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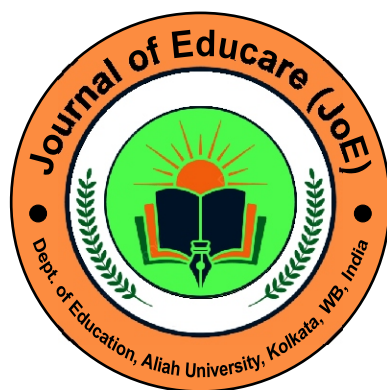
JOURNAL OF EDUCARE (JoE)

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About the Journal

The Journal of Educare (JoE) was launched in 2024 by the Department of Education, Aliah University, Park Circus Campus, 17 Gorachand Road, Kolkata-700014, West Bengal, India. This journal aims to disseminate information about theory, practice, and research in the field of education and its allied subjects. JoE is dedicated to advancing research and innovations in diverse fields within Educational Philosophy, Educational Psychology, Educational Sociology, Educational Technology, Inclusive Education, Open and Distance Learning, Value and Peace Education, Teacher Education, Women Education, Pedagogy of School Subjects, and Assessment and Evaluation, among others. JoE offers an online presence, enhancing accessibility for both readers and authors globally.

JoE is committed to embracing technological advancements, ensuring that the latest research is easily accessible online. This digital availability broadens the journal's reach, allowing it to engage with a global audience of scholars and researchers. JoE is a peer-reviewed, contributed, biannual journal. JoE will be published twice a year, from 2024 onwards, in January to June and July to December. The journal may be accessed at: <https://educare.aliah.ac.in>

The editorial board of JoE comprises experts from the diverse discipline of education who are eminent scholars from various prominent universities, ensuring that all submissions undergo thorough and rigorous peer review. The journal welcomes submissions from authors worldwide, providing a valuable platform for sharing research and fostering collaboration within the academic community.

Overall, the Journal of Educare (JoE) will play a crucial role in the dissemination of knowledge and research within the field of education and its allied subjects. Its dedication to high-quality research, a stringent peer-review process, and a strong online presence will make JoE an indispensable resource for researchers.



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Editorial

EDITORIAL

It is with great pleasure that we present **Volume 3, Issue 1 (June 2026)** of the *Journal of Educare (JoE)*, E-ISSN 3048-9652). This issue brings together a rich collection of interdisciplinary scholarship that reflects the dynamic intersections of education, society, culture, literature, technology, and policy. The contributions featured in this volume collectively demonstrate the transformative potential of research in addressing contemporary educational and social challenges.

The manuscripts are generally well-structured and demonstrate scholarly engagement with current educational challenges. The paper *"Bridging the Gap: Examining the Alignment Between Business Education and Industry Needs in Bangladesh"* addresses the critical issue of graduate employability and curriculum-industry alignment, offering valuable recommendations for strengthening industry-academia collaboration; however, greater justification of the sampling procedure and more detailed statistical reporting would further strengthen the study. *"Systemic Stressors and Institutional Efficiency: A Mixed-Methods Analysis of School Teacher Performance in West Bengal"* provides important insights into teacher stress and institutional effectiveness through a mixed-methods approach, although additional details regarding the construction and validation of the stress index would enhance methodological transparency. The study *"Role of the DIKSHA Platform in Teachers' Continuous Professional Development and Empowerment: A Systematic Review"* makes a timely contribution to the discourse on digital teacher development, though a more comprehensive discussion of the review protocol and inclusion criteria would improve its rigor. The paper examining English language education and literature in Bangladesh offers valuable reflections on linguistic and educational realities, while the paper on Banu Mushtaq's *Heart Lamp* presents a thoughtful analysis of gender and marginalization from an interdisciplinary perspective. Similarly, a study of Sri Lankan Tamil theatre explores the relationship between war, memory, and dramaturgical transformation, about Kulanthai M. Shanmugalingam's works contribute to an understanding of cultural memory and socio-political realities through literary analysis.

Overall, the manuscripts in this issue underscore the value of interdisciplinary dialogue and context-sensitive research. We hope that the insights presented here in will inspire scholars, educators, policymakers, and practitioners to engage in meaningful reflection and action toward more inclusive, innovative, and socially responsive educational futures. We acknowledge the valuable contributions of all those involved in bringing this issue together.

