

## Research Symposium on School Library Research

### Mixed Methods: How Can We Do It Well?

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- Some Useful Sources
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- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixedmethod evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255-274.
- Greene, J. C., & Caracelli, V. J. (1997). Defining and describing the paradigm issues in mixed-method evaluation. In J. C. Greene, & V. J. Caracelli (Eds), *Advances in mixed-method evaluation:*
- Julien, H., & Duggan, L.A. (2000). A longitudinal analysis of the information needs and uses literature. *Library and Information Science Research*, 22(3), 291-309.
- McKechnie, L., Baker, L., Greenwood, M., & Julien. H. (2003). Methodological trends in human information behaviour research. *New Review of Information Behaviour Research*, 3, 113-125.
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- LIS Context: Recent Trends
- Increasing pattern of critical reflection on research practices, shown in the growth and use of theory within the discipline and outside it (mostly social sciences) as well as accounts of methodological approaches.
- Increasing use of methods from other disciplines; strengthening of qualitative approaches.
- Integration of quantitative and qualitative research has become increasingly common
- Predominant methods used: surveys / questionnaires, interviews, questionnaires, transaction log analysis, content analysis, ethnography, observation and experiments
- Integration of methods

- Mixed methods  
Moveable Feast Phenomenon
- **Many labels: multi-methods, multi-strategy, mixed methods, mixed methodology, mixed models, mixed approaches.**
- **Mixing often extends beyond just the methods used in the research to mixing of many dimensions within broader qualitative and quantitative approaches**
- **Combining not just mixed methods, but more broadly, quantitative and qualitative research approaches has become unexceptional and unremarkable in recent years - gained not just acceptability, but popularity: ‘whatever works’ position**
- **For some researchers, it has come to be seen as a distinctive research approach in its own right that warrants comparison with each of quantitative and qualitative**
- Into the Mix
- **Significant number of studies arguing its virtues in terms of greater understanding and/or validation of results (Bryman, Bazeley)**
- **Key issue to clarify just *what* is being mixed—and *how* it is being mixed.**
- **What we are talking about is a continuum of dimensions along which any particular research may be placed; different approaches are applied at any or all of a number of stages through the research, as well as in making decisions about research approach and research design;**
- **Does giving it a label convey a sense of the rigor of the research?**
- What Are We Mixing?
- Presumed underlying paradigms (positivist / rationalistic or interpretive/critical /naturalistic)?
- Type of investigation (exploratory or confirmatory)?
- Types of methods / data collection instruments used to collect data?
- Type of data used (textual or numeric; structured or unstructured)?
- Logic employed (inductive or deductive)?
- Method of analysis (interpretive or statistical)?
- Approach to explanation (variance theory or interpretivist theory)
- Different disciplinary traditions? eg social history, scientists engage in social research to evaluate the impact of their work? Librarians engage in educational research to establish impact?
- Paradigmatic Issues Related to Mixed methods
- **Approaches taken to defining “quantitative” and “qualitative” and have long been associated with different paradigmatic approaches to research: positivist / interpretivist**

- **Tend to define research by methods rather than philosophical assumptions / underlying differences of research stances: epistemological (nature of knowledge, how we know) / ontological (representation and structure – how we represent concepts and other entities that are assumed to exist in some area of interest and the relationships that hold among them)**
- **Tend not to question the philosophical assumptions that underpin research approaches**
- **Positivist Paradigm**  
(Lincoln & Guba; Lindlof & Taylor)
- **Realism: there is a real world out there that needs to be discovered. It is governed by immutable natural laws and mechanisms; Reality is single, objective, independent**
- **Objectivism: since there is a real world out there, it must be studied objectively; the inquirer must maintain a distant, non-interacting stance. Values and other biasing factors are thereby excluded from influencing the picture; True knowledge derived from observations of reality, studied independently of inquirer**
- **Experimental/Manipulative: Complexity of observable phenomena reduced to clarify underlying structures and isolate specific elements – establish unchanging laws; questions and hypotheses are stated in advance and subjected to empirical test (falsification) under carefully controlled conditions.**
- **Logic of measurement and quantification (statistics)**
- **Focus on cause and effect, which determines human behavior; facilitate control and prediction of that behavior - deterministic**
- **Theory best developed deductively and incrementally, based on existing verified knowledge**
- **Reaction to Hypothetico-Deductivism**
- **Selection and formulation of problems at heart of scientific process**
- **Presupposes a clear stated problem: observations are theory or concept dependent**
- **Demand that a solution be found to the problem Assumes scientific method has a natural beginning**
- **Focuses on testing for empirical adequacy**
- **Denies that inductive reasoning can figure in the formulation of theoretical ideas**
- **Interpretivist Paradigm**  
(Lindlof & Taylor)
- **Realities are plural, simultaneous, and local phenomena**
- **Realities are socially constructed by and between human beings in their expressive and interpretive experiences**
- **human beliefs about the social and physical world are invariably multiple, partial, approximate, imperfect**

