



## **POWER IMBALANCES IN RESEARCH: A STEP BY STEP ILLUSTRATION OF AN ADAPTED MULTIPLE NOMINAL GROUP ANALYSIS**

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The nominal group-technique is an excellent manner to gather, analyse and prioritise data. However, due to power hierarchies, time and size constraints, it often happens that separate nominal groups need to be done to obtain data from different participants. Collating these different sets of data has to be done in a scientific way to ensure validity of the priority list. This manuscript contains illustrated step-by-step guidelines for other researchers in the process of collating and prioritising data from multiple nominal groups to ensure that the voice of all participants have equal standing, notwithstanding their status.

**Keywords:** Multiple data analysis, Nominal-group, Qualitative research, Scholarship development.

### **Introduction**

The nominal group technique is a consensus seeking technique whereby each participant generates ideas relating to the topic of interest. Every participant, notwithstanding the academic or social status, has an equal voice in this well-structured process. The power differential that exists between strata within the population involved in the topic of interest might at times necessitate multiple nominal group sessions to ease the power differential. Each group process generates a priority list that represents the voice of a particular group in which all participants have equal standing. All the different groups' priorities should then be group together and collated in a structured way to obtain a combined priority list.

### **The Aim of the Paper**

This article provides a step-by-step illustration of the process of combining the voices of different 'power' groups to reach consensus on priority issues relating to a topic of mutual interest. The authors' intention is not to describe the results of a specific study, but to convey the process of data gathering, analyses and collation during multiple nominal group sessions in a milieu characterised by high power differential among strata of the population. The researchers adapted the analysis process proposed by Van Breda (2005, pp. 1-14) to collate the priorities of students, faculty and senior management (population) in decision-making around strategies to establish and enhance a research culture in nursing education

institutions (topic of interest). This adapted version provides for the use of digital analysis (MS Word), making analysis and collation of data less tedious than the original manual process and limiting possible mistakes.

### **The Context**

Research is one of the key performance areas of faculty members in Higher Education Institutions and demands quality research outputs from faculty (Halse & Malfroy 2010: 79). With the integration of nursing colleges into higher education, the same expectation for knowledge generation applies to faculty at these colleges (RSA Department of Higher Education and Training 2010).

Scholarship development and knowledge generation depends greatly on the research culture prevalent in an institution (Roets & Lubbe 2014: 3). However, this might lead to high levels of frustration in faculty members working in nursing colleges as they might not be adequately prepared for this added research role (Jacobsen & Sherrod 2012: 279). We were approached by faculty members from a private higher education group of colleges to assist and mentor them towards establishing and enhancing a research culture among faculty.

We are both senior faculty members at the largest open distance learning (ODL) higher education institution in Africa, whose vision it is to be *the* African university in the service of humanity. As service-orientated professionals we have a responsibility to contribute to scholarship development when engaging in a community. One of our major academic responsibilities includes active involvement in mentoring and scholarship development of fellow faculty members from within, and outside of our institution.

### **The Nominal Group Technique**

The nominal group technique as a data-gathering tool was originally proposed by Van de Ven and Delbecq (1972) as a qualitative judgemental problem exploration and consensus seeking method. This method is a most suitable, orderly and systematic process of obtaining qualitative information from different target groups closely associated with a topic of interest (Van de Ven & Delbecq 1972:338). Three distinctively diverse groups of stakeholders – students, faculty and management – are involved in fostering a research culture at any tertiary educational institution. The research during which we adapted the Van Breda nominal group data analysis process for MS Word and multiple data set collation, these groups were also recruited to participate in the various nominal group sessions.

We selected the nominal group as a data-gathering technique because it is a highly structured technique designed to keep personal interaction at a minimum level during the process of new idea generation while simultaneously maximising the individual contribution of participants (Van de Ven & Delbecq 1972; Hutchings, Rapport, Wright & Doel 2013: 492; Botma, Greeff, Mulaudzi & Wright 2010: 251). Multiple nominal group (NG) sessions further allowed for “individual voices” being heard. By having stipulated the different strata – student, faculty and management – as inclusion criteria for the different NG sessions the existing power and hierarchical differential was eliminated. Each individual’s opinion was valued and was collated to reach consensus. In this project, the advantage was that the opinion of the student was of equal importance in consensus seeking to that of faculty and practice and education managers. Our application of multiple NG sessions prevented both inter and intra group domineering behaviour. The different strata (stakeholders, groups) served as units of analysis.