Editor-in-Chief



Prof. (Dr) Jakir Hussain Laskar

Journal of Educare (JoE)

Department of Education

Aliah University, Park Circus Campus, 9th Floor,
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JoE

Volume:3

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June, 2026





**BRIDGING THE GAP: EXAMINING THE ALIGNMENT BETWEEN BUSINESS
EDUCATION AND INDUSTRY NEEDS IN BANGLADESH**

Md. Mokshud Ali

*Associate Professor, Department of Business Administration, Bangladesh University, Dhaka,
Bangladesh. E-mail: md.mokshudali@gmail.com, ORCID id: 0000-0001-9335-485X*

Mohammad Jobir Monjur

*International Research Scholar, Academic Building 10, Tripura University, Suryamaninagar,
Bishalgadh, Tripura 799022, India. E-mail: jobairmonjur10@gmail.com
ORCID Id: 0009-0007-8615-0729*

Sharmin Akter Moni

*Bachelor of Arts, Times University Bangladesh, Faridpur, Dhaka.
E-mail: mrs.sharminaktermoni@gmail.com*

Masuda Akter

*Assistant Teacher, Kawlikanda Government Primary School, Faridpur, Dhaka, Bangladesh.
Email: masudaakter151995@gmail.com ORCID ID: [0009-0002-9968-6606](https://orcid.org/0009-0002-9968-6606)*

ABSTRACT

While business education in Bangladesh has increased significantly, businesses still doubt whether graduates possess the competences required in today's workplaces. This study examines the alignment between business education and industry needs by comparing employer and faculty expectations with final-year business students' self-assessed competencies. Data was obtained from 150 final year students, 50 employers and 50 faculty members in Dhaka and Chittagong through a standardised questionnaire. The analysis was based on curricular relevance, inter-personal skills, digital literacy, sustainability awareness, employability, internship experience, gender and industry-academia partnership. Reliability, normality, homogeneity of variance, and multicollinearity assumptions were checked before applying descriptive statistics, one-sample t-tests, independent-samples t-tests, Pearson correlations, and multiple regression. As a robust approach, bootstrapped confidence intervals based on 5,000 resamples were used. The results demonstrate a large positive curriculum mismatch, suggesting that the required competencies were higher than the students' perceived readiness. Digital-skill mismatch and sustainability perception were not substantially related to perceived employability. Internship experience and gender made no significant influence on curriculum mismatch. However, a stronger industry-academia relationship greatly diminished curricular mismatch. The findings support the Integrated Tertiary Educational Supply Chain Management perspective by demonstrating that curriculum design, industry input, experiential learning and institutional capabilities need to be coordinated to generate work-ready graduates. The report advises structured involvement of employers, quality ensured internships, integration of digital and sustainability aspects, and continual faculty development.



Keywords: Business Education, Digital Literacy, Employability, Industry-Academia Collaboration, Skills Mismatch, Sustainability.

1. INTRODUCTION

1.1 Broader Perspective

Business education contributes to economic development by training graduates for management, entrepreneurial, analytical and leadership roles. In Bangladesh, both public and private institutions have increased undergraduate and postgraduate business programs over the last two decades, but the expansion has sharpened concern regarding the labour-market applicability of graduate outcomes (Hasan et al., 2024; Hossain, 2025). Employers are demanding more and more from graduates in terms of applied problem-solving, communication, teamwork, digital capability, and awareness of sustainability issues, while many programs are still heavily reliant on theoretical instruction and examination-based assessment (Islam et al., 2025; Mehta & Singh, 2024). So the important policy challenge is not only whether business schools are turning out more graduates, but whether they are turning out graduates whose abilities meet the needs of industry. The issue's urgency has been further heightened by the Fourth Industrial Revolution as business operations increasingly demand data-driven decision-making, digital communication, automation awareness, innovation, and adaptability (Brown & Lee, 2023; Zhang & Li, 2024). Meanwhile, environmental, social, and governance requirements have made sustainability knowledge a mainstream employability issue rather than a fringe topic. In this context, business schools in Bangladesh need systematic evidence on where mismatches exist and which institutional measures might minimise them. This study adopts the Integrated Tertiary Educational Supply Chain Management (ITESCM) lens to explore business education as a coordinated process in which students, faculty, employers, curriculum designers, infrastructure, and institutional culture interact to produce employable graduates (Chowdhury et al., 2025; Khan et al., 2014). In this view, graduates are not considered passive products; rather, graduate competency is influenced by curriculum relevance, instructor competence, industry participation, evaluation techniques, learning resources, and feedback mechanisms. The study therefore goes beyond a generic assumption that a skills gap exists and empirically evaluates specific weaknesses in curriculum relevance, interpersonal skills, digital literacy and sustainability consciousness. It also tests whether differences in perceived mismatch can be explained by internships, gender and industry-academia partnership.

