



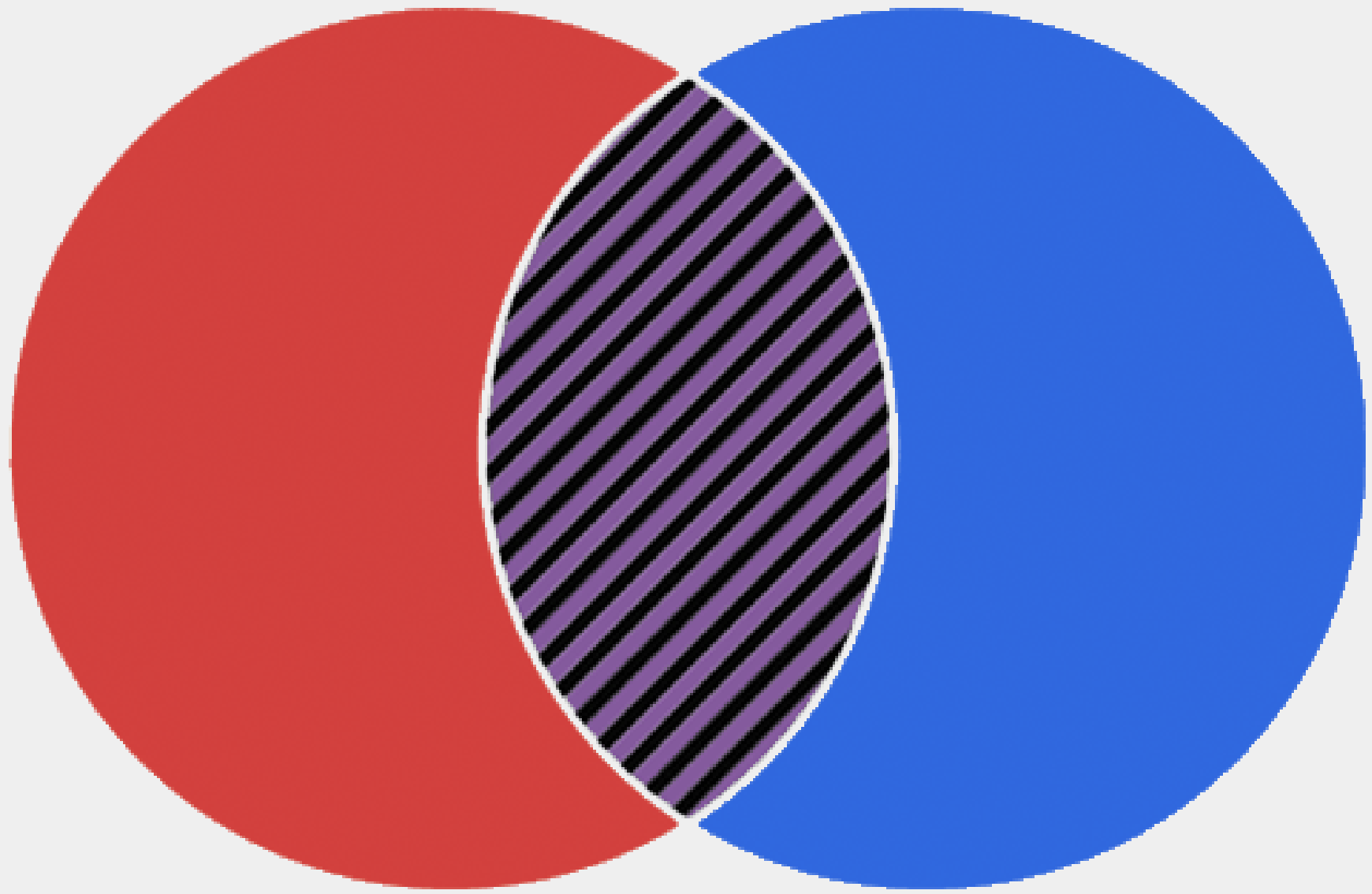
MIXED METHODS

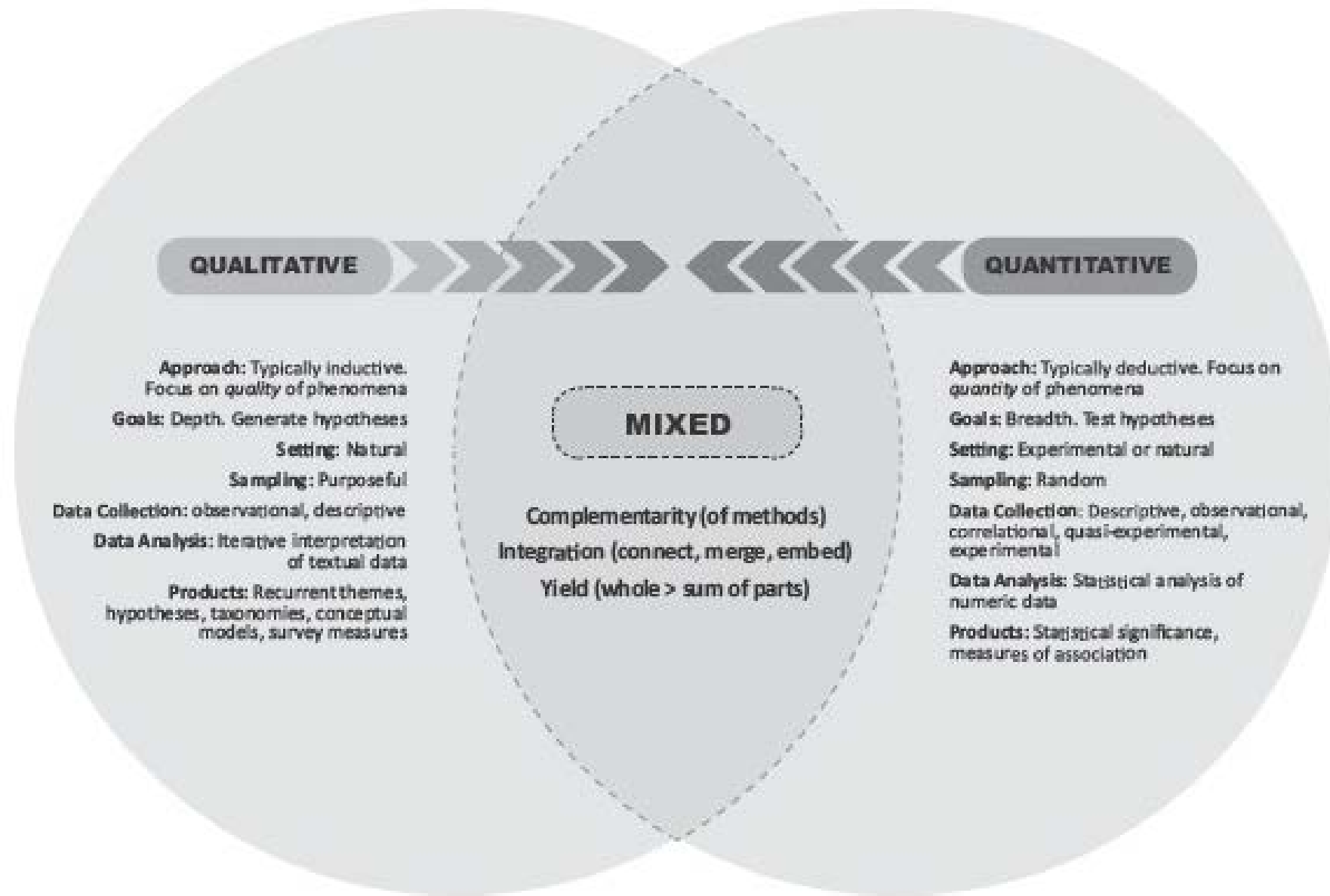
AN INTRODUCTION

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February 10, 2021

Center for Aging in Diverse Communities





Source: Curry & Nunez-Smith 2017; Definition & Overview of Mixed Methods Designs; in Mixed Methods in Health Sciences Research: A Practical Primer

What is Mixed Methods Research?

- "1+1=3" expresses the idea that the whole is greater than the sum of its parts, representing the synergy and the challenge of integrating qualitative and quantitative methods in research.

Qualitative + quantitative = more than the individual components

- Read more on the idea of "1+1=3" in MMR at [the Journal of Mixed Methods Research](http://www.mixedmethods.org/).

