
**Human Values in Technical Classrooms: A Study Using Short Fiction
and Active Learning Methods**

Dr. T. Anantha Vijayah

Associate Professor of English, Gandhigram Rural Institute - Deemed University

t.ananthavijayah@ruraluniv.ac.in

Dr. D. Chandra Vadhana

Assistant Professor of English, PSG College of Technology, Coimbatore

chandrasmail.22@gmail.com

Paper Received: 26-02-2025 Paper Accepted : 27-03-2025

Paper Published: 28-03-2025 DOI: 10.36993/RJOE.2025.10.1.700

Abstract

Technical education in engineering and applied science classrooms has traditionally prioritized quantitative competence, leaving comparatively little room to cultivate ethical reasoning, empathy, and civic responsibility. This article examines the potential of pedagogical intervention and its advantages in incorporating Indian writer and engineer Sudha Murty's short fiction into the technical language curriculum through active learning methods, including guided discussion, role-play, reflective journaling, and case-based debate. Sudha Murty's story collections, such as *Wise and Otherwise*, *The Old Man and His God*, *How I Taught My Grandmother to Read*, and *Other Stories*, and *Three Thousand Stitches* are considered for the study to explore the possibility of introducing values such as honesty, humility, gratitude, social responsibility, and empathy to students trained primarily in technical reasoning. The article situates this intervention within the broader literature on humanities-in-engineering education and active learning pedagogy, analyses classroom outcomes, and discusses implications for curriculum design. The findings suggest that short, culturally grounded fiction, when paired with participatory teaching strategies, can meaningfully supplement technical training with value-based learning without displacing disciplinary rigour.

Keywords: human values education; technical classrooms; short fiction; active learning; engineering pedagogy; value-based learning; reflective teaching; Sudha Murty

1. Introduction

Engineering and other technical disciplines are frequently criticized for producing graduates who are technically proficient but under-prepared for the ethical and interpersonal demands of professional life. It is mandated worldwide for technical programs to incorporate ethics, teamwork, and social responsibility. Yet the manner in which these outcomes are achieved in practice often remains largely superficial, confined to a single stand-alone course on professional ethics or a brief module bolted onto an otherwise technical syllabus. This article argues that literature, and short fiction in particular, offers an underused but highly effective resource for embedding human values into technical classrooms. However, the paper argues that it must be taught through interactive methods to be effective.

Noted Indian writer Sudha Murty, a computer scientist and an engineer by profession, is also a widely read author and a philanthropist. She occupies a distinctive position in the literary and popular circles because her short stories are written in plain, accessible English, short enough to be read in a single class period, and centered on everyday moral dilemmas rather than elaborate literary devices. Her short story collections, such as *Wise and Otherwise*, *The Old Man and His God*, *Grandma's Bag of Stories*, *How I Taught My Grandmother to Read and Other Stories*, and *Three Thousand Stitches*, were based on her experience and extensive travels across rural and urban India, commingled with her in-depth knowledge of the corporate environment of her company, the Infosys Foundation. Her texts offer technical students' narratives that are culturally proximate, morally direct, and free of interpretative density. On the contrary, it is pertinent to note that canonical literary texts are remote to engineering graduates.

For this study, a classroom-based interaction was used in which select stories from Murty's collections served as the primary texts in a value-education component embedded within a technical curriculum. Rather than lecturing students on abstract ethical principles, the interaction employed active learning strategies such as small-group discussions, structured debates, role-play, and reflective writing to help students identify, question, and internalize values such as honesty, humility, empathy, gratitude, and social responsibility.

The article proceeds as follows. Section 2 reviews the literature on the integration of the humanities in technical education and on active learning pedagogy. Section 3 presents the analysis of the intervention, including the selection of texts, the instructional design, and observed classroom outcomes. Section 4 discusses the

broader implications of the findings for curriculum design and teacher training. Section 5 concludes with recommendations and directions for future research.

2. Literature Review

2.1 Values Education in Technical and Engineering Curricula

The call to integrate ethics and human values into technical education is not new. Accreditation frameworks, such as those used by ABET in the United States and comparable bodies elsewhere, have long required that graduates demonstrate an understanding of professional and ethical responsibility, as well as the ability to consider the broader societal and environmental impact of engineering solutions. Scholars such as Martha Nussbaum have argued more broadly that the humanities cultivate the capacities for empathy and critical self-examination that a narrowly technical education tends to neglect, and that democratic societies depend on citizens, including engineers and scientists, who can imaginatively enter others' perspectives. Within engineering education specifically, researchers have noted that ethics instruction is frequently delivered as an isolated, compliance-oriented module rather than woven through the curriculum, which limits its capacity to shape everyday professional judgment.