1.2 Research Problem and Significance

Despite being one of the most popular subjects of study in Bangladesh, many employers estimate that a significant number of business graduates need further training for effective job performance (Islam et al., 2025). The problem is of importance to universities, employers, students and policy officials. A chronic discrepancy impacts the credibility of the programs



and placement of graduates for colleges. For firms, it raises recruitment and training costs. It undermines confidence for pupils and slows transition into meaningful work. For policymakers, it raises problems of the quality and efficiency of higher education investment. While existing research have examined employment difficulties, educational supply chain models, and curriculum alignment, the evidence remains unequal (Hasan et al., 2024; Rahman & Akter, 2024; Sultana & Hossain, 2023). Much of the work done so far is conceptual, descriptive, or qualitative, with fewer studies comparing stakeholder expectations with student self-assessment on emerging competencies like as digital literacy and sustainability. Moreover, the roles of internship experience, gender, and structured industry collaboration are still under-investigated in the context of business education in Bangladesh. These deficiencies need to be filled as curricular change must be evidence-based rather than perception-based.

1.3 Research Objective and Contributions

The main purpose of this study is to assess the gap of business education and industry requirement in Bangladesh. In particular, the study intends to (i) assess the mismatches between employer and faculty expectations and students' perceived competencies in curriculum relevance, interpersonal skills, digital literacy and sustainability awareness; (ii) investigate whether internship experience and gender are associated with differences in curriculum mismatch; and (iii) evaluate whether industry-academia collaboration reduces curriculum mismatch and whether digital and sustainability competencies are linked with perceived employability. The contribution of the work is threefold. First, it advances skills-mismatch research by integrating digital and sustainability capabilities together with traditional curriculum and interpersonal dimensions. Second, it enhances the theoretical framework by using ITESCM and the Theory of Planned Behaviour to explain how institutional coordination and student perception affect employability preparedness. Third, it increases methodological transparency by explicating the target population, sample logic, statistical assumptions and robustness techniques.

1.4 Organization of the Study

The rest of the manuscript is organised as follows. Section 2 covers the literature on skills mismatch, educational supply chain models, digital competences, sustainability integration, experiential learning, and the theoretical foundations of the study. The research design, the target population, the sampling technique, the measurement tools, the statistical assumptions, and the data-analysis strategy are described in Section 3. Section 4 contains descriptive and inferential results with statistical tables. Section 5 explores the findings in relationship to past literature and theories. Section 6 gives suggestions on curricular improvement and stakeholder involvement. Section 7 discusses robustness tests and Section 8 closes the paper with limits and ideas for future research.



2. LITERATURE REVIEW

2.1 Skills Mismatch and Educational Supply Chain Models

Skills mismatch occurs when graduate competencies do not correspond with the knowledge, skills, and attitudes expected by employers. In business education, mismatch may appear in theoretical knowledge, applied decision-making, communication, professional ethics, technological ability, and workplace readiness. Research in Bangladesh and comparable developing contexts suggests that employers value practical exposure, communication, problem-solving, adaptability, and professionalism, while graduates often report limited opportunities to practice these competencies in classroom settings (Islam et al., 2025; Lee et al., 2023). Educational supply chain models provide a useful way to analyze this problem because they view higher education as a system that transforms inputs into graduate outcomes through curriculum, pedagogy, faculty development, infrastructure, and stakeholder feedback (Devi & Kumar, 2023; Mat Ishah et al., 2022). The ITESCM model is particularly relevant because it emphasizes coordination among universities, students, faculty, employers, and society. From this view, mismatch is not caused by students alone; it reflects weak feedback between industry needs and academic processes. Therefore, curriculum review, employer input, faculty training, and learning resources must operate together if business schools are to reduce graduate capability gaps.