Source: University of Michigan Mixed Methods Program <http://www.mixedmethods.org/>



What is Mixed Methods Research?

Mixed methods research (MMR) is “an approach to research in social, behavioral, and health sciences in which the investigator gathers both quantitative (closed-ended) and qualitative (open-ended) data, integrates the two, and then draws interpretations based on the combined strength of both sets of data to understand research problems.”

(Creswell 2014, Concise Introduction to Mixed Methods Research)

It is rapidly becoming a popular methodology used in social and health sciences the past 30 years.

7 Possible Study Designs (*basic)

| Rationale for Mixed Methods | Study Aim | Mixed Methods Design |
|--|--|---------------------------------|
| Investigators need a more complete understanding of the research program | To compare or associate the quantitative results with the qualitative results | Convergent * |
| Investigators' quantitative results are confusing, contradictory, in need of further explanation | To explain quantitative results with qualitative data | Explanatory Sequential * |
| Investigators do not know what instruments to use, variables to measure, cultural issues that impact results | To explore first before developing an instrument, identifying intervention activities, or finalizing variables | Exploratory Sequential * |

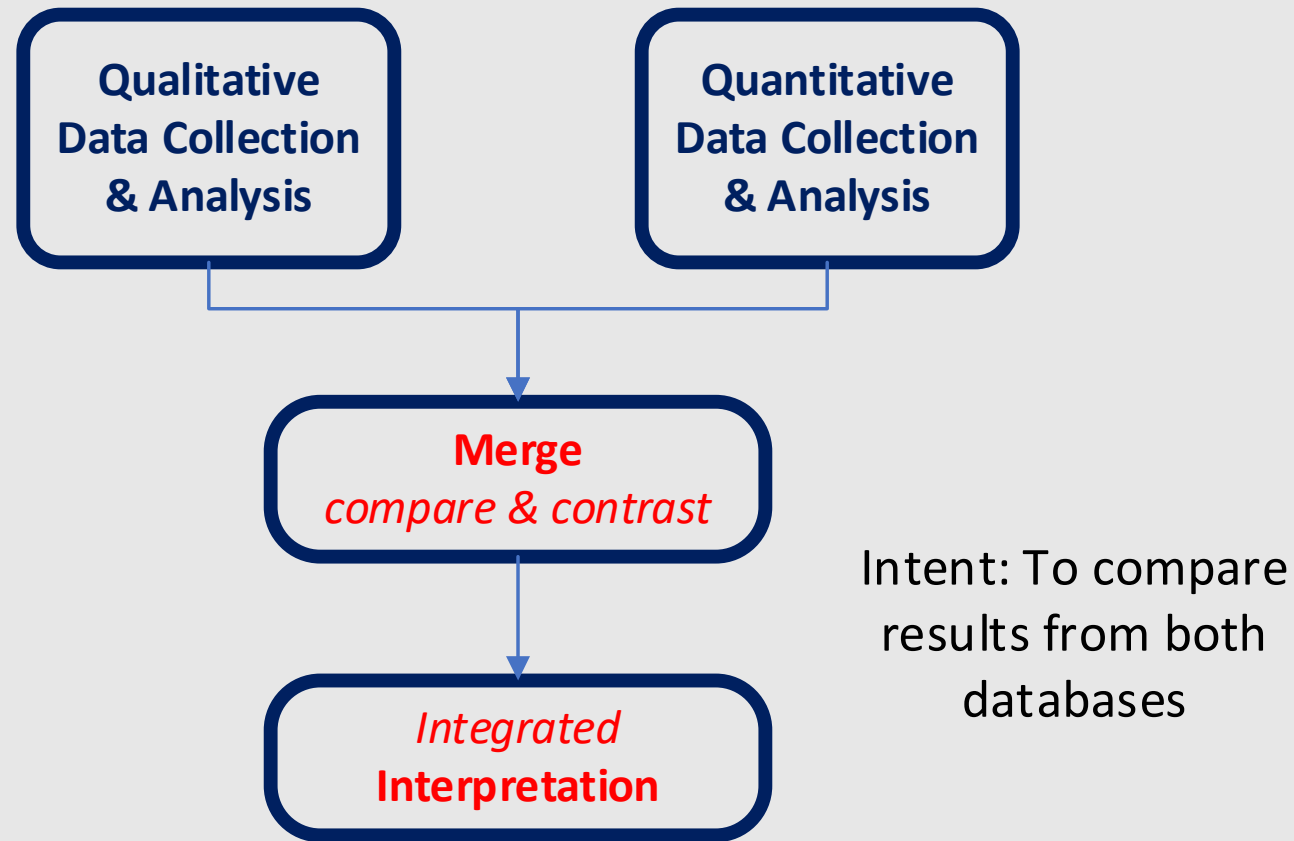
Source: Gallo et al, Mixed Methods Training Program

