

“Sensitization-Immersion-Reflection”: A Structured Approach to AETCOM learning in Phase-2 MBBS Students

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Abstract:

Introduction: The AETCOM (Attitude, Ethics, and Communication) framework underscores the notion that transforming behavior can lead to meaningful changes in attitudes of medical students. **Objective:** 1. To evaluate the effectiveness of the Sensitization–Immersion–Reflection (S-I-R) framework in improving Phase-II MBBS students' understanding and application of AETCOM competencies. 2. To assess the impact of the S-I-R framework on enhancing reflective thinking and ethical reasoning among participants **Methods:** This was a post-test only mixed-methods study design to evaluate the effectiveness of the S-I-R approach in enhancing students' understanding and application of AETCOM competencies. Study included a sensitization session through interactive-large group teaching followed by role-plays, case-discussions, and cinemeducation to deepen understanding. The understanding of the students were further assessed in the Reflection Phase through guided reflective writing. Quantitative data collected through a structured-questionnaire, while qualitative insights were obtained from thematic analysis of reflective writing. **Results:** A total of 105 out of 125 students participated in the study. The immersion phase showed a mean score of 16.95 ± 1.30 (out of 20), indicating high engagement and competency graded across various domains. The assessment showed substantial inter-rater reliability (Cohen's $\kappa = 0.76$). In the Reflective phase thematic analysis of the student narratives revealed major ethical domains including patient autonomy and consent 76/105 (72%), communication in care 74/105 (70%), confidentiality and privacy 71/105 (68%), compassionate care 69/105 (66%), patient dignity and comfort 67/105 (64%), and medical errors and accountability 59/105 (56%). **Conclusion:** The S-I-R approach effectively enhanced bioethics knowledge shifted attitudes toward ethical practice, and provided valuable feedback on the AETCOM module.


Keywords: AETCOM, Medical Ethics, Reflective Learning, S-I-R Approach.

Introduction:

Medical errors, unexpected adverse outcomes, cases of malpractice, and perceived inappropriate behavior by health care staff often result when medical personnel do not have appropriate workplace relationships and display inadequate communication.^[1] Similarly, whenever health care personnel display

inappropriate professional behavior, it usually gets disproportionate attention from society and the media alike, maligning the entire medical profession.

Historically, soft skills were imparted implicitly within the curriculum. However, the advent of the Competency Based undergraduate Medical Education Curriculum (CBME) in 2019 introduced a structured

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AETCOM module aimed at equipping medical graduates with the knowledge, skills, and attitudes essential for professional excellence which is now supposed to be taught and assessed like knowledge and skill domain.^[2]

The integration of AETCOM within the MBBS curriculum is vital for nurturing holistic medical professionals who are not only technically proficient but also empathetic, ethically grounded, and articulate communicators. The explicit teaching of ethical principles, coupled with experiential learning opportunities, is essential to cultivate professionalism among medical students.

The development of communication skills for undergraduates is a challenge and requires faculty development, students' readiness to be able to reflect on a setting, the ability to reflect on their own reflections during the curriculum and learn from the process itself. It is important that the approach should be an amalgamation of a learning process, reflective writing, and assessment aspects rather than just a document draft.

The Sensitization Immersion Reflective Writing (S-I-R) approach presents an innovative and structured methodology for teaching AETCOM.^[3] This approach involves:

Sensitization (S): Introducing students to key concepts in attitude, ethics, and communication.

Immersion (I): Engaging them deeply in real world scenarios to internalize these principles.

Reflective Writing (R): Encouraging introspection to consolidate learning and foster professional growth.

The study is to design a standard approach for teaching Ethical and legal issues surrounding patient autonomy, patient rights, and shared responsibilities and informed consent to the students with an emphasis on reflections.

Methods:

The study employed a post-test only design complemented by qualitative reflective writing, adopting Sensitization–Immersion–Reflection (S-I-R) framework. It was conducted over a three-month period and included Phase II MBBS students who were present and consented to participate. Out of 125 students, 105

participated in the study. Current study included complete enumeration of the phase II MBBS students, so we included all the students attending the class.

Approach to the study:

The study was conducted in three phases: Sensitization, Immersion and Reflection.