2.2 Digital Competencies and the Fourth Industrial Revolution

“Digital literacy is now a basic employability skill for business careers. Graduates should be skilled in the usage of spreadsheet modelling, data visualisation, enterprise systems, online communication platforms, digital marketing tools, analytics software, and basic artificial intelligence applications. Industry 4.0 has altered the nature of work in businesses, making decision-making more data-intensive and technology-mediated (Brown & Lee, 2023; Zhang & Li, 2024). However, the incorporation of digital information in many corporate programs is inconsistent. Some courses involve computer applications but digital skills are generally taught as standalone technical topics rather than embedded through the curriculum in accounting, finance, marketing, operations, human resource management and entrepreneurship. This poses a risk that graduates are knowledgeable about business theories but unable to apply them with digital tools. A curriculum that fulfils the demands of industry should therefore include a mix of conceptual understanding and repetitive practice of data management, digital communication and technology-supported problem resolution.



2.3 Sustainability and ESG Integration in Business Curricula

Sustainability and environmental, social and governance (ESG) issues are becoming more significant in business decision-making. Organisations are expected to address social responsibility, ethical supplier chains, environmental risk, sustainability reporting and inclusive growth (Taecharungroj, 2023). Awareness of sustainability can strengthen ethical judgement and prepare business graduates for emerging jobs in compliance, reporting, operations, finance and strategic management. But sustainability is typically considered as a separate subject, rather than as an overarching business skill. However, empirical evidence about the amount of sustainability integration in business curriculum in Bangladesh is scarce. Employability research indicates that quality education and institutional resources affect graduate preparation (Hasan et al., 2024). Better curriculum would link sustainability to accounting disclosure, green finance, responsible marketing, human resource diversity, supply chain resilience and entrepreneurship. In the present study, sustainability awareness is added as an individual skill domain because the demands of employers are increasingly extending beyond traditional business knowledge.

2.4 Industry-Academia Collaboration and Experiential Learning

Industry-academia partnership is often considered a means to reduce skills mismatch. Collaboration may take the form of internships, guest lectures, curriculum advisory boards, employer-led case competitions, mentorship, collaborative projects, professional certifications, and faculty-industry interchange (Othman et al., 2016; Rajibussalim et al., 2016). Experiential learning helps students link classroom concepts to real-world challenges, and employers gain a direct channel to communicate their expectations of skills to universities. However, internships are not automatically successful. Their worth is a function of time, supervision, assigned tasks, feedback and integration with academic assessment. A brief or poorly supervised internship might not have much of an influence on students' sense of preparedness. The analysis consequently differentiates between the internship experience as an individual exposure and the larger industry-academia collaboration as an institutional practice. This distinction helps to explain why an internship alone may not eliminate mismatch unless it is embedded inside a consistent collaborative framework.

2.5 Theoretical Foundation

The investigation is guided by two theoretical approaches. The first is the explanation of alignment as the result of a coordinated educational supply chain (Chowdhury et al., 2025; Habib, 2010; Khan et al., 2014). Curriculum, instructor capability, institutional culture, facilities, student participation and employer feedback are inter-dependent elements. If any component is weak, the outcomes for graduates may not meet the expectations of the employment market. This view supports the idea that there should be less mismatch in the curriculum with a greater level of industry-academia collaboration since employer feedback improves the relevance of the curriculum and practical experience. Secondly, Theory of



Planned Behaviour (TPB) is applied to explain students' perceived employability. According to TPB, attitudes, subjective norms and perceived behavioural control influence intentions and behaviour (Ajzen, 1991). In the present study, students' judgements of digital aptitude, sustainability consciousness, internship experience, and curricular relevance may influence their confidence in getting a job. For example, students may report a better view of employability if they perceive that they have relevant competences and influence over job preparation. This study integrates ITESCM and TPB to link institutional alignment with individual employability perception.

2.6 Research Gaps

The literature shows a number of gaps. First, although many studies document a wide skills gap, they do not quantify mismatches across key business competency categories (Islam et al., 2025; Mehta & Singh, 2024). Secondly, the Bangladeshi business education studies have paid little attention to digital literacy and sustainability consciousness. Thirdly, earlier research generally mention internship and collaboration together, although individual internship experience may be quite different from systematic industry-academia partnership. Fourth, there is often a lack of methodological transparency about target population, sampling boundaries, assumptions for parametric tests, and robustness checks. The present work fills these gaps by using multi-stakeholder survey data, generating measurable mismatch scores, stating statistical assumptions, and presenting inferential conclusions in tables.

