



Mixed-methods research (MMR) weaves qualitative and quantitative components together to reveal deep insights. MMR is beneficial in health professions education, where measurable outcomes and lived experiences are both essential to understanding learning and patient care in real-world contexts. MMR demands identifying opportunities to integrate qualitative and quantitative components, and choosing integration strategies to generate findings greater than the sum of their parts.¹



When to Use an MMR Approach¹

- **Seeking deeper understanding.** When your research goals emphasize complementarity, where one method enriches, clarifies, or elaborates on the findings of the other.
- **Evaluating multistage programs.** Studies that unfold in multiple stages, moving from broad surveys to in-depth interviews.

Design Typologies for Operationalizing MMR²

- **Sequential *explanatory* designs** begin with a quantitative approach, then follow with a qualitative approach to explain or expand on the initial results.
- **Sequential *exploratory* designs** start with a qualitative approach to investigate a phenomenon on a smaller scale or at a deeper level, followed by a quantitative approach to test or generalize findings across a broader population.
- **Convergent designs** collect and analyze quantitative and qualitative data simultaneously with integration occurring during data collection, early analysis, or postcollection interpretation.

Steps for Successful MMR

1. MMR requires intentionality in planning. Clarify your goal for integration.^{1,3}
2. Use a visual diagram to show where mixing will occur (eg, sampling, recruitment, data analysis, results interpretation, or multiple stages).^{1,3}
3. Select specific integration techniques (one or multiple):²⁻⁴
 - a. **Following the thread:**^{3,4} Identify a finding from one data set (quant or qual) and link it to the other for deeper insight.⁵
 - b. **Joint displays:**² Use visual representations such as tables to align dimensions of quantitative and qualitative results side-by-side—a powerful tool to enhance communication between findings.⁶
 - c. **Mixed-method matrix:**⁴ Summarize data at the case level across methods to uncover patterns, surprises, and paradoxes.
 - d. **Data transformation:**³ Data may need to be converted from one format to another to enable integration (eg, quantifying qualitative themes).
 - e. **Extreme case sampling and cross-case comparison:**³ Identify and compare outliers or contrasting cases—especially useful in program evaluation or case study research.
4. **Integration** should be evident throughout your manuscript—not only in findings or discussion sections. Incorporate integration in introduction (rationale for mixing), methods (design and integration plan), and results (joint or merged findings presentation).

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