Phase I- Sensitization

The Sensitization phase was conducted in two one hour sessions delivered through large group teaching. Topics included ethical and legal issues related to competencies 2.5, 2.6, and 2.7 of the AETCOM Module which deals with patient autonomy, patient rights, and shared responsibilities. Specific focus areas included: Refusal of care, Do Not Resuscitate (DNR) orders, Withdrawal of life support, Informed consent for surgical procedures

Phase II-Immersion

The sensitization phase was followed by Immersion phase which involved Experiential Learning and Self-Directed Learning in the form of Role Play, Awareness Video Creation, Real Life Case Discussions, Cinemeducation, Small Group Discussions on Situational Cases as specified in Table 1. Students were divided into 11 groups: 5 groups of 11 students and 6 groups of 10 students. The students were divided based on their roll numbers assigned in class. The following topics were given based on ethical concepts as per AETCOM module as shown in Table 1.

The group activities were assessed using structured rubric consisted of four domains (innovation, clarity of concept, individual participation & teamwork, and ethical reasoning) as described in Table 2, each scored on a 5-point Likert scale (1–5), with a maximum total score of 20 per group. The rubric was developed based on AETCOM competency descriptors and reviewed by senior faculty members for content validity.

To enhance reliability, six faculty members independently evaluated each group. Scores were compared and any discrepancies were resolved through mutual discussion, thereby enhancing the reliability of the assessment. Inter rater reliability was assessed using Cohen's Kappa coefficient, which demonstrated substantial agreement ($\kappa=0.72$).

Table :1 Topics based on ethical concepts given in the Immersion phase

Groups	Topic/Case scenario	Ethical Concept
I.	A doctor shares patient information in a WhatsApp group	Confidentiality
II.	Resuscitation of a DNR patient for organ Donation	Patient rights
III.	Character 'Anand bhai' in the Movie "Munna bhai MBBS"	Patient rights
IV.	Patient diagnosed to have HIV, request the doctor to keep the information confidential Your approach!	Confidentiality
V.	Doctor withholds information assuming patient cannot afford treatment	Beneficence and Non maleficence
VI.	Doctor prefers palliative care for a patient with Grade 4 carcinoma but the family is optimistic with the advanced medical options available and wants to opt for aggressive therapy	Beneficence and Non maleficence
VII.	Awareness video on the socio cultural stigma in medical fields (in respect to patient autonomy)	Socio cultural stigma affecting patients autonomy
VIII.	Medico-legal aspects of discrimination based on Movie "Philadelphia"	Medico legal aspects of patient discrimination
IX.	Relational autonomy or undue pressure? Family's role in decision making	Shared responsibility
X.	Ankur Arora Murder case	Justify Truth telling
XI.	Patient with head injury post RTA refuses treatment	Informed consent & Patient rights
XII.	Preference of treatment in case of scarcity of resources (two patients with similar presentation)	Non discrimination

Table 2: Distribution of score based on domains for evaluation of the immersion activities

S.No	Domain*	Descriptor	Score Range
1.	Innovation and Creativity	Originality of the approach; use of engaging methods (e.g., role play, visuals, audio-visual elements); creative interpretation of ethical issues	0-5
2.	Clarity of Ethical Concept	Accurate understanding and articulation of the ethical principle; application to the case scenario; relevance and depth	0-5
3.	Individual Participation & Teamwork	Active involvement of group members; balanced contribution; collaboration and respect in discussion/ presentation	0-5
4.	Justification and Ethical Reasoning	Logical reasoning and justification for the stand taken; ability to consider multiple perspectives and ethical dilemmas	0-5

*Each domain was scored on a 5-point scale (1 = Needs Improvement, 5 = Excellent), resulting in a total possible score of 20 per group.

Phase III-Reflection

The immersion session was followed by guided reflection using the framework: *What happened? So what? What next?* an approach aligned with Gibbs Reflective Cycle, which emphasizes structured reflection on experience through description, evaluation, and planning for future action.

The reflective writing was based on a movie "WIT" which explores ethical dilemmas related to informed

consent, empathy, patient rights and communication. Students' reflections were analyzed using an inductive thematic analysis approach.^[12] The steps included familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. The codes, subthemes, and final themes identified from the reflective narratives are summarized in the results section.