2.7 Hypotheses

Based on the above literature and theoretical foundation, the study tests five hypotheses. H1: The mean curriculum-relevance mismatch between expected competencies and student perceptions is positive and significant. H2: Digital-skill mismatch is negatively associated with students' perceived employability. H3: Students with internship experience report smaller curriculum mismatch than students without internship experience. H4: Curriculum mismatch differs significantly by gender. H5: Students' perception of sustainability integration is positively associated with perceived employability.

3. METHODOLOGY

3.1 Research Design, Target Population, and Sampling

The study's design was a quantitative cross-sectional survey. The target market included final year undergraduate and master's level business students in Bangladeshi public and private universities, employers who hire business graduates, and faculty members involved in business education. Final-year students were selected because they are nearest to the labour-market entry and able to assess their program experience. Employers were included as they reflect industry



expectations and faculty members were included as they are knowledgeable about curriculum design and academic delivery. Because a complete national sampling frame was not available and because the study was exploratory, purposive sampling was adopted. The final sample includes 150 students, 50 employers and 50 faculty members from Dhaka and Chittagong. Employers came from the financial, manufacturing, retail, service and associated business areas. This sample technique promotes stakeholder diversity but does not allow complete statistical generalisation to all Bangladeshi business schools. Thus, the results should be seen as evidence from a meaningful multi-stakeholder sample rather than a nationally representative estimate.

3.2 Measurement Instruments

Data were collected using a standardised questionnaire, which was developed from previous research on skills mismatch and employability (Hasan et al., 2024; Islam et al., 2025). Questionnaire was sectioned into four parts. The first section collected demographic information such as gender, age, type of university, and internship experience. The second component appraised perceived competencies. Students judged their own preparedness in curricular relevancy, interpersonal skills, digital literacy, and sustainability consciousness on a five-point Likert scale (1 = very poor, 5 = very high). Employers and faculty members evaluated the expected level of graduate proficiency using the same scale. The third element examined industry academia collaboration through student exposure to internships, industry projects, guest lectures, mentorship and employer interaction. These were aggregated into a collaboration index. The fourth part examined perceived employability by asking students to rate their confidence of getting a relevant job after graduation. A pilot test was conducted with 20 students to refine phrasing and clarity. Cronbach's alpha for the multi-item scales ranged from 0.72 to 0.86, which above the generally recognised 0.70 level.

3.3 Variable Construction

The expected competency scores were calculated by averaging the employer and instructor ratings for each competency domain. Student perceived scores were based on student self-reports. Mismatch scores were then calculated as expected competency minus perceived competency. Positive numbers imply that stakeholder expectations are higher than how prepared students think they are. numbers closer to zero indicate more alignment. For assessments of curriculum relevance, internship experience, gender and industry engagement, the primary dependent variable was curriculum match. A correlation analysis was performed between the digital-skill mismatch and sustainability perception with the perceived employability. Control variables in regression analysis were gender, internship experience and type of university as appropriate.



3.4 Statistical Assumptions and Data Analysis

Data were analysed by descriptive statistics, one sample t-tests, independent-samples t-tests, Pearson correlations and multiple regression. The primary variables were composite scale scores, the sample size consisted of 150 students, and preliminary diagnostics did not reveal serious breaches leading to the selection of parametric tests. Skewness, kurtosis, histograms and Shapiro-Wilk tests were used to test normality. Some variables had small violations of normality, while skewness and kurtosis were within acceptable ranges for composite data in survey research and the sample size was sufficient to justify the use of t-tests based on the central limit theorem. Independent-samples t-tests homogeneity of variance was tested using Levene's test. Where equality of variances could not be established, Welch-adjusted findings were evaluated. Linear relationships were examined using Pearson correlations and scatterplots were examined to ensure that the relationships were not strongly non-linear. To study the influence of industry-academia collaboration on curriculum mismatch controlling for demographic variables, multiple regression analysis was performed. Multicollinearity was determined via variance inflation factors. The significance level was set at $p < 0.05$. Bootstrapped confidence intervals were produced for important coefficients to improve robustness, based on 5,000 resamples. Bootstrapping was employed because technique does not need precise normality of the sampling distribution, and is suited for generating more stable confidence intervals in moderate sized survey samples.