7 Possible Study Designs

| Rationale for Mixed Methods | Study Aim | Mixed Methods Design |
|--|--|--|
| Investigators need to add qualitative data to the quantitative component of a trial | To use qualitative results within an intervention trial | Intervention Mixed Methods |
| Investigators need a community perspective of context & outcomes | To collect both qualitative data and quantitative data with community input | CBPR Mixed Methods |
| Investigators need to assess context, design a program, and test it out | To design and evaluate a program using both quantitative and qualitative results | Multistage Evaluation Mixed Methods |
| Investigators need both qualitative and quantitative results to develop in depth case study profiles | To identify detailed cases and to make comparisons among them | Case Study Mixed Methods |

Source: Gallo et al, Mixed Methods Training Program

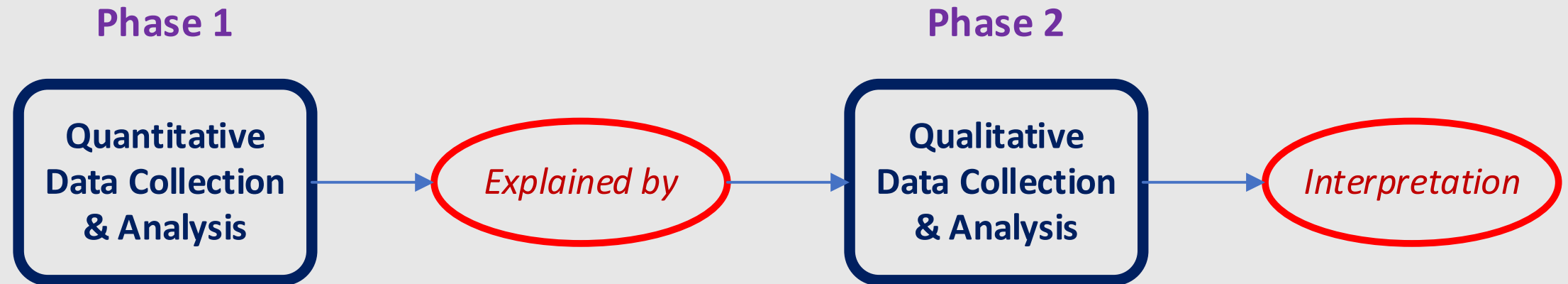
Concurrent/Convergent Design



* Basic Design

Source: Gallo et al, Mixed Methods Training Program

Explanatory Sequential Design

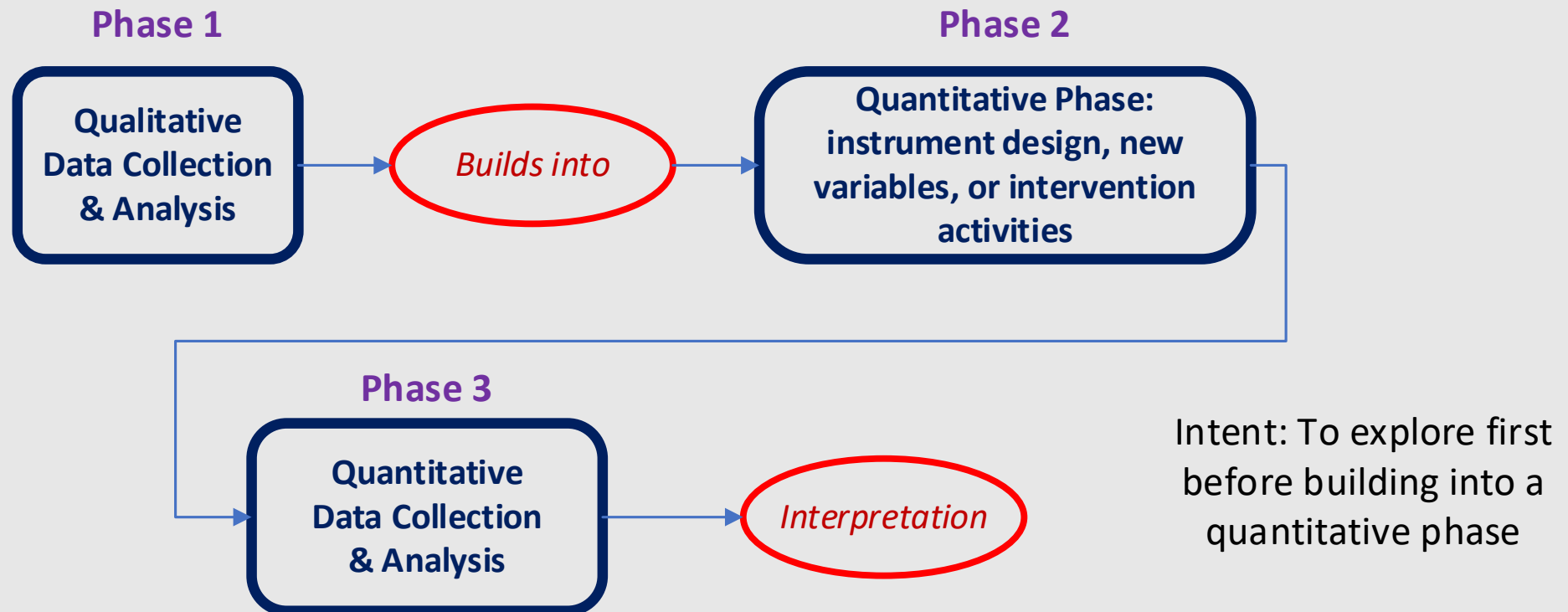


Intent: To use the qualitative data to help explain the quantitative results

* Basic Design

Source: Gallo et al, Mixed Methods Training Program