Several studies have proposed literature and narrative as a corrective to this compliance-oriented approach. Narrative ethics, as developed in medical and professional education, holds that stories allow learners to rehearse moral reasoning in a low-stakes environment, developing what might be called ethical imagination before they are required to exercise ethical judgment under professional pressure. This approach has been particularly influential in medical humanities programs, where short fiction and personal narrative are used to help medical students develop empathy and reflective judgment, and similar arguments have more recently been extended to engineering and computing education.

2.2 Short Fiction as a Pedagogical Resource

Short fiction has particular advantages for classrooms with limited time for the humanities. Unlike novels, short stories can be read and discussed within a single session, making them compatible with the compressed schedules typical of technical programs. Sudha Murty's writing has been noted by educators and reviewers for its economy of style, its reliance on real-life anecdotes drawn from her decades of grassroots philanthropic work, and its consistent focus on ordinary moral choices rather than dramatic or exceptional circumstances. Stories from collections such as *Wise and Otherwise* are typically built around a single encounter or decision, often

involving questions of honesty, generosity, humility, or the tension between traditional values and modern aspirations, which makes them well-suited to close reading within a single class period followed by extended discussion.

Critics of using popular or accessible fiction in technical classrooms sometimes argue that such texts lack the literary complexity needed to train genuine critical thinking and that students may absorb moral lessons superficially rather than interrogating them. This concern is addressed, at least in part, by the pedagogical method rather than the text alone: when accessible fiction is combined with active learning strategies that require students to question, contest, and apply the values embedded in a story, rather than passively receive them, the simplicity of the text becomes an asset rather than a limitation, since it lowers the barrier to entry and allows more classroom time for discussion rather than decoding the text.

2.3 Indian Short Fiction and the Postcolonial Technical Classroom

A further strand of relevant scholarship concerns the position of regional and vernacular-adjacent writing within technical institutions that were historically built on an imported Western liberal arts model. Indian engineering and management institutes, largely modeled on colonial and later American and European templates, have tended to draw their humanities content from a canon of British and American literature, even where student populations are overwhelmingly drawn from Indian towns, villages, and regional-language backgrounds. Scholars of postcolonial pedagogy have argued that this mismatch between curricular content and students' backgrounds can inadvertently reinforce the impression that humanistic or reflective learning is foreign to, or separate from, students' own cultural worlds, rather than continuous with them. Writers such as Sudha Murty, whose stories are frequently set in small towns, farming households, and modest urban neighborhoods across Karnataka and other Indian regions, offer a counterpoint to this pattern: because many technical students in Indian institutions arrive from similar backgrounds or retain close family ties to them, her fiction can function as a point of cultural continuity rather than cultural distance, lowering the affective barrier that often separates literature study from a technical student's sense of their own lived experience.

This continuity should not be overstated, however. Murty writes in English for a broad and largely middle-class readership, and her narrative persona is that of an educated, well-traveled observer reporting on encounters with less privileged or less formally educated figures. This positioning means that while her settings are culturally proximate to many Indian technical students, her narrative vantage point is

not neutral, and instructors using her work for values education should be attentive to the class perspective embedded in the storytelling itself, treating it as a subject for classroom discussion rather than an invisible frame.

2.4 Active Learning Pedagogy

Active learning is broadly defined as any instructional method that engages students in the learning process through activities beyond passive listening, including discussion, problem-solving, case analysis, and peer instruction. A widely cited meta-analysis of 225 studies found that active learning approaches in STEM classrooms improved exam performance and reduced failure rates relative to traditional lecturing (Freeman et al. 8410), and subsequent work has extended similar findings to non-technical learning outcomes, such as attitude change and value formation. For active learning, strategies include think-pair-share, structured debate, role-play, and reflective writing as effective means of moving students from passive absorption of content to active imagination of situations and meaning, leading to understanding. For imparting value education, active learning is arguably indispensable rather than merely helpful. Values that are simply asserted by an instructor or embedded in an assigned reading are least likely to be internalized, as they would be seen more as objective facts and considered data. However, when values that are debated, role-played, and connected to a learner's own experience through reflective writing are far more likely to influence subsequent judgment and behavior. This article builds on this premise and explores the same, combining Murty's short fiction, chosen for its accessibility and moral directness, with a structured sequence of active learning activities designed to move students from comprehension to internalization.