4. RESULTS

4.1 Sample Profile and Descriptive Statistics

The sample was 150 final year business students, 50 employers and 50 faculty members. The student responders were males and females from public and private universities. Some students had already completed an internship, others had not yet gained experience in a formal workplace training. The descriptive data indicate that predicted competency ratings were consistently higher than students' perceived competencies across all four domains. The highest mean mismatch was in sustainability awareness followed by digital literacy, curriculum relevance and interpersonal skills. This tendency suggests that employers and academics seek more robust applied, technology and sustainability-related preparation than students believe they possess today.

Table 1. Mean Expected Competencies, Perceived Competencies, and Mismatch Scores

Competency domain	Expected mean	Perceived mean	Mismatch mean
Curriculum relevance	3.90	3.20	0.70



Competency domain	Expected mean	Perceived mean	Mismatch mean
Interpersonal skills	4.00	3.40	0.60
Digital literacy	3.80	3.00	0.80
Sustainability awareness	3.70	2.80	0.90

4.2 Hypothesis Testing

The inferential findings offer equivocal support for the hypotheses. The one-sample t-test indicated that the curriculum-relevance mismatch was considerably bigger than zero, therefore confirming H1. This suggests that businesses and professors had greater expectations of curriculum-related competencies than students believed. However, digital-skill mismatch was not substantially connected to perceived employability and H2 was not substantiated. Likewise, curriculum mismatch did not significantly differ by internship experience and gender. Therefore, H3 and H4 were not supported. In addition, the association between perception of sustainability and employability was not significant, therefore H5 was not supported. The results indicate that students may not yet completely associate digital and sustainability competencies with employability even if employers and faculty perceive these competencies as crucial.

Table 2. One-Sample t-Test for Curriculum-Relevance Mismatch

Variable	Mean mismatch	Test value	t	p	Decision
Curriculum relevance	0.70	0	15.41	< .001	H1 supported



Table 3. Pearson Correlations with Perceived Employability

Relationship	r	p	Interpretation	Decision
Digital-skill mismatch and employability	-0.045	.580	Not significant	H2 not supported
Sustainability perception and employability	-0.047	.570	Not significant	H5 not supported

Table 4. Independent-Samples t-Tests for Curriculum Mismatch

Grouping variable	t	p	Interpretation	Decision
Internship experience	0.12	.900	No significant difference	H3 not supported
Gender	0.05	.960	No significant difference	H4 not supported

4.3 Regression Analysis

Multiple regression was used to test whether industry-academia collaboration predicted curriculum mismatch, controlling for demographic characteristics. The collaboration measure was negatively and significantly related to curriculum mismatch ($\beta = -0.26$, $p = .020$). This finding implies that students who indicated more exposure to industry projects, guest lecturers, mentorship, and company interaction were more likely to claim reduced curriculum mismatch. In contrast, no significant impacts were found for internship experience and gender. The result is noteworthy as it indicates that isolated internships are probably not enough, but continuous and systematic cooperation between institutions and industry is more likely to improve alignment.



Table 5. Regression Summary for Curriculum Mismatch

Predictor	Standardized beta	p	Interpretation
Industry-academia collaboration	-0.26	.020	Significant negative effect
Internship experience	Not significant	> .05	No independent effect
Gender	Not significant	> .05	No independent effect
University type	Controlled	--	Included as a control variable

4.4 Interpretation of Skill Gaps

The data demonstrates that the mismatch is not limited to one competency area. The highest description gaps were seen in the areas of sustainability awareness and digital literacy, which means that the rising competences are still not fully adopted in business education. There was also a statistically significant gap in curriculum relevance, which suggests students perceive a mismatch between what they learn in the classroom and what they need to know to work in the business. The description gap was smallest for interpersonal abilities, but the mismatch was nonetheless relevant, given that communication and teamwork are central to business employability. The lack of strong connections with employability should not be construed as evidence that digital and sustainability competencies are not relevant. Rather, they may reflect that students are underestimating the labor-market worth of such competencies, or that employers have not effectively conveyed their expectations through recruitment and curricular feedback systems.



