

MODULE 8 – NUMBERS AS RHETORICAL DEVICES

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Numbers can be and often are powerful rhetorical devices in both research studies and policy making. In research we use numbers to generate meaning from data as we document, verify, and test researcher interpretations or conclusions. Counting, therefore, is essential to research.

Essentially, in quantitative research we look at how variables are related and what is the strength of the relationship between the identified variables. At the end of the day, we are looking at some sort of causal relationship and the validity of the research claim.

In quantitative research, there's external and internal validity. The external validity has to do with the degree to which the results of a study can be generalized to and across populations of people, settings, times, outcomes, and treatment variations. A synonym for external validity is generalizability, because it always has to do with how well you can generalize research results to populations, ecologies, temporality, treatment variations, and outcome validity.

Internal validity addresses the probability of causality, in that the variables we have identified have a cause and effect relationship. A synonym for internal validity is causal validity. When researchers and policymakers look at causality, they both want to know the mechanisms to which-- under what conditions a causal relationship exists.

However, a policymaker is not likely to say that. Policymakers are likely to simply ask, what are the consequences of change? That leads us to, how do we create a shared understanding between research and policy that is understandable to both researchers and policymakers as well as other stakeholder audiences?

In qualitative research, validity is different because the data are different. Maxwell discusses five types of validity found in qualitative research. Descriptive validity is all about the accuracy of the data and getting the facts of the information correct. Interpretive ability is to ensuring that participants' interpretations of events are correct. Interpretive validity is inferential, not deductive.

Theoretical validity is developing an interpretation that fits the facts for assessing the validity of the researchers' concepts and the theorized relationships among the concepts in context with the phenomenon. This means that the patterns, the stories, the concepts, the arguments are coherent and fit together. Evaluative validity tries to assess the evaluations drawn by the researchers.

What makes qualitative research so difficult to use? Originating in the social and behavioral sciences, qualitative research captures the perceptions that drive behavior or beliefs with reference to specific topics or issues through analysis of unstructured data such as ethnography, interviews, narrative analysis, focus groups, and observations. Since it counts differently, the validity of the qualitative data is often questioned. However, using both qualitative and quantitative data-- often

referred to as a mixed method approach-- can provide the substantiation we need to effect policy change.

Counting in research and policy is integral to the analysis process, especially to the recognition of patterns in data and deviations from those patterns. It is also key in making analytic and/or inferential generalizations from data. Pattern recognition implies seeing something over and over again in the data. We see how many of the participants showed a particular pattern, or if a pattern was common in a group of participants.

For example, service utilization data on children and adolescents with behavioral health problems implies something about the frequency or even intensity of the health event. Knowing the numbers of children identified with the disorder through early screening can add value to the weight of an argument advocating for increased screening or adding new measures.

The generalizability of the research which looks at how well data can be applied to a larger population or system is often a talking point in briefs, particularly when talking about the inclusion of best practices or evidence-based interventions in clinical care and services delivery. This is where doubts are often raised, especially if there are questions on how valid the research was or how accurate is the information in the document.

How data are used to substantiate an argument that a change in policy is needed to solve a problem creates new rhetorical devices such as policy briefs and white papers, which must then resolve the differences in looking at the world from the different perspectives of research and policy.