Statistical Analysis

Quantitative data were analyzed using descriptive statistics. Test scores were expressed as mean ± standard deviation and percentage scores. Group rubric scores were similarly summarized using mean and standard deviation. Domain specific interpretation was evaluated within the cognitive domain using a rubric, with higher scores indicating better knowledge acquisition and integration. Inter rater reliability was calculated using Cohen’s kappa coefficient.

The post session assessment comprised 15 Multiple Choice Questions(MCQs) (single best answer format) designed to evaluate students’ understanding of key AETCOM competencies (2.5–2.7). The questions addressed core ethical principles, including autonomy, beneficence, nonmaleficence, confidentiality, and informed consent. Each correct response was awarded one mark, yielding a maximum possible score of 15. All instructional and assessment components of the study were aligned with AETCOM module objectives and underwent review by the Medical Education Expert Committee to establish content validity.

Ethical Considerations:

The study was conducted after obtaining approval from the Institutional Ethics Committee (IEC Approval No: ESICMC/SNR/IEC-F638/09-2024). As this study involved Phase II MBBS students, special care was taken to ensure voluntary participation and protection of student interests. Written informed consent was obtained from all participants after explaining the purpose of the

study, the nature of the intervention, and the use of assessment and reflective data for research purposes. Students were clearly informed that participation or non-participation would not influence their academic evaluation or internal assessment marks. Confidentiality and anonymity were strictly maintained throughout the study. The data were subjected to inductive coding by two independent researchers. Given that reflections involved discussion of sensitive ethical dilemmas, psychological safety was ensured by creating a non-judgmental learning environment. Participation in reflective writing was voluntary, and students were allowed to withdraw their narratives from analysis if they wished.

Results:

A total of 105 students of the total batch of 125 students from Phase 2 MBBS students participated in the study. The mean age of students was 20.34 ± 1.22 years.

Given the complexity of assessing ethical issues and the inherent variability among teachers and examiners a combination of evaluation methods were employed: Questionnaire based analysis, Group performance assessments (Quantitative component) and Guided reflection (Qualitative Component).

Quantitative data including MCQ test scores, structured rubric scores from group assessments, and Likert-scale questionnaire responses were entered into Microsoft Excel and cross-checked for completeness and accuracy. Incomplete or improperly filled questionnaires were excluded from analysis. The dataset

Table 3: Performance of students across individual domains in group activity (maximum score per domain = 5)

S.No	Domain	Mean score (maximum score=5)*	Remarks
1.	Innovation & Creativity	4.23 ± 0.85	Majority of students scored above the midpoint, indicating good originality and creative engagement
2.	Clarity of Concept	4.40 ± 0.73	This domain recorded the highest mean score, reflecting strong conceptual understanding
3.	Individual Participation and Teamwork	3.85 ± 0.80	Scores indicate satisfactory teamwork and participation across groups.
4.	Opinions and Justifications	3.73 ± 1.03	This domain showed relatively greater variability, suggesting differences in students’ ability to critically justify viewpoints.

*Scores are presented on a 5-point rubric scale (0–5). Values represent mean ± standard deviation.

was screened for data entry errors, missing values, and outliers prior to statistical analysis.

The assessment of role plays was based on a structured rubric comprising four domains, each scored on a 5-point scale (range: 0–5), with a maximum total score of 20 per group as described in Table 2. The overall average score was 16.95 ± 1.30 marks (out of 20). Domain wise mean scores (each calculated out of a maximum of 5) are presented in Table 3.

Reflective Writing Analysis

The role-play sessions were followed by reflective writing. Reflective narratives were independently analyzed by two faculty members trained in qualitative research methods and actively involved in AETCOM teaching. Coding discrepancies were resolved through iterative comparison and consensus discussion to ensure analytical rigor and to minimize potential researcher bias.

Reflexivity was maintained throughout the qualitative process. The researchers involved in teaching the module acknowledged their dual role as educators and investigators. Efforts were made to remain aware of preconceptions while interpreting student reflections.

Reflective writings were analyzed using the thematic analysis approach.^[12] Initial codes were generated inductively from the data, collated into subthemes, and subsequently organized into overarching themes through investigator consensus. The analysis focused on identifying recurring ethical issues emerging from students’ reflections on the movie “*WIT*” as presented in Table 4.