**Figure 1.** Stakeholders involved in creating a research culture

### Units of Analysis

- **Students:** This unit of analysis comprised of 12 final year students registered in terms of Regulation 683 (SANC 1989) for the diploma (bridging course for Enrolled Nurses leading to registration as a General Nurse) in general nursing at different colleges associated with the custodian University. These students were introduced to research for the first time during their final year of study. They were expected to conduct research under the supervision of faculty members. We recruited the students via the faculty members of the college who acted as gatekeepers.
- **Faculty members:** The 30 faculty members were all novices to research with neither prior exposure to training in the research process, nor to research-supervision of students as these colleges were not previously part of the higher education domain.
- **Management:** These participants were recruited from the top-management team (5) responsible for policy development, implementation and change initiatives that could contribute to the enhancement of the research culture at the colleges. These managers were from the clinical practice and the educational area.

The ideal size of a nominal group is between three and 12 members (De Vos, Strydom, Fouche, & Delport 2011: 503; Grobstein, 2012, and Van de Ven & Delbecq 1972: 338). Using a larger group is time consuming and less effective as a consensus seeking method and loses its impact.

A crucial prerequisite for quality data that are trustworthy is to ensure that the question – or as we prefer to call it, the instruction – is clear and well formulated. The question originally formulated by the college faculty members *"How will you improve the research culture in your institution?"* is an example of a question that, in our opinion, is not well formulated, as more guidance should be given as an instruction. We suggest rephrasing this question into an instruction such as *"Write down all the ideas you have to improve the research culture in your institution."*

The setting for the nominal group should be conducive to group member participation. This includes the location, size, and available resources in the physical environment and a psychological climate of trust and openness. The venue was agreed upon by all participants and the time and date was convenient for all.

The venue was prepared to ensure comfortable desk-seating for all participants in a U-shape. Each participant was provided with a pen, scrap paper, 5 voting cards and the typed instruction.

A whiteboard, flipchart and pens were provided to the independent scribe for recording purposes. Although a scribe was not mentioned in the original proses as described by Van de Ven and Delbecq (1972) we found a scribe indispensable in ensuring the facilitator maintains contact with the participants and facilitates the NG proses while the scribe focuses on writing the ideas proposed by participants on the

flip chart. We used the same scribe and trained facilitator in all the nominal group sessions to enhance trustworthiness.

Prior to gathering data, all ethical principles as described in Botma, et al. (2010, pp. 9-31) were adhere to. Ethical approval was obtained from the research ethics committee of the custodian University of the study and from the participating colleges. Each participant gave individual written voluntary informed consent.

### The Process

All the nominal groups were conducted in the same manner. (a) A member of faculty introduced the facilitator and scribe to the participants after which she excused herself. The facilitator greeted the participants and explained the purpose and process of the nominal group. Participants were assured that they could choose not to participate and leave the group before commencement of the discussion, without any penalty. The facilitator obtained informed written consent from the participants and requested participants to remain in the group until after the voting cycle of the NG had been concluded to ensure trustworthiness of the voting and final ranking process.

The participants were asked to read the written instruction. The instruction was also repeated by the facilitator. Hereafter the steps as originally explained by Van de Ven and Delbecq (1972: 339-340) were followed. Participants were allowed 15 minutes for (b) the **silent generation of their ideas in writing**. Participants were requested to list, on the paper provided, all their suggestions on how to improve a research culture in their institution. The participants were asked to indicate that they were through with generating ideas by putting down their pens. This assisted the facilitator in time management.

