

Feasibility of the MBBS Phase-I Curriculum'2021: A Cross-Sectional Study of Student Perceptions

Sharif Mohammad Ehsan¹, Tahmina Akter², Nasrin Afrose³, Janibul Haque⁴

Abstract:

Background: Medical education reforms in South Asia have introduced integrated teaching, competency-based modules, and diverse assessments such as SBA, PBQ, SEQ, and MCQ formats. Evaluating student perceptions of these changes is crucial to assess their feasibility and educational effectiveness. **Objective:** To analyze student perceptions of the MBBS Phase-I curriculum'2021 and its assessment modalities, and to identify strengths and challenges in implementation. **Methods:** A structured 33-item questionnaire (Google Form) was distributed among Phase-I MBBS students (N=380). Responses were recorded on a four-point "Likert scale" (Very much, Yes, Not so much, No) and analyzed quantitatively using descriptive statistics. Items were grouped thematically into categories: Integrated classes, generic and

humanitarian topics including Ethics, SBA, PBQ, SEQ, MCQ, and understanding type of questions. Data were processed using Python and summarized with tables and visual charts. **Results:** Generic items achieved the highest mean ratings ($\approx 2.98-2.99/4$). PBQ and integratedclass items followed with moderate means ($\approx 2.83-2.73$). SBA, SEQ, and MCQ items scored lower ($\approx 2.4-2.6$), indicating comparative difficulty or reduced enthusiasm. Students perceived PBQs as engaging, while SBAs were viewed as challenging for Phase-I. **Conclusion:** Phase-I students are receptive to the new curriculum'2021, particularly generic, integration and PBQs. Additional formative sessions and feedback for understanding type of questions, SBA/MCQ-based assessments may enhance acceptance and learning outcomes. **Key words:** Medical education, Competency-based module, Diverse assessment, Likert scale, Google form

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1. Dr Sharif Mohammad Ehsan
Associate Professor and Head, Dept. of Biochemistry
Comilla Medical College, Cumilla
2. Dr Tahmina Akter
Lecturer, Department of Biochemistry
Comilla Medical College, Cumilla
3. Dr Nasrin Afrose
Assistant Professor, Department of Biochemistry
Comilla Medical College, Cumilla
4. Dr Janibul Haque
Lecturer, Department of Biochemistry
Comilla Medical College, Cumilla

Address of correspondence:

Dr Sharif Mohammad Ehsan
Associate Professor and Head, Dept. of Biochemistry
Comilla Medical College, Cumilla
Email: drsharif444@gmail.com;
Cell: +8801711748433

Background:

The global shift toward competency-based medical education has transformed undergraduate medical curricula. The MBBS Phase-I program now incorporates integrated teaching to connect basic sciences with clinical relevance early in training. This alignment with international standards, such as the SPICES model (Student-centered, Problem-based, Integrated, Community-based, Elective, and Systematic), emphasizes active learning and outcome-based assessment. Despite the pedagogical benefits, adaptation challenges persist in South Asian medical institutions. Students often encounter difficulties adjusting to new assessment formats like Single Best Answer (SBA) questions, structured essay questions, and problem-based questions (PBQ). Understanding students' experiences can inform curriculum refinement and faculty development strategies.

Introduction:

Modern medical education emphasizes integration between pre-clinical and clinical subjects. The restructured MBBS curriculum'2021 in Bangladesh follows competency-based guidelines from the Bangladesh Medical & Dental Council (BMDC), incorporating ethics, professionalism, and communication modules alongside conventional subjects. Assessments such as SBA, PBQ, SEQ, and MCQ aim to measure both factual recall and applied reasoning. However, Phase-I students often face cognitive overload and uncertainty regarding the purpose of these formats.

Investigating their perceptions helps evaluate the practicality and student acceptance of the revised curriculum.

Methods:

This descriptive cross-sectional study analyzed anonymized responses from a 33-item Google Form titled “Feasibility of MBBS curriculum’2021 for Phase-I students.” The questionnaire covered multiple domains: integrated classes, generic & humanitarian topics including ethics/social learning, SBA, PBQ, SEQ, MCQ, and understanding type of questions. Data were exported to Excel and processed using Python for descriptive statistical analysis. Responses were coded numerically (Very much=4, Yes=3, Not so much=2, No=1). Each item’s frequency, percentage, mean, standard deviation, and median were computed. Questions were classified by theme to compute group-level mean scores. Graphical analysis was conducted through bar charts to visualize the overall perception trends. Due to the nature of the data, classical item analysis (difficulty and discrimination indices) could not be calculated since the data-set contained perception ratings, not correct/incorrect scores.

Literature Review:

Extensive literature supports integration and diversified assessment in medical education. Quintero GA et al described the pedagogical merits of integration across disciplines. Trullàs JC et al. conducted a systematic review affirming the effectiveness of problem-based learning. Sam AH et al. compared short answer question (SAQ) and SBA formats, finding SBAs reliable but limited in diagnostic discrimination. Elsamanoudy A et al. demonstrated that structured essay questions (SEQ) promote applied reasoning when scoring rubrics are well designed.

