RESEARCH PAPER

Perceptions of First-Year Medical Students Toward the AETCOM Module 1.1 on Roles of an Indian Medical Graduate: A Cross-Sectional Study

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Received: 22nd Aug, 2026 | Accepted: 21st Sep, 2026 | Available Online: 24th Oct, 2026

ABSTRACT

Background: The Attitude, Ethics and Communication (AETCOM) module was introduced by the Medical Council of India in 2018 to develop the roles of the Indian Medical Graduate (IMG) from the first year of training. Module 1.1 orients first-year students to these roles, but student perception of this newly implemented module has been sparsely reported. **Objectives:** To evaluate first-year MBBS students' perception of AETCOM Module 1.1, including role-specific usefulness, preferred teaching-learning methods, and self-perceived readiness for future professional roles. **Methods:** This cross-sectional observational study was conducted at JGMMMC, Hubballi, after Institutional Ethics Committee approval. A structured questionnaire was administered via Google Forms to first-year MBBS students following completion of Module 1.1. Of 150 students, 135 (90.0%) participated. The tool included 22 five-point Likert items, ratings (/5) of four teaching-learning methods, a categorical item on feeling intimidated by future roles, and open-ended items analysed thematically. Descriptive statistics were used. **Results:** Agreement (Agree + Strongly Agree) exceeded 96% for module appropriateness, awareness, satisfaction, and perceived usefulness for all seven roles assessed (Clinician, Professional, Communicator, Lifelong Learner, Leader, Critical Thinker, Researcher). Case scenarios were the highest-rated teaching-learning method (4.68/5), followed by cinemeducation (4.65/5) and video clips with self-directed reflection (4.63/5); didactic lecture was rated lowest (4.35/5), though still favourable. Students strongly preferred a combination of methods. Despite high satisfaction, 47.6% of students reported feeling intimidated or worried about their future roles; thematic analysis identified role-specific concerns relating to the Researcher, Communicator, Critical Thinker, Leader, and Professional roles. 89.3% agreed that multiple exposures to the module are needed throughout the undergraduate course. **Conclusion:** AETCOM Module 1.1 was very well received, but high satisfaction did not fully translate into student confidence. Blended, case-anchored teaching-learning methods, combined with a longitudinal, spiral-curriculum approach and role-specific supportive interventions, are recommended to close this gap.

Key words: *AETCOM; Attitude, Ethics and Communication; Indian Medical Graduate; Medical education; Competency-based medical education; Professionalism*

How to cite this article: Nimisha V, Amrut Arvindrao Dambal, Samata, D Vinod Rathod. Perceptions of First-Year Medical Students Toward the AETCOM Module 1.1 on Roles of an Indian Medical Graduate: A Cross-Sectional Study. Int J Drug Deliv Technol. 2026;16(90s): 206-212; DOI: 10.25258/ijddt.16.90s.20.

INTRODUCTION

Medical education has traditionally emphasised knowledge and clinical skill acquisition, often at the expense of structured training in attitude, ethics, and communication. To address this gap, the Medical Council of India (now the National Medical Commission) introduced the Attitude, Ethics and Communication (AETCOM) module in 2018 as a mandatory, longitudinal component of the undergraduate medical curriculum, integrated within the broader Competency-Based Medical Education (CBME) framework.[1] The AETCOM module is built around the premise that structured, competency-based

training in these domains, beginning in the first professional year, is necessary to shape the professional identity of the Indian Medical Graduate (IMG).

The National Medical Commission's Graduate Medical Education Regulations define seven roles that the IMG must be able to function in appropriately and effectively: Clinician, Leader and Member of the health care team, Communicator, Lifelong Learner, Professional, Critical Thinker, and Researcher.[2] This enumeration of distinct physician roles parallels international competency frameworks such as CanMEDS, which similarly structures physician training around multiple, explicitly named roles.[3] Module 1.1, the foundational AETCOM module orienting first-year students to these roles, assessed student perception across all seven of these nationally defined domains, and this study follows that same structure.

Introducing any new curricular module invites the question of how it is actually received by its intended learners, and early, structured feedback is essential to refine both content and delivery before the module becomes entrenched practice. Evaluating student perception is particularly important for AETCOM, since the module aims not only to convey knowledge of the IMG roles but to shape attitudes and self-perceived readiness — outcomes that are not well captured by conventional knowledge-based assessment, and for which the choice of teaching-learning method (didactic, case-based, reflective, audiovisual) plausibly matters more than it does for purely factual content.