At the end of the 15 minutes, the (c) **round-robin listing of ideas** followed. The facilitator asked a volunteer to mention the first idea on his or her list. This was recorded by the scribe on the flipchart. Thereafter, in a clockwise order, starting with the participant next to the volunteer each participant had to air their first idea. Only one idea per participant in a single round was allowed. Participants were encouraged to “hitch-hike” any participant’s idea by adding a new idea to their own list. The cycle was repeated until no new ideas were raised. In cases where a participant’s ideas were exhausted, he or she could skip a turn, but could still add new ideas at a later stage during the idea-sharing phase. Participants were not allowed to talk out of turn and discussions were avoided. The facilitator was responsible to ensure an orderly proceeding and for listing each participant’s contribution on the flipchart. The cycle stopped when no new ideas were generated.

After all the items were recorded, the facilitator then allowed (d) a **serial discussion of ideas**. The purpose of this discussion was to clarify, elaborate, defend or dispute items. New items could also be listed that emerged from the discussion. Participants were allowed to suggest categories for certain items

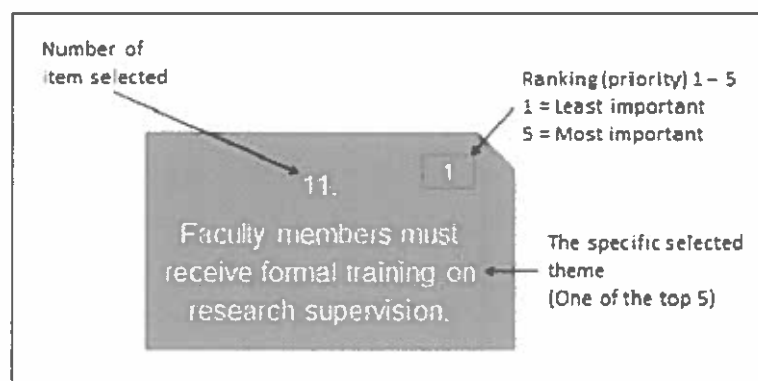


Figure 2. Example of a voting card

and group them together as a theme, but were not allowed to eliminate any individual's ideas. One theme could consist of more than one category and categories could consist of one to multiple items. During the research referred to, 8 themes were created and numbered in no specific order.

Participants then had to (e) **prioritise the five most important themes** that they deemed crucial for creating a research culture in their institution. On the voting cards provided, the facilitator requested every participant to individually choose and record the five most important themes, in their opinion, arrived at on the voting cards, as illustrated in Figure 2.

Personal experience gained through facilitating various nominal groups with diverse participants, showed that participants often do not complete voting card as required which complicates further data analyses. We consequently adapted the original NGT process of Van de Ven and Delbecq (1972) by adding step f, g and h to enhance the trustworthiness of the data. After the participants had completed their voting cards, we have found it worthwhile to (f) **check whether all cards were correctly completed and we checked that:**

- Each participant completed 5 cards
- Cards were ranked from 1 – 5 in the right upper corner
- Each rank (1 – 5) appears only once
- Each voting-card contains only one selected theme
- The specific selected theme is numbered according to the priority list compiled during phase (e).

To keep the participants actively engaged in the process, five volunteers were asked to (g) **collect the cards** by ranking number. In other words, one participant collected all the cards prioritised as 1, another all the cards prioritised as 2, and so forth.