- **Research should privilege both verification and deep understanding of human actions, motives and feelings**
- **Knowledge of social realities emerges from interdependence of researcher and researched**
- **Truth is a construction located within experience**
- **Knowledge claims are positioned and partial – researchers should account for these**
- **Deep knowledge gained through prolonged immersion and extensive dialogue in actual social settings**
- **Evidence for claims recorded and expressed using verbal and narrative means**
- **Idiographic and holistic: descriptive, establishing meaning in “totality” of experience**
- **Researchers holding the belief that there are strong associations between paradigm, methodology and methods consequently consider different methodologies and methods to be philosophically incompatible, making their combination logically impossible.**
- **Paradigmatic issues raised by mixed methods research remain unresolved; one can’t research or prove paradigms; can paradigmatic debates ever be resolved?**
- **1990s: Pragmatism increasingly overruled purity**
- **Perceived benefits of mixing methods in “getting research done” came to be seen as outweighing the importance of the philosophical difficulties in their use (Miles and Huberman, 1994).**
- **Miles and Huberman (1994, p.41):**

“The question, then, is not whether the two sorts of data and associated methods can be linked during study design, but whether it should be done, how it will be done, and for what purposes.”

- **The Mix of Research Designs in School Library Research on Achievement**
- **Descriptive study**
- **Case study: describes and analyzes the author’s experiences with a process, group, innovation, technology, project, population, program, or organization.**
- **Comparative: systematic effort to find similarities and differences between two or more observed phenomena.**
- **Program Evaluation: systematic assessment of the operation and/or the outcomes of a program or policy, compared to explicit or implicit standards, in order to help improve the program or policy**

#### **LIMITED**

- **Longitudinal**
- **Quasi-experimental**
- **Experimental**
- **Randomized controlled trial**



- *Completeness* –researcher can bring together a more comprehensive account of the area of enquiry in which he or she is interested if mixed methods are employed
  - *Explanation* – one method is used to help explain findings generated by another.
  - *Unexpected results* –mixed methods can generate surprising, intriguing, unexpected results which add to richness of findings and conclusions
  - Issues
  - Tendency for the rationales for undertaking multi-method research not to be thought through sufficiently, or explicitly argued
  - Need to discuss the relationship between research topics and the overall design of Investigations, and link rationale of multi-methods to these
  - Outcomes of Mixed Methods:  
Typically reported are the following rationales
  - *Instrument development* –used to develop questionnaire and scale items – for example, so that better wording or more comprehensive closed answers can be generated.
  - *Sampling* – one method is used to facilitate the sampling of respondents or cases.
  - *Credibility* – belief that employing mixed methods enhances the integrity of findings.
  - *Rationalization* – time, access, sample constraints
  - *Utility* or improving the usefulness of findings that combining methods will be more useful to practitioners and others.
  - *Confirm and discover* – using some method to generate hypotheses and using other methods to test them within a single project.
  - *Diversity of views* –combining researchers’ and participants’ perspectives through quantitative and qualitative research respectively, uncovering relationships between variables through quantitative research while also revealing meanings among research participants through qualitative research.
  - *Enhancement* or building upon quantitative/qualitative findings – this entails a reference to making more of or augmenting either quantitative or qualitative findings by gathering data using a qualitative or quantitative
  - research approach.
  - Key Questions in Implementing Mixed Methods / Multi-Strategy Research
1. **Are the methods employed simultaneously or sequentially?**
  2. **Which method, if any has priority? And why?**
  3. **What is the function of the integration – for example, triangulation, explanation, or exploration?**
  4. **Are quantitative and qualitative data collected simultaneously or sequentially?**

5. **How do the mixed methods impact on data analysis – analysis by method & analyzed sequentially, integrated analysis, cross-method analysis**

- My Research: How School Libraries Help with Student Learning
- **Multi-method research: depth and richness of data**
- **Completeness / confirmation**
- **Ensuing findings that had not been anticipated**
- **Eg. Ohio / Delaware Survey: rated response on fixed questions; critical incident technique (19,000 student participants)**
- **Establish ‘diversity of views’ in mind, use qualitative evidence to explain some of the relationships uncovered through an analysis of survey data.**
- **Delaware: No help**
  - **No need for help – independence**
  - **No awareness of types of help available**
  - **Failed help – sought help but help was not provided, for a variety of reasons; refused to seek help**
- **Something to Consider**

**All scientific observation, analysis and theorizing regardless of paradigm / approach and method, involves acts of interpretation. Is it too simplistic to suggest, however, that if all research is interpretive, there is no problem?**