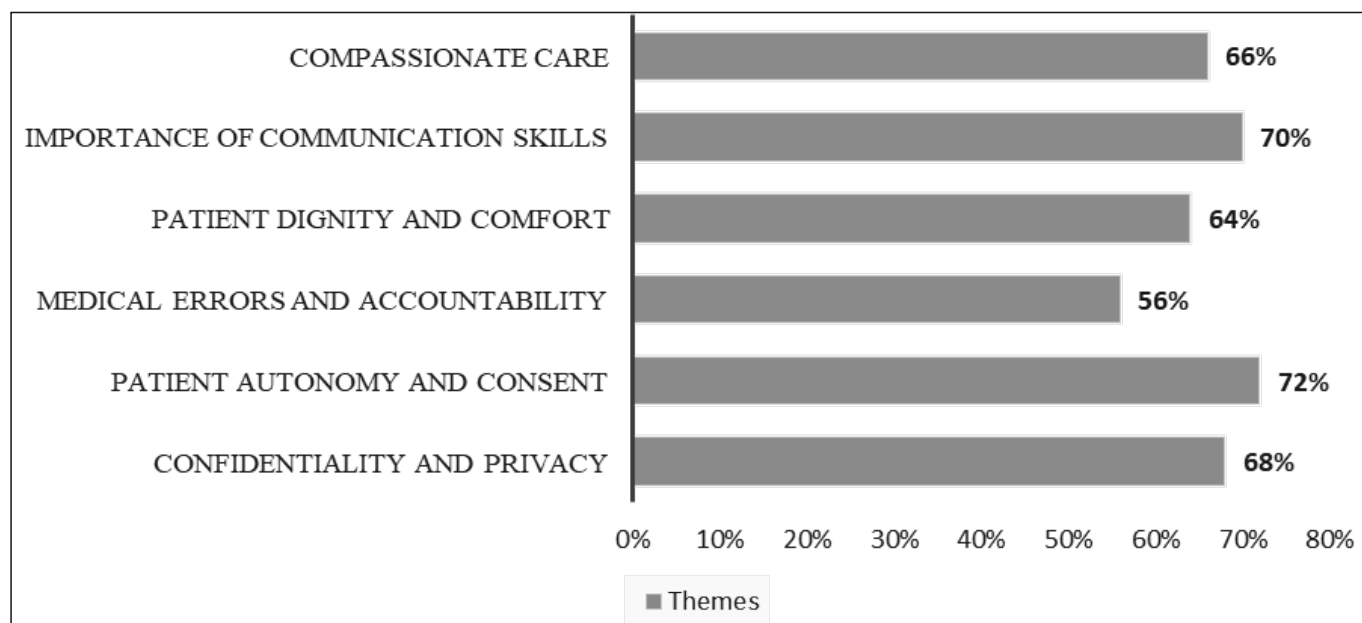
Thematic analysis of the reflective narratives identified six overarching ethical domains: confidentiality and privacy, patient autonomy and informed consent, accountability in medical errors, compassionate care, preservation of patient dignity, and effective communication in clinical practice. Figure 1 shows the percentage of student reflections containing references to each identified theme. The values represent the frequency of occurrence of each theme across the total sample of narratives (N= 105).

Patient autonomy and informed consent emerged as the most frequently identified theme in reflective narratives (72%, 76/105), followed by communication in clinical care (70%, 74/105), confidentiality and privacy (68%, 71/105), compassionate care (66%,

Table 4: Reflections on Ethical Themes based on the movie 'WIT'

Codes	Subthemes	Themes
Absence of a female Chaperon while examination by a male doctor	Privacy during the medical examination	Confidentiality and Privacy
Privileged communication	Lack of safeguards for sensitive information	
Lack of information on chaperon options; doctor lets the patient to decide;	Patient’s right to make decisions	Patient Autonomy and Consent
Non elaborative consent	Incomplete Informed Consent Process	
High dose drug administration	Medication dispensing error	Medical Errors and Accountability
Lack of empathy	Emotional detachment by caregivers	Compassionate care
Supportive nurse interactions	Positive emotional support	
Uncomfortable position during medical examination	Lack of dignity during care	Patient’s dignity and comfort
Neglected post-examination care	Inadequate post-procedural support	Communication in care
Unexplained side effects of treatment	Poor Aftercare communication,	
Pros and cons of treatment not explained, proper explanation about the condition	Pre treatment discussion Incomplete	
Lack of disclosure regarding patient’s deterioration	Provider transparency	

Figure 1: Percentage Distribution of Major Ethical Themes Identified in Student Reflective Narratives (N = 105)



69/105), preservation of patient dignity and comfort (64%, 67/105), and medical errors and accountability (56%, 59/105). These findings indicate that students most commonly engaged with issues related to autonomy, communication, and confidentiality during reflective analysis.