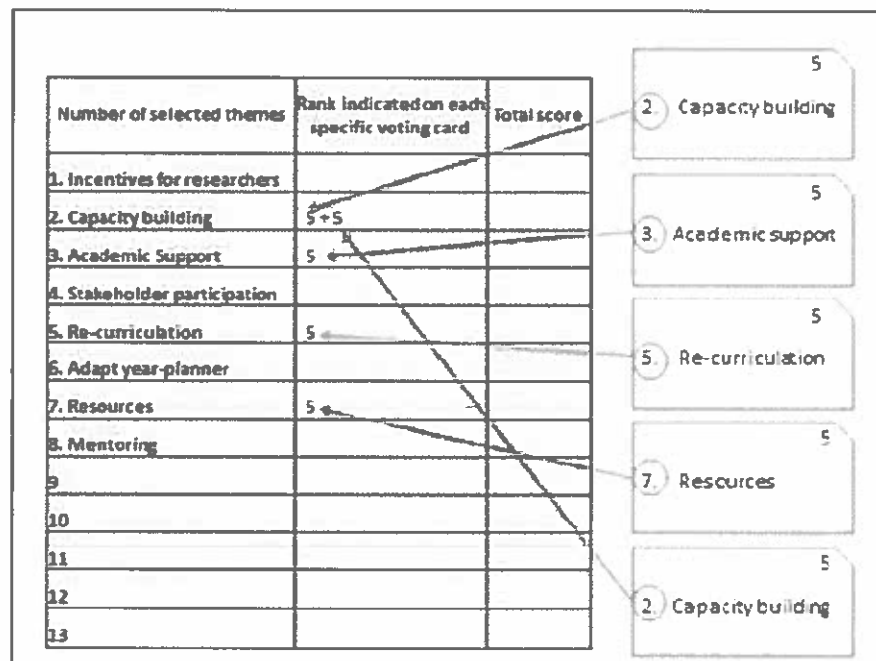


Figure 3. Capturing of the votes

The numbers of the final list of selected themes compiled during phase (e) are then transferred to a chart (first column), illustrated in Figure 3. The volunteer participant who collected all the cards rated as most important priority (numbered 5 in the right upper corner), was then requested to (h) **read out aloud the number of the selected theme** (indicated in the middle of the card). A second participant, seated next to the 'reader', checked that the correct number is called. The facilitator then captured the priority vote

next to the number of the selected theme, to the chart (See Figure 3 for an illustration of capturing the 5 priority votes).

The number of votes captured must correlate with the number of participants, e.g. if there were 5 participants, there MUST be 5 number 5s, 5 number 4s and the like, captured on the vote capturing chart. This process continues until all the votes are captured.

Number and selected theme	Rank indicated on each specific card	Total score
1. Incentives for researchers	4 + 2 + 2	8
2. Capacity building	5 + 5 + 4 + 3 + 2 + 2 + 1 + 1	24
3. Academic Support	5	5
4. Stakeholder participation	4 + 4	8
5. Re-circulation	5	5
6. Adapt year-planner	3 + 3 + 3	9
7. Resources	5 + 4 + 3 + 2 + 1	15
8. Mentoring	1 + 1	2

Figure 4. Example of a completed vote capturing chart

The total score of every selected theme is then **(i) captured and calculated** on the vote capturing chart (See Figure 4). It is the collective responsibility of participants to confirm the correct calculations. Participants were then thanked for their contribution and ensured that the final results would be shared with them.

This concluded the process followed to complete the nominal group with the first group of stakeholders.

We followed the same process for all groups whose data were collated and used to do the multiple group data analysis. The advantage in using the same facilitator and scribe contributes to the validity of the process as the facilitator were familiar with the context and could start the nominal group without first receiving orientation regarding the context and setting. The disadvantage was that the facilitator had to bracket the previous experience as not to direct the nominal group to identified similar themes. It is therefore essential to make use of a skilled facilitator for data-gathering.

### Collating the Data

We originally started the multiple group analysis in our project by applying the steps as described by Van Breda (2005, pp. 1-14). However we found the steps confusing. We therefore added addition steps and columns to allow for a better flow of calculations – especially in electronic format. The steps as altered are described below. Our believe is that this adapted version will assist other researchers who want to follow the same process.

#### Step 1: Create an initial spread-sheet

In MS Word, via the “Insert Table” function, create a table (spread-sheet) with nine columns (A-I) as illustrated in Table 1. We started with the data from the first nominal group, which was conducted with faculty members. This group was numbered ‘one’ (1) as indicated in Column A (Table 1). Note that the figures below contains only a fragment of the entire table as the purpose is just to illustrate how it is done and not to share the results after collating the data.