3. Analysis: Design and Implementation of the Intervention

3.1 Text Selection

Six stories were selected from across Murty's collections to represent a range of values relevant to technical professionals: honesty and integrity, humility in the face of expertise, gratitude and generosity, respect for manual and traditional labor, social responsibility toward disadvantaged communities, and the constant attrition between ambition and contentment. Stories drawn from *The Old Man and His God* foreground themes of faith, humility, and the dignity of ordinary work; stories from *Wise and Otherwise* frequently stage encounters between educated, urban protagonists and less privileged or less formally educated characters, destabilizing assumptions about whose knowledge or virtue counts as superior; and *Three Thousand Stitches*, drawing on Murty's documented work rehabilitating women in

traditional sex work, was used to introduce social responsibility and empathy. In each case, stories were selected not just for their literary sophistication but also for the clarity and immediacy of the moral question they raised, since the intervention's goal was discussion and internalization. rather than literary analysis for its own sake.

3.2 Instructional Sequence

Each session followed a four-stage sequence. First, students read the assigned story individually before class, with two or three guiding questions distributed in advance to focus attention on the central moral tension rather than on plot details. Second, class time began with a short small-group discussion in which students compared their initial reactions and identified the value or values at stake in the story, using a think-pair-share structure to ensure that quieter students had space to articulate their positions before the whole-class discussion began. Third, the instructor introduced a structured activity appropriate to the story: for stories involving a clear dilemma, students conducted a role play in which they argued from the perspective of different characters; for stories involving a broader social issue, such as the rehabilitation narratives in *Three Thousand Stitches*, students engaged in a structured debate on a related contemporary technical-ethics question, such as the responsibility of technology companies toward vulnerable users. Fourth, each session closed with five to ten minutes of reflective journaling in which students connected the story to a personal experience or to their anticipated professional life, with journals collected periodically rather than every session to encourage candor over performance.

3.3 Observed Outcomes

Across the sessions, several patterns emerged in student engagement and written reflection. Students who were otherwise reticent in purely technical classes participated more readily in discussions of the stories, plausibly because the absence of a single correct answer reduced the perceived risk of being wrong. Reflective journals frequently connected the stories to family experiences, particularly narratives involving grandparents or rural relatives, suggesting that Murty's rural and small-town settings resonated with a substantial portion of the student cohort even in urban technical institutions. In debate exercises linked to *Three Thousand Stitches*, students extended the story's themes to discussions of algorithmic bias and the ethical responsibilities of data-driven systems toward marginalized populations, indicating some transfer of the humanistic reasoning cultivated by the story into technical-ethical reasoning.

At the same time, the intervention surfaced limitations. A minority of students treated the stories as moral fables with self-evident lessons, producing journal entries that restated the stories' apparent morals without deeper interrogation; this tendency was more pronounced in early sessions and diminished as students became more accustomed to the expectation of questioning rather than merely summarizing the text. This pattern reinforces the point made in the literature review that accessible fiction requires deliberate pedagogical scaffolding, particularly in the early stages of a course, to prevent passive reception of stated values.

3.4 Close Reading of Representative Stories

To illustrate how individual stories functioned within the active learning sequence, it is useful to examine two representative examples in more detail. In one widely used story from *Wise and Otherwise*, a successful, foreign-educated protagonist returns to a modest household and is confronted with the quiet dignity and moral clarity of a relative who has never left the village and possesses none of the protagonist's formal credentials. The story does not resolve this contrast through a dramatic reversal but through a slow accumulation of small observations, allowing the reader to arrive gradually at the recognition that formal education and moral wisdom are not the same achievement. In classroom use, this story proved effective precisely because many technical students identified strongly with the returning, credentialed protagonist, which allowed the ensuing discussion to move quickly from a generic discussion of humility to a more personal one about students' own assumptions regarding relatives or community members who lacked their level of formal education.

A second representative story, drawn from *The Old Man and His God*, centers on an elderly temple worker who continues a small, unglamorous act of daily service over many years without any expectation of recognition or reward. When used in the active learning sequence, this story was paired with a debate prompt asking students to argue for and against the proposition that professional success in technical fields should be measured primarily by visible achievement and recognition. Students arguing against the proposition frequently drew directly on the story's portrayal of unrecognized, sustained effort, while students arguing in favor were pushed to distinguish between the intrinsic value of quiet service and the practical incentives that operate within competitive technical careers. This pairing of a short, emotionally resonant story with a structured, adversarial debate format illustrates how narrative and active learning can jointly produce a more layered engagement with a value than

either could produce alone: the story supplied the emotional and moral texture, while the debate format required students to test that texture against a competing, practically grounded position.

Across both examples, the instructor's role was less that of an authority delivering a moral interpretation and more that of a facilitator structuring the conditions under which students could arrive at, question, and refine their own interpretations. This facilitation role is consistent with the broader active learning literature's emphasis on shifting classroom authority away from direct transmission toward guided construction of understanding, and it appears to be a necessary condition, rather than an optional enhancement, for using short, morally direct fiction without collapsing them into simplistic moralizing.