Quantitative Assessment of Ethical Attitudes: To further explore students’ ethical orientations, quantitative responses to structured questionnaire items were analyzed in relation to the themes identified through reflective narratives.

Patient Autonomy and Informed Consent

Consistent with the prominence of autonomy in reflections (72%), 98.9% (n = 104) agreed that informed consent must always be obtained, and 70.8% (n = 74) strongly agreed that patient wishes should be respected. However, 50% (n = 53) indicated that physicians may sometimes act in what they perceive to be the patient’s best interest irrespective of patient opinion, suggesting persistence of paternalistic tendencies.

Confidentiality and Privacy

In alignment with reflective findings (68%), 94% (n = 99) agreed that physicians have a duty to safeguard patient information. Additionally, 93.5% (n = 98) disagreed with conducting intimate examinations without informed consent, and 70.6% (n = 74) disagreed

that one patient’s privacy may be compromised for the benefit of a larger group. Furthermore, 90.8% (n = 95) indicated that a male doctor should not examine a female patient without a female attendant, reflecting sociocultural influences on perceptions of privacy.

Communication and Patient Dignity

Seventy percent (n = 74) agreed that communication in patient care must be conducted appropriately. A large majority (96%, n = 101) disagreed that listening to patients’ views is unimportant, and 82% (n = 86) disagreed that full disclosure of treatment details is unnecessary, indicating strong endorsement of patient-centered communication and dignity.

Compassionate Care

Compassionate care, identified in 66% of reflections, was further supported by 92% (n = 97) agreeing that physicians must respect human life and dignity. However, 71% (n = 75) believed that doctors may refuse care to uncooperative or violent patients, indicating nuanced views regarding professional obligations.

Medical Errors and Accountability

Although accountability appeared in 56% of narratives, 79.6% (n = 84) disagreed with the statement that doctors cannot be held responsible for prescribed therapies, demonstrating recognition of professional

accountability. Some students also supported refusal of treatment in situations where patients declined care on religious or social grounds, reflecting ethical complexity in clinical practice.

Representative Verbatims Under Identified Themes:

Patient Autonomy and Informed Consent:

“Explaining the entire procedure and possible outcomes to the patient is essential. Only when patients are fully informed can they make decisions that reflect their own values and wishes.” (Participant 67)

Communication and Compassionate Care:

“Effective communication is as important as medical knowledge. If we do not explain things properly, the patient may feel anxious or ignored.” (Participant 12)

“Listening patiently to the patient’s concerns builds trust. Even when the prognosis is poor, empathy and kindness should never be compromised.” (Participant 74)

Post-Session Knowledge Assessment:

The post-session assessment (maximum score = 15) demonstrated a mean score of 12.4 ± 1.8 out of 15, corresponding to 82.7% of the maximum possible score.

As the study did not include a pre-test or control group, results are presented using descriptive statistics only.

Discussion:

The findings of this study highlight the effectiveness of Sensitization sessions followed by immersion activities like role play, video making and group presentations combined with reflective writing in fostering ethical understanding among Phase II MBBS students. This mixed methods approach not only engaged students actively but also encouraged them to internalize and apply ethical principles to practical situations.

The use of experiential learning strategies, including role plays and cinemeducation, emerged as a notable component of the S-I-R framework. A majority of students (86%, n = 90/105) reported that these methods enhanced their confidence and promoted

teamwork during ethical discussions and clinical scenario analysis. In a study conducted by Ghosh and Bir,^[4] the focus was on the practical aspect while evaluating the effectiveness of AETCOM implementation. They emphasized that OSPE stations utilizing AETCOM specific checklists incorporating roleplay activities, simulated patients and direct observations are deemed more appropriate for accurately assessing AETCOM outcomes, Whereas in the study conducted by Sharma et al^[5] also indicated that the majority of the students after the session, that is, 82.6%, acknowledged that roleplay activities during the session not only helped to convey the message more comprehensively to the audience but also made the session more captivating.