We then took each theme and wrote the number of the themes (1-8) in Column B, the rubric of the theme in Column C and the verbatim statement in Column D. The total score (as calculated during the specific nominal group) of each theme was recorded in Column E. Note that the theme and the verbatim statements received the same calculated scores (see Table 1 for the scores). The rationale for this is,

firstly, that merged cells do not allow for electronic sorting of data; therefore it was essential to adapt the original steps as described by van Breda (2005). Secondly, the statements provided by the participants were already thematised and analysed by the group-members themselves. The statements provided are included to allow for a thick description of the themes described. The same process was followed with the data from the other groups.

**Table 1.** Excerpt from first round of data sorting

A: Number of the Group	B: Number of selected theme	C: Theme (as agreed upon by participants)	D: Statements (by individual participants)	E: Scores (for the theme)	F: Average (score divided by number of participants)	G: Top 5	H:	I:
1	1	Capacity building	Research journal club	78	4.875			
1	1	Capacity building	Mentoring workshop	78	4.875			
1	1	Capacity building	Supervisor/Mentor for nurse educator	78	4.875			

### Step 2: Identify the top 5 themes from each group

On our electronic (MS Word) document, we highlighted (for selection) all the columns and rows except the row with the headings. By using the “Sort” function under “Home” on the ribbon, data were then sorted in the following sequence; Column A in ascending order (to ensure the data from the different groups are not mixed); Column F in descending order as illustrated in Table 2.

**Table 2. Step 2**[illegible]

In Column G (Top 5), we then typed an X next to the five themes with the highest score in each group. If the fifth score is tied with the sixth, the sixth score must be marked as well.

### Step 3: Content analysis of the data

Although the participants already did the analysis by grouping together ideas to form themes, we had to do a content analysis of the collated data to ensure that themes or categories were not missed or new ones did not emerged. The themes and statements were read through a few times and categories emerged. These categories were formed by grouping themes and statements together that addressed similar ideas.

Table 3. Step 3

A: Number of the Group	B: Number of selected theme	New: Categories as identified by researchers	C: Theme (as agreed upon by participants)	D: Statements (by individual participants)	E: Scores (for the theme)	F: Average (score divided by number of participants)	G: Top 5	H:	I:
1	1	Capacity building for Nurse Educators	Capacity building	Research journal club	78	4.875	X		
1	1	Capacity building for Nurse Educators	Capacity building	Mentoring workshop	78	4.875	X		
1	3	Resources available for Nurse Educators	Resources	Sufficient resources	70	4.375	X		
1	3	Resources available for Nurse Educators	Resources	Funding (nurse educators)	70	4.375	X		
1	3	Resources available for Nurse Educators	Resources	Unrestricted access to electronic resources (e.g. video) for nurse educators	70	4.375	X		
1	3	Resources available for Nurse Educators	Resources	WiFi for nurse educators	70	4.375	X		

When we were satisfied that we had the themes sorted into the different categories, we created a new document. (A useful tip to share here is that creating new documents and saving the previous documents allows the data analysers to go back and double-check the steps and the data and if mistakes are identified, corrections can be made only from that step and the entire, time-consuming process need not to be start afresh) In a new document, we named and numbered the different categories (e.g. Category 1: Capacity-building for nurse educators; Category 2: Capacity-building for students). All the statements and themes then needed to be coupled with a specific category – see Table 3 – prior to the sorting process.

To enhance trustworthiness, two additional persons who were not involved in the nominal group discussions, were asked to validate this process and therewith its contribution towards the reliability and credibility of the process.

#### Step 4: Calculating combined rankings to gain a consolidated and prioritised list

Select (highlight) all the columns and rows (excluding the header row) on the new spread sheet. Sort the data as follows: Column B (category number) ascending order; Column G (Top 5) in descending order. All themes marked with an X will now be at the top of each group's set of data. Save the data.