4. Discussion

The intervention suggests that short, accessible fiction can serve as an effective bridge between technical training and values education when combined with active learning strategies, rather than being used as a stand-alone reading assignment. Three implications follow from this finding. First, curriculum designers in technical programs need not restrict humanities content to canonical or formally complex literary texts; a text's pedagogical value for value education depends more on the clarity of its moral situations and its cultural proximity to students than on its literary prestige. Second, the success of the intervention depended heavily on instructional design rather than on the text alone, indicating that faculty development in active-learning facilitation is at least as important as text selection when technical instructors, who are frequently untrained in humanities pedagogy, are asked to deliver value-education content.

Third, the observed transfer of reasoning from Murty's stories to contemporary technical-ethics questions, such as algorithmic fairness, suggests that narrative-based values education need not be treated as separate from technical content but can instead serve as a scaffold for technical-ethics reasoning that is more directly relevant to students' future professional lives. This finding is consistent with the broader argument in engineering education that ethical reasoning is best developed when it is integrated into, rather than isolated from, technical coursework. The intervention also raises questions that merit caution. Reliance on a single author's body of work risks narrowing the range of cultural perspectives and moral frameworks to which students are exposed, and Murty's stories, while diverse in setting, are consistently framed through a particular class and cultural vantage point

associated with urban, educated, Indian sensibilities encountering rural or less-privileged contexts. A fuller values curriculum would benefit from pairing her work with short fiction from other traditions and perspectives to avoid presenting a single, homogeneous moral framework as universally representative. In addition, the reflective journaling method, while pedagogically valuable, poses assessment challenges, since grading personal reflection risks incentivizing performed sincerity rather than genuine engagement. The intervention addressed this to some extent by collecting journals for completion credit rather than for content grading, though this remains an area for further methodological refinement.

4.1 Recommendations for Curriculum Design

Based on the outcomes and limitations discussed above, three practical recommendations follow for technical institutions considering a similar intervention. First, story selection should be treated as an iterative, evidence-informed process rather than a one-time curricular decision, with instructors tracking which stories generate genuine debate versus passive agreement and adjusting the reading list accordingly across successive cohorts. This mirrors calls elsewhere in STEM pedagogy to categorize students by learning adaptability so that interventions can be targeted rather than applied uniformly (Shi 4). Second, faculty delivering this content, particularly technical faculty without formal humanities training, benefit from brief facilitation workshops focused specifically on open-ended questioning techniques and on resisting the temptation to supply a definitive moral reading of a story, since the latter tendency has been observed to suppress rather than stimulate student debate. Third, institutions should consider deliberately diversifying source material beyond a single author, using Murty's accessible, culturally proximate fiction as an entry point for students unfamiliar with literary discussion, while progressively introducing short fiction from other regional, linguistic, and cultural traditions to broaden the range of diversity. social and ethical perspectives that students encounter over the course of a program.

5. Conclusion

This article has examined how short fiction, specifically the accessible and morally direct stories of Sudha Murty, can be integrated into technical classrooms through active learning methods to support the development of human values such as honesty, humility, empathy, gratitude, and social responsibility. The analysis suggests that the combination of culturally proximate, easily digestible narrative with participatory pedagogical strategies, including role play, structured debate, and

reflective journaling, can produce meaningful engagement with ethical questions among students trained primarily in technical reasoning and can, in some cases, support the transfer of humanistic reasoning into technical-ethics contexts such as algorithmic fairness.

The findings should be read as an argument for the feasibility and promise of this approach rather than as a definitive claim of its superiority over other methods of values education, given the limitations around cultural range and assessment design noted above. Future work should examine longer-term effects on professional ethical judgment, compare outcomes across a wider range of authors and cultural traditions, and investigate the faculty development support that technical instructors require to effectively facilitate literature-based active learning. Institutions seeking to strengthen the human dimension of technical education may find in this model a low-cost, curricular flexible starting point: short, well-chosen stories, read closely and discussed actively, rather than an additional stand-alone course, may be sufficient to open space for values that a purely technical curriculum tends to leave unaddressed.

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Research Journal Of English (RJOE)

An International Peer-Reviewed English Journal, Impact Factor: 8.16(SJIF), Vol-10, Issue-1 (Jan-Mar), 2025

Indexed in: International Citation Indexing (ICI), Cite factor, International Scientific Indexing (ISI), Directory of Research Journal Indexing (DRJI) Google Scholar, Cosmos, and Internet Archives.

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