Employer view of disabled: 5
Finding out where the help is—social and employment: 5
Not like being treated equally/treated a child: 5
Stigma: 5
Not enough help out there—can impact confidence and fight against stigma: 4
Confidence: 4
Stigma: 4
Learning/education (lack of)—disability awareness—more understanding: 3
Confidence—lack of coworker’s disability awareness: 3
Understanding—lack of coworker’s disability awareness: 3
Being treated like a child: 1

Accessibility—Total: 27. No access for people using mobility equipment: 4
Accessibility: 4
Jobs are sometimes not suitable: 4
Lack of part-time position flexible working hours: 4
Disabled people themselves: 4
Environment—physical access and both reasonable adjustments: 3
Accessibility: 1

Transportation—Total: 17. People can’t drive: 4
No buses: 3
Failure to drive—travel issues: 3
Poor transport networks: 2
Bad transport: 2
Transport: 2
Travel: 1

Reasonable Adjustments—Total: 17. Employers’ lack of workplace education re reasonable adjustments: 5
Adjustments for disabled people in the workplace: 3
Environment—physical access and both reasonable adjustments: 3
Employer inflexibility with hours: 3
Employers think that making adjustments in the workplace are too expensive: 2
Not enough flexible work hours: 1

Benefits—Total: 5. Being on benefits: 2
Loss of benefits versus how much you earn: 2
The benefits trap: 1

Subtopics. Employers not recruiting enough disabled people: 5
Lack of support: 5
Not having the opportunity to being employed: 3
No help available for those with learning disability: 2
Small p politics: 2
Sometimes a lack of support in the workplace can be a barrier: 1
Lack of work experience: 1
Desire to work: 1
Qualifications, lack of experience: 1

Acknowledgments

I would like to thank my colleagues Ann-Marie Gray, Goretti Hor- gan, and Markus Ketola from Ulster University as well as Angharad Beckett from the University of Leeds. They have provided comments that greatly improved this manuscript.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, author- ship, and/or publication of this article.

ORCID iD

Jason Olsen https://orcid.org/0000-0002-9562-3758

References

Access to Work. (2019). Retrieved from https://www.gov.uk/access- to-work/what-youll-get
Andersen, B., & Fagerhaug, T. (2000). The nominal group technique. Quality Progress, 33, 144.
Bartunek, J., & Murninghan, K. (1984). The nominal group technique: Expanding the basic procedure and underlying assumptions. Group & Organizational Studies, 9, 417–432.
Bekkema, N., de Veer, A. J. E., Hertogh, C. M. P. M., & Francke, A. L. (2016). Perspectives of people with mild intellectual disabilities on care relationships at the end of life: A group interview study. Palliative Medicine, 30, 625–633.
Boddy, C. (2012). The nominal group technique: An aid to brainstorming ideas in research. Qualitative Market Research: An Inter- national Journal, 15, 6–18.
Carulla, L., Reed, G., Vaez-Azizi, L., Cooper, S., Leal, R., Bertelli, M., . . . Saxena, S. (2011). Intellectual developmental disorders:
Towards a new name, definition and framework for “mental retardation/intellectual disability” in ICD-11. *World Psychiatry*, 10, 175–180.

Davies, S., Romano, P., Schmidt, E., Schultz, E., Geppert, J., & McDonald, K. (2011). Assessment of a novel hybrid Delphi and nominal groups technique to evaluate quality indicators. *Health Services Research*, 46, 2005–2018.

Education Authority. (2018). Audit of inequalities [online]. Education Authority. Retrieved January 24, 2019, from https://www.eani.org.uk/sites/default/files/2018-10/Audit%20of%20Inequalities%20April%202018.pdf

Equality Commission for Northern Ireland. (2015). Equality Commission for Northern Ireland response to department for employment and learning (DEL) consultation on a strategy for ‘improving the job prospects and working careers of people with disabilities in Northern Ireland’. Retrieved from http://www.equalityni.org/ECNI/media/ECNI/Consultation%20Responses/2015/DEL-Dis ability_employment_strategy.pdf

Equality Commission for Northern Ireland. (2016). Equality Commission response to the proposed delivery plan for programme for government indicator 42. Retrieved from http://www.equalityni.org/ECNI/media/ECNI/Consultation%20Responses/2017/PfG-DeliveryPlan-42-Disability.pdf

Fox, W. M. (1989). The improved nominal group technique (INGT). *The Journal of Management Development*, 8, 20.

Friedman, C., Arnold, C. K., Owen, A. L., & Sandmanet, L. (2014). Remember our voices are our tools: Sexual self-advocacy as defined by people with intellectual and developmental disabilities. *Sexuality and Disability*, 32, 515–532.