Table 4. Step 4

A: Number of the Group	B: Number of category	New: Categories as identified by researchers	C: Theme (as agreed upon by participants)	D: Statements (by individual participants)	E: Scores (for the theme)	F: Average (score divided by number of participants)	G: Top 5	H:	I:
1	1	Capacity building for Nurse Educators	Capacity building	Research journal club	78	4.875	X		
1	1	Capacity building for Nurse Educators	Capacity building	Mentoring workshop	78	4.875	X		
1	3	Resources available for Nurse Educators	Resources	Sufficient resources	70	4.375	X		
1	4	Resources available for students	Resources						
1	4	Resources available for students	Resources						
1	5	Re-cumulation of research module	Research curriculum						
1	5	Re-cumulation of research module	Research curriculum						
1	6	Incentives for Nurse Educators	Incentives						
1	6	Incentives for Nurse Educators	Time and conduct research						
1	7	Incentives for students	Incentives						
2	1	Capacity building for Nurse Educators	Mentoring						
2	2	Capacity building for students	Academic support						
2	3	Resources available for Nurse Educators	Access to resource						
2	3	Resources available for Nurse Educators	Access to resource (P&T)	Understanding what universities to access their academic resources (books and journals)					
2	4	Resources available for students	Access to resource (students)	XX College to subscribe to research journals (open access for students)	16	1.333	X		
2	4	Resources available for students	Access to resource (students)	Financial support for research (e.g. poster)	16	1.333	X		
2	8	Supervisor/Student ratio	Student/NE supervision ratio	Student-educator supervision ratio/feasible	3	0.25			



### Step 5: The ranking process

#### Step 5.1: Create a new data sheet.

We used the categories, themes and statements referred to in Table 4 to create this new data sheet. Only data marked with an X (see step 4), should be transferred onto this third data sheet illustrated in Table 5.

The new data sheet was populated as follows:

- Column 1: The number and name of the category that we created (and only when marked with an X).
- Column 2: Add up how many X's appears in Column G (Table 4) of the lists of statement per category.
- Column 3: Leave open
- Column 4: Add up the number of statements that fall into each category (those with and those without X). Type these totals into Column 4 for each category.
- Column 5: Leave open
- Column 6: Total the average scores of all the statements (sum of Column F per category, Table 4) in a specific category and divide the sum by the number of statements (column D, Table 4) in each category.

Table 5. Step 5.1 of the ranking process

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
1. Capacity building for Nurse Educators	19		20		3.368		
2. Capacity building for students	4		4		2.531		
3. Resources available for Nurse Educators	11		11		3.284		
4. Resources available for students	9		11		3.361		
5. Re-curriculation of research module	14		19		1.988		
6. Incentives for Nurse Educators	3		3		1.444		
7. Incentives for students	1		2		0.75		
8. Supervisor: Student ratio	0		2		0.437		
9. Stakeholder participation / collaboration	1		4		0.791		
10. Adapt year-planner	0		1		0.5		
11. Dissemination of research results	1		3		0.631		
12. Conform to ethical guidelines	0		3		1.25		

#### Step 5.2: Sorting of Column 2.

Highlight the content of the data sheet and sort it according to Column 2 (Top 5:) in ascending order to obtain the result indicated in Table 6.

Table 6. Sorting according to column 2

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
1. Capacity building for Nurse Educators	19		20		3.368		
2. Capacity building for students	4		4				
3. Resources available for Nurse Educators	11		11				
4. Resources available for students	9		11				
5. Re-circulation of research module	14		19				
6. Incentives for Nurse Educators	3		3				
7. Incentives for students	1		2				
8. Supervisor: Student ratio	0		2				
9. Stakeholder participation / collaboration	1		4				
10. Adapt year-planner	0		1				
11. Dissemination of research results	1		3				
12. Conform to ethical guidelines	0		3				

Sort

Sort by: Column 2 Type: Number Using: Paragraphs Ascending Descending

Then by: Type: Text Using: Paragraphs Ascending Descending

Then by: Type: Text Using: Paragraphs Ascending Descending

My list has: ☒ Header row ☐ No header row

Options... OK Cancel

## Step 5.3: First ranking

In Column 3, type in the numbers 1, 2, 3, etc. starting from the first category to the end of the list (see Table 7). Be on the alert to rank across lines and not just within columns. In this regard numbering the original lines is important. If the numerical sequence is disturbed (changed) ranking across line occurred.