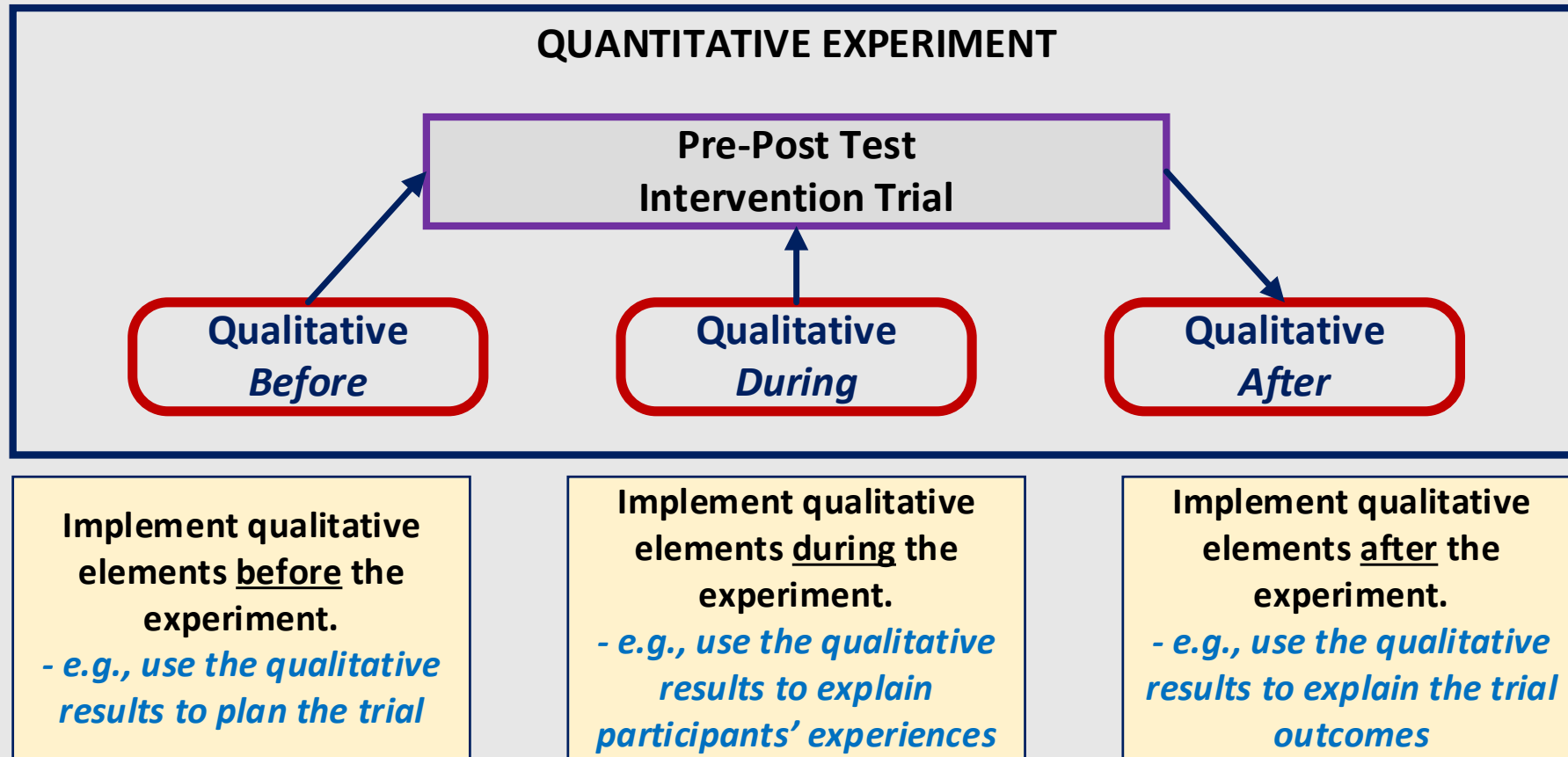
Exploratory Sequential Design



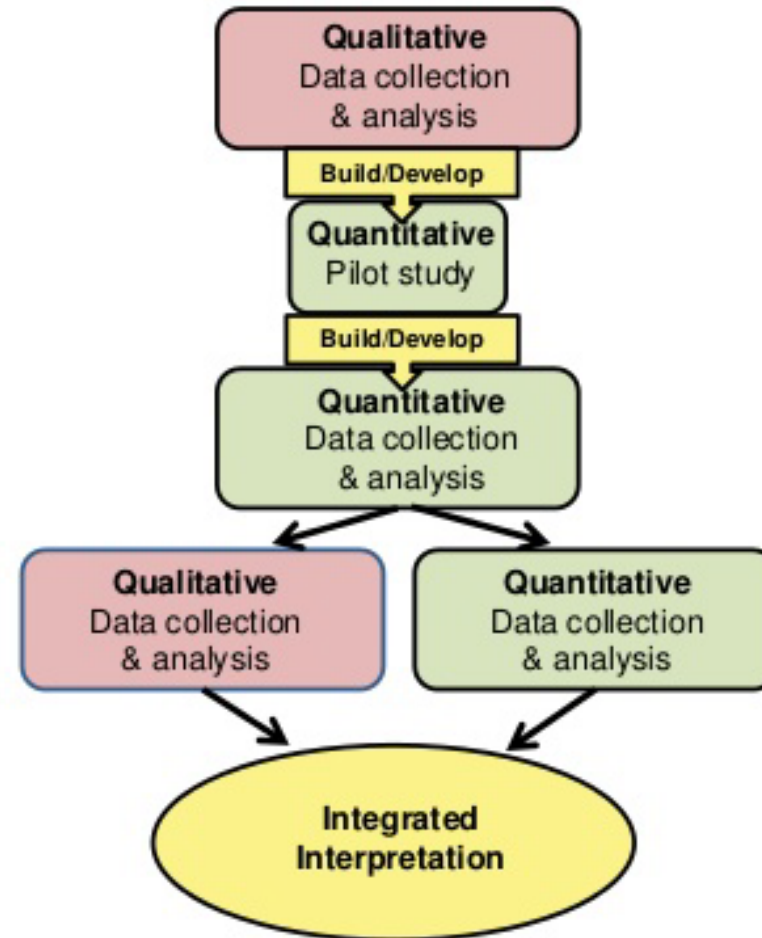
* Basic Design

Source: Gallo et al, Mixed Methods Training Program

Intervention Mixed Methods



Mixed Methods - Typologies



Data Integration Challenge

- “What synergy is gained by the additional work of using both qualitative and quantitative data methods?”
- Carefully plan studies with intentional choices that can leverage integration
- Consider integration at multiple levels: theory, conceptual models, design, methods, analysis, interpretation, visualization, presentation, publication, and teams.