With these considerations in mind, the present study was conducted among first-year MBBS students to evaluate their perception of AETCOM Module 1.1, following its completion. The objectives were: (a) to assess students' overall perception of the module, including its perceived usefulness in understanding each of the seven roles of an IMG; (b) to determine students' preferred teaching-learning methods for this module; and (c) to explore students' self-perceived readiness and apprehensions regarding their future professional roles, including the specific roles students anticipate finding personally most challenging.

MATERIALS AND METHODS

Study Design and Setting

This cross-sectional observational study was conducted among first-year undergraduate medical students at Jagadguru Gangadhar Mahaswamigalu Moorusaviramath Medical College (JGMMMC), Hubballi, following their completion of AETCOM Module 1.1 (Roles of an Indian Medical Graduate). The study was initiated after obtaining approval from the Institutional Ethics Committee.

Study Participants

All 150 first-year MBBS students of the batch were invited to participate. Participation was voluntary, and informed consent was obtained prior to data collection. Of these, 135 students (90.0%) participated and completed the questionnaire; their responses were included in the final analysis.

Data Collection Tool

A structured questionnaire was used, comprising the following components:

- Twenty-two items rated on a 5-point Likert scale (Strongly Agree to Strongly Disagree), covering module appropriateness, awareness, satisfaction, perceived usefulness for each of the seven IMG-related roles, attitudes toward the Researcher and Critical Thinker attributes, and perceptions of implementation, duration, and readiness
- A rating (out of 5) of four teaching-learning methods used in the module: didactic lecture, case scenarios, student-made video clips followed by reflection as self-directed learning (SDL), and cinemeducation
- A categorical item on whether the module made students feel intimidated or worried about their future roles (Yes/No/Maybe)
- Open-ended items asking students whether a single or combined teaching-learning approach was preferable, and which specific role they anticipated finding personally most difficult to attain, and why

Data Collection Procedure

The questionnaire was administered electronically via Google Forms after completion of AETCOM Module 1.1. Anonymity and confidentiality of responses were maintained throughout.

Statistical Analysis

Descriptive statistics (frequencies and percentages) were computed for all Likert and categorical items; for each Likert item, an “agreement” percentage (Strongly Agree + Agree) is also reported for ease of interpretation. Mean ratings (out of 5) were computed for the four teaching-learning methods. Responses to the open-ended items were analysed thematically through manual content analysis, with recurring themes identified inductively and summarised descriptively; this was not a formal multi-coder qualitative analysis.

RESULTS

Participant Characteristics

Of the 150 first-year MBBS students in the batch, 135 (90.0%) participated and completed the questionnaire following completion of AETCOM Module 1.1; all responses were included in the final analysis.

Overall Perception of Module 1.1

Students' agreement with each of the 22 statements regarding Module 1.1 is presented in Table 1. Agreement (Strongly Agree + Agree) exceeded 96% for nearly all items. Appropriateness of the module for first-year students was rated highly (97.6% agreement), as was overall awareness of the different IMG roles (100%) and satisfaction with the module (98.8%). The competencies and objectives addressed were considered clear and feasible by 98.8% of students.

Table 1: Student perception of AETCOM Module 1.1 across 22 statements (n = 135, % of respondents)