In a study conducted by Sethi et al^[6] it was found that (100%) students agreed that communication skills are important in doctor patient relationship; 49 (83.05%) students agreed that roleplay facilitated their learning of communication skills; a similar finding was also observed in the present study 86% (n = 90/105) felt it helped in boosting confidence and teamwork, some students felt it time consuming whereas students also commented that: *“Learning from my own peers was entertaining and highly educational as I was able to give my full concentration”*.

Many participants expressed that such interactive exercises would contribute to their development as better doctors and ultimately improve the quality of patient care in the future.

More over the present study also included Cinemeducation which provided the opportunity to learn the ethical and psychosocial subjects which are related to medicine by observing and reflection on the films. As per the feedback of students, cinemeducation helped to clarify unclear questions and opened up new perspectives by making the public health connection to the film

Incorporating AETCOM and medical ethics into the undergraduate curriculum contributes to the development of communication skills among students. By emphasizing the importance of clear, empathetic communication and active listening, students learn to

effectively convey complex medical information, address patients' concerns, and navigate challenging conversations with sensitivity and professionalism.

In a study done by Krishnan et al^[7] study, role play received significantly better responses than Small Group Discussion(SGD) in seven out of nine questions in the perception questionnaire. From the students' perspective, role play was considered more useful as a tool for learning skills of communication. Comparable findings were noted by Tayem et al^[8] in their study on peer role play where students reported that they felt more confident in communicating all elements of drug therapy to the patients and had a better understanding of how to communicate the information in a prescription in a simple language that the patient could understand

Despite the effectiveness of Role play, it had its own challenges. One of the challenges faced in this study was the initial unwillingness of a few students towards acting of the assigned roles. Role play requires more time to write the script and allotting the characters and takes time for rehearsals

Narratives and reflective writings are important tools for learning attitudinal and ethical issues. It is a metacognitive process that creates greater understanding of self and situations and prepares for an informed future action.^[9] It aids to recognize the importance of being able to frame a problem before trying to solve it. It allows the person, to be able to stand back from himself/herself and question his/her behaviours and attitudes.

In a study done by Tikare et al^[10] use of reflective narratives, to help medical students learn the importance of being an empathetic clinician, communicator and professional. Similar observations were shared by another study by Zayapragassarazan et al^[11] which emphasized the need for adopting experiential learning strategies, use of technology in teaching, learning and assessment.

The reflective writing exercises in our study, which encouraged students to analyze real life scenarios, yielded responses that demonstrated a deep understanding of ethical principles and their application in real life.

The reflective writings provided rich qualitative insight into students' understanding of ethical issues. Patient autonomy (72%, n = 76/105) and communication skills (70%, n = 74/105) emerged as the most dominant themes, indicating that these aspects resonated strongly with students.

These themes demonstrate students' ability to connect ethical principles with practical clinical scenarios. Reflections revealed a nuanced understanding of informed consent, patient rights, socio-cultural stigma, professional communication, and compassionate care. The findings reinforce that ethics education should extend beyond theoretical instruction and be embedded within clinical exposure, guided discussion, and reflective practice. Such integration helps translate ethical principles into lived professional values.

The structured S-I-R methodology appears particularly effective compared to traditional didactic methods.

Student Feedback

An informal feedback survey revealed that the interactive approach using real-life-inspired scenarios and movie-based themes substantially enhanced learning. 85% (89/105) of participants reported that role plays helped them better understand ethical dilemmas.

Students feedback on importance of Medical Ethical and Legal issues:

A vast majority of students (97.8%, n = 103/105) perceived ethical knowledge as essential for becoming a better doctor. Additionally, 96% (n = 101/105) emphasized the importance of discussing ethical issues with patients during clinical rounds alongside clinical management.

Most participants (79.8%, n = 84/105) agreed that promoting ethical conduct among medical students would help strengthen public trust in the medical profession. Nearly half (49.5%, n = 52/105) identified lack of ethical knowledge as a major cause of assaults on doctors, with an additional 44% (n = 46/105) considering it a possible contributing factor.

