Mixed methods study

A mixed-methods study combines quantitative and qualitative approaches in a single study to gain a broader and deeper understanding of the research problem. This approach integrates numerical data (quantitative) with descriptive, non-numerical insights (qualitative) to provide a comprehensive analysis that benefits from the strengths of both methods.

Key Features of a Mixed Methods Study:

Combines Quantitative and Qualitative Data: It incorporates numerical data (e.g., statistics, surveys with closed-ended questions) and descriptive data (e.g., interviews, open-ended survey responses). Enhanced Understanding: The integration helps to answer research questions that cannot be fully addressed by quantitative or qualitative data alone. Varied Designs: Mixed methods studies can be conducted using different models, such as: Sequential Explanatory: Collecting quantitative data first, followed by qualitative data to explain the numerical results. Sequential Exploratory: Collecting qualitative data first to explore a concept, followed by quantitative data to test or generalize findings. Concurrent: Collecting both types of data at the same time and integrating them during analysis. Strengths and Validation: The combination of both methods enhances the validity of the findings by corroborating data from multiple sources. This approach is particularly valuable when researchers need to explore complex issues that require both statistical trends and in-depth, contextual understanding.

Undergraduate medical students often lack hands-on research experience and fundamental scientific research skills, limiting their exposure to the practical aspects of scientific investigation. The Cerrahpasa Neuroscience Society introduced a program to address this deficiency and facilitate student-led research.

Objective: The primary goal of this initiative was to enhance medical students' research output by enabling them to generate and publish peer-reviewed papers within the framework of this pilot project. The project aimed to provide an accessible, global model for research training through structured journal clubs, mentorship from experienced peers, and resource access.

Methods: In January 2022, a total of 30 volunteer students from various Turkish medical schools participated in this course-based undergraduate research experience program. Students self-organized into 2 groups according to their preferred study type: original research or systematic review. Two final-year students with prior research experience led the project, developing training modules using selected materials. The project was implemented entirely online, with participants completing training modules before using their newly acquired theoretical knowledge to perform assigned tasks.

Results: Based on student feedback, the project timeline was adjusted to allow for greater flexibility in meeting deadlines. Despite these adjustments, participants completed their tasks, applying the theoretical knowledge they had gained to their respective assignments. As of April 2024, the initiative has culminated in 3 published papers and 3 more under peer review. The project has also seen an increase in student interest in further involvement and self-paced learning.

Conclusions: This initiative leverages globally accessible resources for research training, effectively fostering research competency among participants. It has successfully demonstrated the potential for undergraduates to contribute to medical research output and paved the way for a self-sustaining, student-led research program. Despite some logistical challenges, the project provided valuable insights for future implementations, showcasing the potential for students to engage in meaningful, publishable research [1)]

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Karabacak M, Ozcan Z, Ozkara BB, Furkan ZS, Bisdas S. A Pilot Project to Promote Research Competency in Medical Students Through Journal Clubs: Mixed Methods Study. JMIR Med Educ. 2024 Oct 31;10:e51173. doi: 10.2196/51173. PMID: 39481123.