S.No	Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Agree-ment (%)
1	The module is appropriate for first MBBS students to be aware of IMG roles	72.6	25.0	1.2	—	1.2	97.6
2	Module 1.1 made you well aware about different roles of an IMG	63.1	36.9	—	—	—	100.0
3	Are you satisfied with the module?	63.1	35.7	1.2	—	—	98.8
4	Competencies and objectives addressed are clear and feasible	57.1	41.7	1.2	—	—	98.8
5	Useful in understanding role of IMG as a Clinician	66.7	31.0	2.3	—	—	97.7
6	Useful in understanding role of IMG as a Professional	64.3	33.3	2.4	—	—	97.6
7	Useful in understanding role of IMG as a Communicator	66.7	33.3	—	—	—	100.0
8	Useful in understanding role of IMG as a Lifelong Learner	67.9	31.0	1.1	—	—	98.9
9	Useful in understanding role of IMG as a Leader	67.9	29.8	2.3	—	—	97.7
10	Useful in understanding role of IMG as a Critical Thinker	61.9	34.5	3.6	—	—	96.4
11	Useful in understanding role of IMG as a Researcher	66.7	31.0	2.3	—	—	97.7
12	Being a Researcher is a must to be a competent IMG	59.5	38.1	2.4	—	—	97.6
13	Being a Critical Thinker is a must to be a competent IMG	61.9	38.1	—	—	—	100.0
14	Module prepares you for roles of a physician throughout the course	61.9	38.1	—	—	—	100.0
15	Implementation of the module is satisfactory	63.1	34.5	2.4	—	—	97.6
16	Module will help prevent future medico-legal issues	59.5	40.5	—	—	—	100.0
17	Multiple exposures to the module are required throughout the UG course	56.0	33.3	9.5	1.2	—	89.3
18	Module helped create interest in various roles of an IMG	60.7	36.9	2.4	—	—	97.6
19	Module motivated you to take up various IMG roles in future	66.7	31.0	2.3	—	—	97.7
20	Teaching-learning methods adopted were appropriate and feasible	59.5	39.3	1.2	—	—	98.8
21	Total duration allotted for the module is sufficient	60.7	33.3	6.0	—	—	94.0
22	Feel ready to be trained to take on various IMG roles	65.5	32.1	2.4	—	—	97.6

SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree. Row totals may not sum to exactly 100% due to rounding in the original data.

Perceived Usefulness by Role

Perceived usefulness of Module 1.1 in understanding each of the seven assessed IMG-related roles (items 5–11, Table 1) is summarised in Figure 1. Agreement was uniformly high across all roles (96.4–100%), with Communicator rated highest (100%) and Critical Thinker rated relatively lowest, though still very high (96.4%).

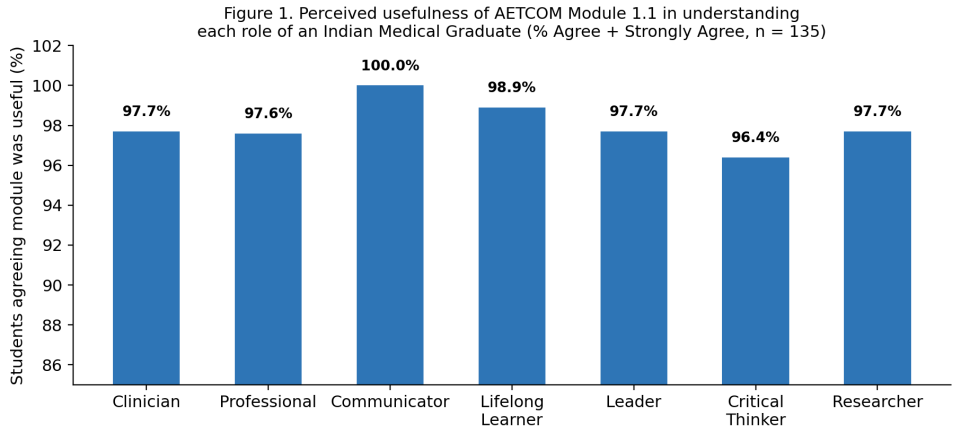


Figure 1: Perceived usefulness of AETCOM Module 1.1 in understanding each role of an Indian Medical Graduate (% Agree + Strongly Agree, n = 135)

Preferred Teaching-Learning Methods

Students rated case scenarios as the most appropriate teaching-learning method (4.68/5), closely followed by cinemeducation (4.65/5) and student-made video clips with reflection as self-directed learning (4.63/5). Didactic lecture, while still rated favourably, received the lowest mean rating (4.35/5) (Table 2, Figure 2). When asked whether a single method or a combination of methods was preferable, students consistently favoured a combination, citing exposure to varied experiences and the development of additional qualities such as teamwork and time management, and noting that a blended approach was more likely to suit different individual learning styles.