Representative Student Verbatims on the Importance of Medical Ethics:

“Yes, I would consider understanding ethical and legal issues as it can help individuals avoid disputes and protect their rights. Ethical values can help people understand the consequences of their actions and promote a sense of responsibility and accountability. Ethical decisions can also demonstrate respect, fairness, and caring, and can help people make better decisions. “

“Having an understanding of ethical and legal issues is super important! It helps us navigate complex situations, make informed decisions, and ensure that we’re treating others fairly and responsibly. It’s like having a compass that guides us in doing the right thing and upholding the values of justice, integrity, and respect. Plus, it helps us avoid legal troubles and maintain trust in our relationships and professions. So, it’s pretty valuable!”

Representative Student Verbatims about structured “SIR” approach:

The feedback was assessed on a Likert scale from 1-5, 1- being Strongly disagree and 5 - being strongly agree:

Out of 105 participants, 92 students (87.6%) reported that ethics and law teaching was interesting this year, while 84 students (80.0%) stated that the teaching style motivated them to explore bioethics further and enhanced their understanding of the complexities involved in medical practice.

Feedback on Immersion techniques: A total of 45.2% (n = 47/105) of students perceived role play as an effective instructional strategy. However, a subset of participants considered it time consuming. In comparison, 37.6% (n = 39/105) expressed a preference for cinemeducation, while 15.1% (n = 16/105) identified group discussions as a more suitable learning approach.

Representative Student Verbatims on Immersion activities:

“Learning from my own peers was entertaining and highly educational as I was able to give my full concentration”.

“In role plays we are allowed to present our understanding and then assessed by the professors. Hence it helps us understand where exactly we need to grow in ethical perspective. This also helps us improve our communication skills, teamwork”.

On the contrary some students referred it was time consuming:

“Role play requires more time to write the script and allotting the characters and takes time for rehearsals.”

“In roleplays we try our best to portray whatever I idea we have by ourselves but in cinemeducation, we get to see different opinions and aspects of the same situation or decision, it portrays all the aspects very clearly and we can easily understand it. The WIT movie which we saw made me understand the concept of medical ethics in very clear and amazing way.”

Evaluation of Teaching Modalities for Understanding Ethical Concepts:

Regarding better understanding of ethical concepts (rated on a 5-point Likert scale), cinemeducation received the highest positive ratings, with 84.1% (n = 88/105) of students reporting improved understanding. This was followed by role plays at 74% (n = 78/105) and group discussions at 56% (n = 59/105).

Furthermore, 83.9% (n = 88/105) of students recommended that cinemeducation be incorporated as a routine teaching strategy, while 15% (n = 16/105) felt it could be included occasionally in the curriculum.

Representative Student Verbatims on teaching methodologies in understanding Ethical concepts:

“Movies impart long term memory”

“In roleplays we try our best to portray whatever idea we have by ourselves but in cinemeducation, we get to see different opinions and aspects of the same situation or decision, it portrays all the aspects very clearly and we can easily understand it. The wit movie which we saw made me understand the concept of medical ethics in very clear and amazing way.”

“Cinemeducation has the higher ground when it comes to capturing the viewers attention.”

Representative Student Verbatims of Effect on attitude of students towards ethical concepts:

Students showed an improved understanding of ethical concepts and made them more empathetic and compassionate:

“Now I have better understanding and communication with patients”

“I understood the importance of patients perspective in all the medical procedures from the diagnosis, investigations, treatment and prognosis. It also made me aware of common medicolegal cases and dilemmas encountered in medical profession. My attitude has changed in terms of emphasizing on patient education and four pillars in medical ethics.”

“I used to ask the history directly to the patients, but now I understand that I need to build the rapport with the patient and he should feel safe while sharing his problem with me”

Students also elicited that their way of communication was also improved after the sessions:

“We can understand the correct way of communication as it is very important in patient doctor relationship”

“I have learnt to properly communicate with patients in different scenarios. Through cases, role plays etc. I have learnt and am learning the efficient ways of communicating by appropriate choice of words, our tone and our attitude and behaviour towards patients, doctors and other healthcare workers. To be respectful by my words and to be able to convey the message or what I am trying to explain in a simple yet understanding way.”