Compare the numbers in Column 2 with the numbers that were entered in Column 3. If categories in Column 2 have identical scores, the scores in Column 3 have to be adjusted and replaced with an average score as illustrated in Table 7.

Table 7. First ranking

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
8. Supervisor: Student ratio	0	1 2	2		0.437		
10. Adapt year-planner	0	2 2	1		0.5		
12. Conform to ethical guidelines	0	3 2	3		1.25		
7. Incentives for students	1	4 5	2		0.75		
9. Stakeholder participation / collaboration	1	5 5	4		0.791		
11. Dissemination of research results	1	6 5	3		0.631		
6. Incentives for Nurse Educators	3	7	3		1.444		
2. Capacity building for students	4	8	4		2.531		
4. Resources available for students	9	9	11		3.361		
3. Resources available for Nurse Educators	11	10	11		3.284		
5. Re-circulation of research module	14	11	19		1.988		
1. Capacity building for Nurse Educators	19	12	20		3.368		

## Step 5.4: Averaging the scores in Column 3

Select (highlight) all the columns and rows (excluding the header row) on the datasheet-sheet illustrated in table 7, in ascending order, according to Column 4 (see Table 8).

Table 8: Second ranking

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
10. Adapt year-planner	0	2	1		0.5		
8. Supervisor: Student ratio	0	2	2		0.437		
7. Incentives for students	1	5	2		0.75		
12. Conform to ethical guidelines	0	2	3		1.25		
11. Dissemination of research results	1	5	3		0.631		
6. Incentives for Nurse Educators	3	7	3		1.444		
9. Stakeholder participation / collaboration	1	5	4		0.791		
2. Capacity building for students	4	8	4		2.531		
4. Resources available for students	9	9	11		3.361		
3. Resources available for Nurse Educators	11	10	11		3.284		
5. Re-circulation of research module	14	11	19		1.988		
1. Capacity building for Nurse Educators	19	12	20		3.368		

## Step 5.5: Second ranking.

Repeat this ranking process in Column 4 and 5 (see Table 9).

Table 9. Second ranking

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
10. Adapt year-planner	0	2	1	1	0.5		
8. Supervisor: Student ratio	0	2	2	2	0.437		
7. Incentives for students	1	5	2	3	0.75		
12. Conform to ethical guidelines	0	2	3	4	1.25		
11. Dissemination of research results	1	5	3	5	0.631		
6. Incentives for Nurse Educators	3	7	3	6	1.444		
9. Stakeholder participation / collaboration	1	5	4	7	0.791		
2. Capacity building for students	4	8	4	8	2.531		
4. Resources available for students	9	9	11	9	3.361		
3. Resources available for Nurse Educators	11	10	11	10	3.284		
5. Re-circulation of research module	14	11	19	11	1.988		
1. Capacity building for Nurse Educators	19	12	20	12	3.368		

Highlight all the content of the spread sheet and sort Column 6 in ascending order to finalise this step.

Step 5.6: Third ranking.

Table 10. Ranking continue

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
8. Supervisor: Student ratio	0	2	2	2.5	0.437		
10. Adapt year-planner	0	2	1	1	0.5		
11. Dissemination of research results	1	5	3	5	0.631		
7. Incentives for students	1	5	2	2.5	0.75		
9. Stakeholder participation / collaboration	1	5	4	7.5	0.791		
12. Conform to ethical guidelines	0	2	3	5	1.25		
6. Incentives for Nurse Educators	3	7	3	5	1.444		
5. Re-circulation of research module	14	11	19	11	1.988		
2. Capacity building for students	4	8	4	7.5	2.531		
3. Resources available for Nurse Educators	11	10	11	9.5	3.284		
4. Resources available for students	9	9	11	9.5	3.361		
1. Capacity building for Nurse Educators	19	12	20	12	3.368		

After Column 6 was sorted, again enter the numerical value 1 – 12 in Column 7.