Table 2: Student-rated appropriateness of teaching-learning methods (n = 135)

Teaching-learning method	Mean rating (out of 5)
Didactic Lecture	4.35
Case Scenarios	4.68
Video clips made by students + SDL reflection	4.63
Cinemeducation	4.65

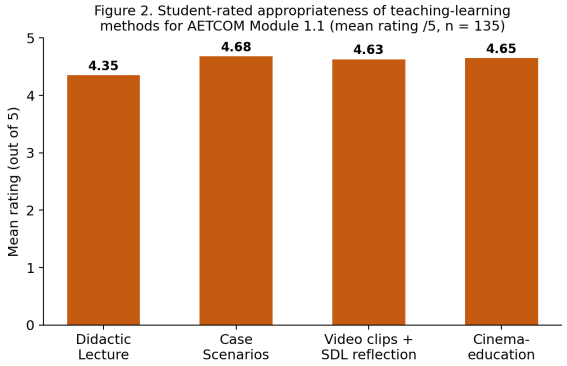


Figure 2: Student-rated appropriateness of teaching-learning methods for AETCOM Module 1.1 (mean rating /5, n = 135)

Self-Perceived Readiness and Role-Specific Concerns

Despite the overall high satisfaction and perceived usefulness of the module, 47.6% of students reported feeling intimidated or worried about the roles they will be expected to fulfil as an IMG, while 35.7% reported not feeling intimidated and 16.7% were unsure (Figure 3).

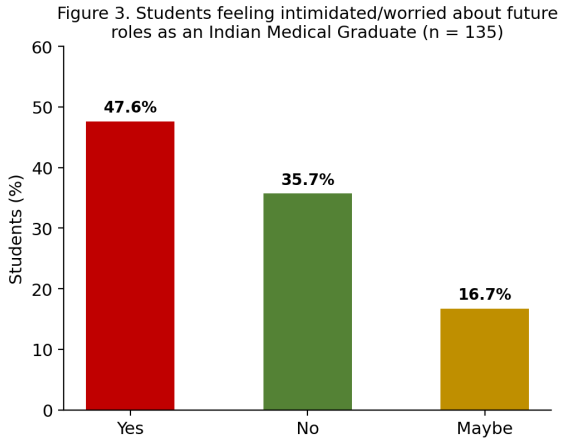


Figure 3: Students feeling intimidated/worried about future roles as an Indian Medical Graduate (n = 135)

When asked which specific role they anticipated finding personally most difficult to attain, and why, students' free-text responses clustered around five themes, summarised in Table 3.

Table 3: Role-specific concerns identified through thematic analysis of open-ended responses

Role identified as challenging	Representative reasons reported by students
Researcher	Limited personal interest in research; unfamiliarity with the research process at this early stage
Communicator	Nervousness in interacting with people; difficulty communicating, particularly with unfamiliar individuals
Critical Thinker	Worry about how they would react in extreme/emergency conditions; uncertainty whether their confidence and knowledge would be adequate for sudden decision-making
Leader	Concern about being forced to take leadership decisions in an unprofessional real-world environment, with potential exposure to medico-legal consequences
Professional	Self-identified personal habits (e.g., lack of punctuality) seen as inconsistent with professional expectations

DISCUSSION

This study evaluated first-year MBBS students' perception of AETCOM Module 1.1 shortly after its completion, and found an overwhelmingly positive reception: agreement exceeded 96% for module appropriateness, awareness of IMG roles, satisfaction, and perceived usefulness across all seven assessed roles. This level of acceptance compares favourably with other early reports on AETCOM implementation in India, and suggests that, when appropriately delivered, foundational AETCOM content is well received by learners entering the programme.

The fairly uniform perceived usefulness across all seven roles (96.4–100% agreement, Figure 1) is a notable finding, since it suggests that Module 1.1, as delivered at this institution, achieved balanced coverage rather than disproportionately emphasising any single role. This balance mirrors the intent of multi-role competency frameworks internationally, such as CanMEDS, which likewise structure physician training around several explicitly named, co-equal roles rather than a single dominant identity.[3] The marginally lower (though still very high) agreement for the Critical Thinker role is consistent with the qualitative theme, discussed further below, that students specifically associate this role with uncertainty about their own decision-making readiness.

Among teaching-learning methods, case scenarios were rated highest (4.68/5), ahead of cinemeducation (4.65/5) and reflective video-based self-directed learning (4.63/5), with didactic lecture rated lowest (4.35/5). This pattern is consistent with evidence that case-based approaches engage learners more actively than passive, lecture-based delivery, producing more durable and applicable learning, particularly for content requiring judgement and contextual reasoning rather than simple factual recall.[4] The comparatively high ratings for cinemeducation and reflective video-based learning also align with the literature: cinema and narrative media are considered particularly well suited to teaching the less tangible, attitudinal and humanistic dimensions of medicine that are difficult to convey through lecture alone,[5] while structured reflection is considered a core mechanism through which experiential learning is converted into genuine professional development.[6] Taken together, these findings support the AETCOM module's own design philosophy, which favours case-based and reflective methods over didactic delivery — and the students' own qualitative preference for a combination of methods, citing exposure to varied experiences and the development of ancillary skills such as teamwork, reinforces that no single modality is likely to be sufficient on its own.