Ge *et al.* showed that PBL effectively enhanced students’ clinical skills and critical thinking abilities; nevertheless, further evidence is needed to confirm this finding. Emma et al observed improvements in satisfaction levels and self-reported behavioural outcomes following PBL in their study. Marjo W et al consider vertical integration a philosophy of education, with impact on students’ maturation and engagement with the profession, and which applies not only to undergraduate education but to the lifelong learning of professionals. These studies reinforce the current findings that students appreciate PBQs and ethics & humanitarian integration, while SBA acceptance depends on sufficient exposure and feedback.

Results:

A total of 380 responses were included. Students reported the highest satisfaction with Generic and humanitarian topics including Ethics (mean=2.99) and understanding type of questions (mean=2.98) categories. PBQ (mean=2.83) and Integrated Classes (mean=2.73) were moderately rated, while SBA (mean=2.41), SEQ (mean=2.58), and MCQ (mean=2.59) scored lower.

Table I summarizes the mean group scores, while Figures 1 and 2 shows the overall group averages and SBA-specific perceptions, respectively. These results indicate strong endorsement for integrative and problem-based approaches but mixed reactions toward structured assessments like SBA and SEQ.

Table-I: Summary of Key Quantitative Findings

Q	Theme	Top Response (%)	Interpretation
Q1	Helpful topics	82.4	Strong approval
Q2	Provokes curiosity	79.7	Positive engagement
Q3	Clinical orientation feasible	34.2 (Yes)	Majority perceived in-feasible
Q4	Assignments support integration	53.7 (Yes)	Moderate endorsement
Q5	MCQs allow guessing	Majority Yes	Concerns about validity
Q6	Overall favourable attitude	53.9 (Very much)	Supportive overall

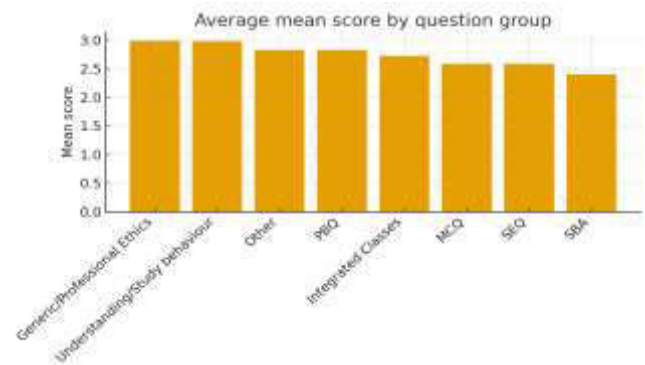


Figure-1: Average means score by question group

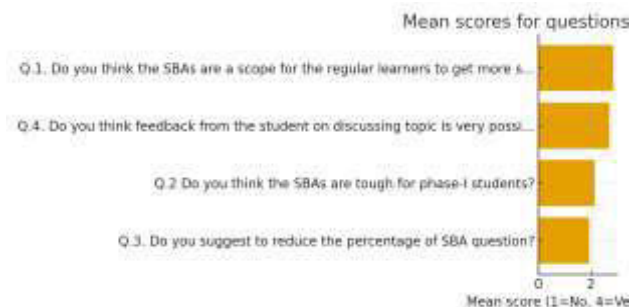


Figure-2: Mean perception scores for SBA-related questions

Discussion:

The findings suggest that Phase-I students value interactive and integrative learning experiences, echoing global studies on competency based education. High ratings for generic & humanitarian topics including ethics and PBQs align with evidence that active, contextual learning fosters long-term understanding and professional growth. Lower ratings for SBA and SEQ formats likely stem from inadequate orientation or limited formative practice.

Several studies highlight similar challenges. Quintero GA reported that integrated curricula enhance contextual understanding but demand coordinated teaching efforts. Trullàs et al. confirmed that problem-based methodologies increase engagement. However, SBA-based assessments, though reliable, can be stressful for students unfamiliar with applied reasoning. These insights emphasize the need for balanced assessments combining SBAs for reliability and PBQs/SEQ for deeper reasoning. Faculty calibration, feedback sessions, and guided item practice are crucial for improving acceptance and performance.

Conclusion:

The Phase-I MBBS curriculum'2021 is largely feasible and positively received by students. Integrated and problem-based components strengthen engagement and conceptual understanding. Nonetheless, structured assessments such as SBA and SEQ require continuous formative training and item review to maintain fairness and relevance. Future research should include multi-institutional data-sets and objective performance metrics to correlate perception with learning outcomes.

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Appendix:

Appendix-1: Summary data tables (anonymized responses, question-level descriptive statistics, and group means) are available as supplementary files.

Appendix-2: Analytical charts include bar graphs for each question group (Integrated Classes, Generic & humanitarian topics including Ethics, PBQ, SEQ, MCQ, SBA, and understanding type of questions).

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