Table 11. Ranking continue

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
8. Supervisor: Student ratio	0	2	2	2.5	0.437	1	
10. Adapt year-planner	0	2	1	1	0.5	2	
11. Dissemination of research results	1	5	3	5	0.631	3	
7. Incentives for students	1	5	2	2.5	0.75	4	
9. Stakeholder participation / collaboration	1	5	4	7.5	0.791	5	
12. Conform to ethical guidelines	0	2	3	5	1.25	6	
6. Incentives for Nurse Educators	3	7	3	5	1.444	7	
5. Re-circulation of research module	14	11	19	11	1.988	8	
2. Capacity building for students	4	8	4	7.5	2.531	9	
3. Resources available for Nurse Educators	11	10	11	9.5	3.284	10	
4. Resources available for students	9	9	11	9.5	3.361	11	
1. Capacity building for Nurse Educators	19	12	20	12	3.368	12	

If Column 6 contains identical values, adapt Column 7's value using the same process as described for Table 7, Column 3 and Table 9, Column 5. Columns 2, 4 and 6 are now ranked with the higher numbers of greater importance for all the nominal groups.

Step 5.7: Final ranking.

Add up the ranks of Columns 3, 5 and 7 and type it in Column 8.

Table 12. Ranking continue

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
8. Supervisor: Student ratio	0	2	2	2.5	0.437	1	5.5
10. Adapt year-planner	0	2	1	1	0.5	2	5
11. Dissemination of research results	1	5	3	5	0.631	3	13
7. Incentives for students	1	5	2	2.5	0.75	4	11.5
9. Stakeholder participation / collaboration	1	5	4	7.5	0.791	5	17.5
12. Conform to ethical guidelines	0	2	3	5	1.25	6	13
6. Incentives for Nurse Educators	3	7	3	5	1.444	7	19
5. Re-curriculation of research module	14	11	19	11	1.988	8	30
2. Capacity building for students	4	8	4	7.5	2.531	9	24.5
3. Resources available for Nurse Educators	11	10	11	9.5	3.284	10	29.5
4. Resources available for students	9	9	11	9.5	3.361	11	29.5
1. Capacity building for Nurse Educators	19	12	20	12	3.368	12	36

Select (highlight) all the columns and rows (excluding the header row) on the datasheet sheet as illustrated in Table 12, rank in descending order, according to Column 8.

Table 13. Results of final ranking

1. Number and name of category	2. Top 5: 1	3. Top 5: 2	4. Number of statements per category: 1	5. Number of statements per category: 2	6. Average 1	7. Average 2	8. Final rank
1. Capacity building for Nurse Educators	19	12	20	12	3.368	12	36
5. Re-curriculation of research module	14						30
3. Resources available for Nurse Educators	11						29.5
4. Resources available for students	9						29.5
2. Capacity building for students	4						24.5
6. Incentives for Nurse Educators	3						19
9. Stakeholder participation / collaboration	1						17.5
11. Dissemination of research results	1						13
12. Conform to ethical guidelines	0						13
7. Incentives for students	1						11.5
8. Supervisor: Student ratio	0						5.5
10. Adapt year-planner	0	2	1	1	0.5	2	5

Table 13 contains the collated priorities from the various nominal groups after a multiple nominal group analysis was conducted. The highest value in Column 8 represents the most important category as deemed by all the participants (students, faculty members and top management).

## Conclusion

If the adapted steps are followed, it is possible to scientifically collate, assess and describe the priorities relating to the same topic of interest from numerous nominal groups no matter the diversity of groups.

In any setting, specifically where the stakeholders involved are diverse in culture, language and hierarchy, this process allows for equality regarding individual's opinions. In the research during which the process under discussion was refined, the opinions and voting of students counted as much as that of managers and faculty.

By doing a multiple nominal group analyses, all stakeholders, from students to senior management, had an opportunity to contribute equally in finalising the top priorities.

The value of this process lies in its participatory, consensus-seeking, decision-making attributes that deem the voices of all participants to be equally important. Participatory decision-making allows for easier implementation of strategies or change, as all participants 'own' the process as power imbalances are taken out of the equation.

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