Perhaps the most important finding of this study is the gap between overall satisfaction and self-perceived readiness: despite near-universal agreement that the module was useful and well-implemented, 47.6% of students reported feeling intimidated or worried about the roles they will need to fulfil as practising doctors (Figure 3). This indicates that positive reception of training content does not, by itself, translate into a felt sense of personal readiness — an important distinction for curriculum planners, since module-satisfaction surveys alone would have missed this gap entirely. The specific, role-linked themes identified through the open-ended responses (Table 3) suggest

that this apprehension is not generic anxiety but is tied to concrete, nameable concerns: limited exposure to and interest in research for the Researcher role, interpersonal nervousness for the Communicator role, uncertainty about decision-making under pressure for the Critical Thinker role, fear of medico-legal exposure in under-resourced or unprofessional settings for the Leader role, and self-recognised personal habits (such as punctuality) for the Professional role. Each of these themes points to a distinct, actionable curricular response — for example, structured early research mentorship and exposure to reduce novelty-driven anxiety about the Researcher role, simulated patient or role-play practice to build communication confidence, and case-based or simulation-based decision-making exercises addressing realistic, India-specific scenarios (including medico-legal context) for the Critical Thinker and Leader roles. Professionalism, in particular, has been shown to develop through a combination of curriculum design, role modelling, and structured assessment rather than through content delivery alone, which is consistent with the self-identified, habit-level nature of the professionalism concerns raised by students in this study.[7]

A further important finding is that 89.3% of students agreed that multiple exposures to the module are required throughout the undergraduate course — a markedly lower agreement figure than almost every other item in this study (Table 1), and the only item alongside module duration (94.0%) to show meaningful neutral responses. Read alongside the intimidation finding, this suggests that students themselves recognise, even after a positive first encounter with the module, that a single exposure early in training is unlikely to be sufficient to build lasting confidence in these roles. This is directly consistent with Harden and Stamper's concept of a spiral curriculum, in which foundational competencies are not taught once but are deliberately revisited with increasing complexity across the course of training, with each encounter building on, rather than simply repeating, the last.[8] AETCOM's own national design already anticipates this, structuring role-related competencies longitudinally across all professional years rather than concentrating them solely in Module 1.1; the present findings lend direct, learner-reported support to that design principle, and argue against treating Module 1.1 as a one-time orientation exercise.

LIMITATIONS

This study was conducted at a single institution within a single batch of first-year MBBS students shortly after completion of Module 1.1, which may limit generalisability and does not capture whether perceptions change with further exposure to AETCOM content in later years. Data were self-reported and collected by the same institution responsible for delivering the module, which may be subject to social-desirability bias. Thematic analysis of open-ended responses was based on brief free-text answers and a single-reviewer inductive approach rather than a formal multi-coder qualitative methodology, and should be interpreted as descriptive rather than as a rigorously validated qualitative analysis. Finally, this cross-sectional design captures perception at a single time point and cannot determine whether the high satisfaction observed, or the intimidation reported, persists, resolves, or changes as students progress through subsequent AETCOM modules and clinical exposure.

CONCLUSION

First-year medical students at this institution showed a strongly positive perception of AETCOM Module 1.1, with high satisfaction, awareness, and perceived usefulness across all seven roles of the Indian Medical Graduate assessed. Case scenarios, cinemeducation, and reflective video-based self-directed learning were preferred over didactic lecture, and students clearly favoured a blended, combination approach to teaching-learning methodology. However, positive reception did not fully translate into felt readiness: nearly half of students reported feeling intimidated about their future roles, with specific, identifiable concerns relating to the Researcher, Communicator, Critical Thinker, Leader, and Professional roles. These findings support continuing a blended, case-anchored, and reflective approach to AETCOM delivery, implemented as a genuinely longitudinal, spiral-curriculum experience across the undergraduate course rather than a single early orientation, supplemented by targeted, role-specific interventions addressing the concrete concerns students themselves identified.

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