Table 2: Integration through Methods

| <i>Approach</i> | <i>Description</i> |
|-----------------|--|
| Connecting | One database links to the other through sampling |
| Building | One database informs the data collection approach of the other |
| Merging | The two databases are brought together for analysis |
| Embedding | Data collection and analysis link at multiple points |

Fetters et al 2013

Training Opportunities

- UCSF Course: **Qualitative and Mixed Methods Research**
 - Lead by Drs. Sara Ackerman & Kim Koester
 - <https://epibiostat.ucsf.edu/qualitative-and-mixed-methods-research>
- **Mixed Methods Research Training Program for the Health Sciences**
 - Faculty leaders: Drs. Joe Gallo, John Creswell, Charles Deutsch, & Tim Guetterman
 - Johns Hopkins SPH, funded by NIH, 3-day training program supplemented with other activities (e.g., consultations)
 - <https://www.jhsph.edu/academics/training-programs/mixed-methods-training-program-for-the-health-sciences/>
- University of Michigan **Mixed Methods Program**
 - Lead by: Drs. Michael Feters, Tim Guetterman, & John Creswell
 - Online workshop: Advances in Mixed Methods Analysis & Integration; **February 24-26, 2021**
 - <http://www.mixedmethods.org/>

Key Resources

- [Best practices for mixed methods research in the health sciences](#). Creswell JW, Klassen AC, Plano Clark VL, Smith KC for the Office of Behavioral and Social Sciences Research (OBSSR). August 2011. National Institutes of Health.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.
- Curry & Nunez-Smith 2017; Definition & Overview of Mixed Methods Designs; in *Mixed Methods in Health Sciences Research: A Practical Primer*
- Guetterman et al 2019. Mixed methods grant applications in the health sciences: an analysis of reviewer comments. doi: 10.1371/journal.pone.0225308. <https://pubmed.ncbi.nlm.nih.gov/31730660/>
- Fetters et al 2013. Achieving integration in mixed methods designs – principles and practices. doi: 10.1111/1475-6773.12117. <https://pubmed.ncbi.nlm.nih.gov/24279835/>
- Klassen et al. Best practices in mixed methods for quality of life research. 2012 Apr;21(3):377-80. doi: 10.1007/s11136-012-0122-x. <https://pubmed.ncbi.nlm.nih.gov/22311251/>
- Creswell and Tashakkori 2007. Developing publishable mixed methods manuscripts. *JMMR*. <https://journals.sagepub.com/doi/pdf/10.1177/1558689806298644>

Other Resources:

- NCI Qualitative Methods in Implementation Science - <https://cancercontrol.cancer.gov/sites/default/files/2020-09/nci-dccps-implementationsscience-whitepaper.pdf>
- UCSF Library - <https://guides.ucsf.edu/c.php?g=100971&p=655231>
- Mixed Methods International Research Association - <https://mmira.wildapricot.org/>
- Journal of Mixed Methods Research - <https://journals.sagepub.com/home/mmr>

Journals Publishing Mixed Methods

- Journal of Mixed Methods Research (JMMRR)
- Health Services Research
- BMJ Open
- JMIR Research Protocols
- BMC Health Services Research
- BMC Public Health
- Etc.

Great Examples Published

- Wittink et al 2006, Unwritten rules of talking to doctors about depression: integrating qualitative and quantitative methods. doi: 10.1370/afm.558; <https://pubmed.ncbi.nlm.nih.gov/16868233/>
- Jones 2016. Alternative perspectives of safety in home delivered health care: a sequential exploratory mixed method study. J Adv Nurs. 72(10):2536-46. doi: 10.1111/jan.13006. <https://pubmed.ncbi.nlm.nih.gov/27199085/>