USING Q METHODOLOGY IN NURSING EDUCATION AND RESEARCH

Desirée Hensel, PhD, RN, PCNS-BC, CNE
Dean and Professor
desiree.hensel@curry.edu
SESSION OBJECTIVES

• Learning Objectives
  • Describe the theoretical basis and research processes associated with Q methodology
  • Identify ways that Q methodology can be used to study the affective domain in nursing education research or program evaluation

• Disclosures
  • Dr. Desirée Hensel is the Dean and a Professor at Curry College School of Nursing in Milton, MA, USA
  • The author has no conflict of interest or funding sources to declare
Nursing education paradigm is based on teaching knowledge, skills, and attitudes.

Affective domain learning includes motivations, attitudes, beliefs, opinions, perceptions, and values.

Learning can be measured with qualitative methods like reflective journaling and portfolios.

- May be challenging to integrate findings for program improvement.

Measuring aggregate affective learning with surveys has limitations:

- Reliable and valid tools based on researcher’s perspective.
- Ratings do not tell us what is most important to participant.
A set of techniques, methods, and philosophical framework to study subjectivity

Now considered a mixed method with interwoven qualitative and quantitative stages

Uses factor analysis to find groups with shared perspectives

(Ramlo, 2016)
WHEN TO CONSIDER USING Q

- Q methodology has applications for testing and generating theory, quality improvement, and program evaluation.
- Use Q to study subjective opinions, beliefs, attitudes, and perceptions when population estimates are not essential.
- Using Q can help researchers gain a holistic understanding of group perspectives not apparent from aggregate or big data.
- Q is an ideal method to gain a baseline understanding of phenomena when results are needed in a timely manner.
- Q studies can be used as an early step in objective tool development.
TWO LEVELS OF SAMPLING

Q Sample: Statements for Sorting

P Sample: Study Participants
Follow conditions of instruction to sort statement into 3 piles:

- Agree
- Disagree
- Neutral

Next rank statements from most agree to most disagree

Supplement data with field notes and follow-up questions or interviews
UNIQUE DATA ANALYSIS TECHNIQUES

- Generate correlation matrix of participant’s sorts
- Apply centroid or principal components analysis
- Apply judgmental or varimax rotation
- Calculate factor scores
Factors represent groups of participants with a shared viewpoint. Flagging is used to show which participant sorts should be used to calculate the factor scores.
### SAMPLE FACTOR SCORES

<table>
<thead>
<tr>
<th>Statement</th>
<th>Factor 1</th>
<th></th>
<th>Factor 2</th>
<th></th>
<th>Factor 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q score</td>
<td>Z score</td>
<td>Q score</td>
<td>Z score</td>
<td>Q score</td>
<td>Z score</td>
</tr>
<tr>
<td>34 It is important to me to see through my patient’s eyes</td>
<td>4</td>
<td>1.99*</td>
<td>1</td>
<td>0.69</td>
<td>1</td>
<td>0.39</td>
</tr>
<tr>
<td>3 Without the patient there would be no healthcare team</td>
<td>3</td>
<td>1.55*</td>
<td>-1</td>
<td>-0.50</td>
<td>1</td>
<td>0.54</td>
</tr>
<tr>
<td>10 I enjoy collaborating with all members of the healthcare team</td>
<td>2</td>
<td>1.04</td>
<td>0</td>
<td>0.19</td>
<td>3</td>
<td>1.68</td>
</tr>
</tbody>
</table>
NARRATIVE INTERPRETATION

- Participant demographics
- Final solution
- Consensus statements
- Factor characteristics
- Follow-up interviews and field notes
EXEMPLAR 1: EVALUATING PROFESSIONAL IDENTITY PROGRAM OUTCOME

- **Purpose:** To identify patterns of professional identity arising from the QSEN attitudes among students completing their pre-licensure education (Hensel, 2014)
- **Methods:** Purposeful sample of 36 BSN students graduating from three campuses of a large Midwestern university
- **Results:** 20 statements represented consensus
  - Strong agreement that patient safety was both an individual & a team effort
  - Strong disagreement with disliking teamwork
- **3 professional identity typologies emerged:**
  - Champions
  - Individualists
  - Collaborators
EXEMPLAR 2: UNDERSTANDING BASELINE STUDENT ATTITUDES

Context: Mixed survey results following mass poverty simulation

Research Question: What beliefs do nursing students have about people living in poverty?

Participants: 23 BSN students from 2 campuses

Q-set: 30 statements from blogs, a focus group, and activity evaluation

Findings: 3 factors - Judges, Allies, and Observers

Outcomes: Data informed the implementation of a tiered poverty education approach (Work, Hensel, & Decker, 2015).
Purpose: To evaluate how a BSN program prepared students to work in diverse healthcare environments before and after implementing a new concept-based curriculum with increased exposure to community health.

Method: Students near graduation from the traditional (N=34) and concept-based curriculum (N=34) sorted 45 images of patients according to how much they agreed that they might care for that type of patient.

Results: New preference emerged for caring for adults in community; pediatric population perspective did not emerge following revision.

Hensel, (2017)
Purpose: To evaluate changes in attitudes about research among a cohort of five BSN students who conducted Q methodology studies as part of an undergraduate honors program.

Method: Sorted a set of 36 statements, reflecting various attitudes about undergraduate research based on two conditions of instructions; baseline attitudes and current attitudes.

Results: Two-factor solution explained 70% of variance.

Factor 1: (n=7) Characterized by believing that participating in undergraduate research could distinguish students from their peers and get them into advanced education programs. All sorts reflecting current attitudes loaded on Factor 1.

Factor 2: (n=3) Characterized by believing that undergraduate research was intimidating and too time consuming.

CONCLUSIONS

- Using mean scores from surveys may not provide a holistic perspective of affective domain learning.
- Using Q methodology for nursing education research and program evaluation helps identify groups with shared viewpoints.
- Understanding variations in student perspectives can help inform evidence-based teaching.
REFERENCES