Strengths and Limitations of the intervention:

A key strength of this study is the integration of quantitative assessment with qualitative thematic analysis, enabling a comprehensive evaluation of student learning and reflective engagement with ethical principles. However, the study has certain limitations. Being conducted at a single institution may limit generalizability, and the absence of a control group restricts attributing outcomes solely to the S-I-R intervention. A formal sample size calculation was not

performed as the entire available cohort was included. Time constraints within scheduled academic hours limited role-play enactment and detailed debriefing, and participation of only consenting and present students may introduce selection bias. The assessment focused on short-term outcomes, without evaluating long-term retention or application in clinical practice. Additionally, qualitative findings based on self-reported reflections may be influenced by social desirability bias, and despite using a structured rubric, some subjectivity in role-play assessment cannot be entirely excluded.

Conclusion:

The study demonstrates that a brief sensitization phase, coupled with strong immersion through experiential learning and effective reflective writing, enhances students' understanding of medical ethics. It fosters their ability to navigate ethical dilemmas, strengthens communication skills, and develops professional attitudes essential for holistic medical practice.

The integration of the S-I-R approach offers a novel and structured method to impart ethical and communication competencies, moving beyond traditional didactic teaching. By actively engaging students through role plays, cinemeducation, and reflective exercises, this approach bridges the gap between theoretical knowledge and its application in real-world medical scenarios.

Declaration

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Conflict of Interest: Nil

References:

1. Neumann M, Scheffer C, Tauschel D, Lutz G, Wirtz M, Edelhäuser F. Physician empathy: definition, outcome-relevance and its measurement in patient care and medical education. *GMS Z Med Ausbild.* 2012;29(1):Doc11.
2. Medical Council of India. AETCOM, Attitude, ethics & communication, 2018: pp 1-94.
3. Jain S, Mahajan G, Mahajan N. S-I-R approach to teach and learn Attitude, Ethics & Communication (AETCOM). *GAIMS J Med Sci* 2022;2(1):13-14.
4. Ghosh A, Bir A. Role of written examination in the assessment of attitude ethics and communication in medical students: Perceptions of medical faculties. *J Educ Health Promot.* 2021 Jan 28;10:23.

5. Sharma V, Aggarwal M, Kumari P, Parashar L, Bhati RK, Singh A, et al. Impact of AETCOM module about autonomy, empathy and equanimity on ensuing clinical practice: Perceptions of medical undergraduates. *Indian J Physiol Pharmacol.* 2024;68:344-9.
6. Sethi S, Dabas R. Role-play – An effective tool to teach communication skills in pediatrics to medical undergraduates: Comments. *J Edu Health Promot* 2019;8:212.
7. Krishnan DG, Keloth AV, Ahmad S, Pg M. Role Play versus Small Group Discussion in Teaching Prescription Communication Skills: A Comparative Study on students of Phase Two of the Bachelor of Medicine and Bachelor of Surgery (MBBS) Course. *J Adv Med Educ Prof.* 2023 Jan;11(1):34-41.
8. Tayem YI, Altabtabaei AS, Mohamed MW, Arrfedi MM, Aljawder HS, Aldebous FA, et al. Competence of medical students in communicating drug therapy: Value of roleplay demonstrations. *Indian J Pharmacol.* 2016;48:37–41. doi: 10.4103/0253-7613.174517.
9. Sandars J, The use of reflection in medical education: AMEE Guide No. 44 *Medical Teacher* 2009; 31: 685–695.
10. Tikare & Dhundasi, , Reflective writing: Experience of first professional medical students with Attitude ethics and communication module, *South-East Asian Journal of Medical Education* Vol. 15, no. 1, 2021.
11. Zayapragassarazan Z, Kumar S, Kadambari D. Record review of feedback of participants on attitude, ethics and communication module (AETCOM) proposed by Medical Council of India (MCI). *Education in Medicine Journal.* 2019;11(1):43–48.
12. Braun V, Clarke V. Supporting best practice in reflexive thematic analysis reporting in Palliative Medicine: A review of published research and introduction to the Reflexive Thematic Analysis Reporting Guidelines (RTARG). *Palliat Med.* 2024 Jun;38(6):608-616.