Garcia, L. J., Barrette, J., & Laroche, C. (2000). Perceptions of the obstacles to work reintegration for persons with aphasia. *Aphasiology*, 14, 269–290.

Greene, M. (2014). On the inside looking in: Methodological insights and challenges in conducting qualitative insider research. *The Qualitative Report*, 19, 1–13.

Hahn, H. (2001). Attitudes toward disabilities: A research note on activists with disabilities. *Journal of Disability Policy Studies*, 12, 40–46.

Hinckley, J., Boyle, E., Lombard, D., & Bartels-Tobin, L. (2014). Towards a consumer informed research agenda for aphasia: Preliminary work. *Disability Rehabilitation*, 36, 1042–1050.

Kitchin, R. (1998). ‘Out of Place’, ‘Knowing One’s Place’: Space, power and the exclusion of disabled people. *Disability & Society*, 13, 343–356. doi:10.1080/09687599826678

Lakhani, A., Watling, D., Zeeman, H., Wright, C., & Bishara, J. (2018). Nominal group technique for individuals with cognitive disability: A systematic review. *Disability and Rehabilitation*, 40, 2105–2115. doi:10.1080/09638288.2017.1325946

Legislation.gov.uk. (1995). Disability Discrimination Act 1995. Retrieved March 27, 2019, from http://www.legislation.gov.uk/ukpga/1995/50

McQuaid, R., & Raeside, R. (2014). Employment inequalities in Northern Ireland (p. 177). Edinburgh, Scotland: Employment Research Institute.

Moore, C. (1987). *Group techniques for idea building*. London, England: Sage.

Northern Ireland Statistics and Research Agency. (2018). Quarterly supplement to the Labour Market Report—April-June 2018 [online]. Retrieved March 31, 2019, from https://www.nisra.gov.uk/system/files/statistics/Quarterly-Supplement-to-the-Labour-Market-Report-AJ18.PDF

Northern Ireland Statistics and Research Agency. (2019). *Northern Ireland Labour Market Report* [online]. Northern Ireland. Retrieved April 21, 2019, from https://www.nisra.gov.uk/system/files/statistics/labour-market-report-march%202019.PDF

Owen, A., Arnold, K., Friedman, C., & Sandman, L. (2016). Nominal group technique: An accessible and interactive method for conceptualizing the sexual self-advocacy of adults with intellectual and developmental disabilities. *Qualitative Social Work*, 15, 175–189.

Porter, J. (2013). Be careful how you ask! Using focus groups and nominal group technique to explore the barriers to learning. *International Journal of Research & Method in Education*, 36, 33–51.

Roeden, J., Maaskant, M., & Curfs, L. (2011). The views of clients with mild intellectual disabilities regarding their working relationships with caregivers. *Journal of Applied Research in Intellectual Disabilities*, 24, 398–406.

Roth, P., Schleifer, L., & Switzer, F. (1995). Nominal group technique—An aid in implementing TQM. *The CPA Journal*, 65, 68.

Sumison, T. (2000). Nominal group technique: A format for focus groups [online]. Retrieved October 2, 2019, from Leeds.ac.uk: http://www.leeds.ac.uk/educol/documents/00001393.htm

Thomas, B. (1983). Using nominal group technique to identify researchable problems. *Journal of Nursing Education*, 22, 335–337.

Tuffrey-Wijne, I., Bernal, J., Butler, G., Hollins, S., & Curfs, L. (2007). Using nominal group technique to investigate the views of people with intellectual disabilities on end-of-life care provision. *Journal of Advanced Nursing*, 58, 80–89. doi:10.1111/j.1365-2648.2007.04227.x

Union of the Physically Impaired Against Segregation. (1975). *Fundamental principles of disability* [online]. London. Retrieved December 27, 2018, from https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/UPIAS-fundamental-principles.pdf

Vander Laenen, F. (2015). Not just another focus group: Making the case for the nominal group technique in criminology. *Crime Science*, 4, 5.

Ven, A., & Delbecq, A. (1972). The nominal group as a research instrument for exploratory health studies. *American Journal of Public Health*, 62, 337–342.

Ven, A., & Delbecq, A. (1974). The effectiveness of nominal, Delphi, and interacting group decision making processes. *Academy of Management Journal*, 17, 605–621.

Wallace, S. J., Worrall, L., Rose, T., Le Dorze, G., Cruice, M., Isaksen, J., Gauvreau, C. A. (2017). Which outcomes are most important to people with aphasia and their families? An international nominal group technique study framed within the ICF. *Disability & Rehabilitation*, 39, 1364–1379.

World Health Organization. (2011). *World report on disability*. [online] Retrieved March 31, 2019, from http://www.who.int/dis abilities/world_report/2011/report.pdf