5. DISCUSSION

The findings have established that there is a significant gap between what is taught in the business education sector and the requirements of the industry in Bangladesh. The substantial gap in the curriculum confirms prior claims that business programs tend to concentrate more emphasis on theoretical knowledge than on applied workplace ability (Hossain, 2025; Islam et al., 2025). From the ITESCM point of view, this mismatch demonstrates the lack of coordination across curriculum design, teaching techniques, input from employers and practical learning tools. Curriculum relevance is not increased by just adding new course titles, but demands constant stakeholder feedback, applied evaluation, faculty development and resource assistance. Thus, the negative effect of industry-academia collaboration on curriculum mismatch is theoretically consistent. Students who engage with companies via projects, mentoring, guest lectures, and other collaborative activities are more likely to comprehend workplace expectations and assess their readiness more accurately.

The absence of substantial difference between students with and without internship experience must be interpreted with caution. This does not necessarily mean that internships are pointless. Instead, it proposes that the internships experienced by students may differ in quality, duration, supervision and relevance. If internships are comprised of mundane administrative activities without planned learning outcomes, they may not reduce curriculum mismatch. The research refines prior assertions on experiential learning by showing that the quality and integration of internships matter more than participation alone (Othman et al., 2016; Rajibussalim et al., 2016). Universities should therefore view internships as academic learning experiences with clear objectives, supervision, reflective reports and employer evaluation.

The non-significant gender effect implies that male and female students reported equivalent degrees of curriculum mismatch. This shows that the alignment problem is systemic and not isolated to one gender group. But equal mismatch does not mean equal opportunity in all ways. Future study should explore if access to high-quality internships, mentoring, digital tools, and professional networks varies by gender or socioeconomic categories.



Digital-skill mismatch and sustainability perception did not have a significant relationship with perceived employability. This conclusion is surprising as contemporary labour markets increasingly value digital and ESG-related competencies (Brown & Lee, 2023; Taecharungroj, 2023; Zhang & Li, 2024). One possible explanation is that students still associate employability mainly with general business knowledge, communication skills, and degree completion. Alternatively, it could be that businesses do not consistently indicate digital and sustainability needs in entry-level recruitment. Thus, the conclusion has both theoretical and practical implications. According to TPB, students' confidence in their employability is dependent on perceived behavioural control and salient beliefs (Ajzen, 1991). If students don't see digital and sustainability skills as vital to employment, these abilities may not impact employability perception even if they are objectively important. At the ground level, colleges and businesses need to communicate these expectations through curriculum, assessment, career services, and recruitment communication.

Overall, the study contributes to the literature by demonstrating that curriculum mismatch remains important, that emerging competencies reveal huge descriptive gaps, and that structured industry-academia collaboration is more influential than internship participation alone. The findings suggest a multi-stakeholder approach to curriculum reform in which business schools act as adaptable educational supply chains and use employer feedback to continuously improve learning outcomes (Chowdhury et al., 2025; Devi & Kumar, 2023).

6. RECOMMENDATIONS

First, business schools should institutionalise frequent curriculum revision with employer involvement. Advisory boards should include employers, alumni, academics, students and professional groups. Their job should be to review learning outcomes, course material, assessment methodologies and developing skill demands at least once per academic year. Second, digital competencies should be infused throughout the curriculum rather than limited to a single computer subject. Students are expected to routinely utilise data analytics, spreadsheet modelling, digital communication tools, presentation software, business simulation, and basic AI-enabled apps in discipline-specific courses. Third, accounting, finance, marketing, management, entrepreneurship, and supply chain courses should include sustainability and ESG subjects. This integration should focus on actual situations, reporting requirements, ethical decision-making, and local business relevance.



Fourth, we should rethink internships as quality assured experiential learning. Each internship will have specified learning outcomes, a workplace supervisor, a faculty supervisor, minimum time requirements, reflective assessment, and employer feedback. Fifth, colleges need to broaden industry-academia partnership through actual projects, guest lectures, mentorship, case competitions, faculty advice, and joint research beyond internships. 6. Prioritise faculty development. Teachers should have regular exposure to industry practice, digital technologies, case-based teaching and sustainable innovations. Finally, colleges should manage access and equity so that all students, regardless of gender, kind of institution, or socioeconomic background, can participate in meaningful industry-related learning.

7. ROBUSTNESS CHECKS

Confidence in the findings was enhanced by using different approaches. Reliability, measured by Cronbach's alpha, varied from 0.72 to 0.86 for multi-item scales, demonstrating acceptable internal consistency. Histograms, skewness and kurtosis normality diagnostics did not demonstrate serious deviation for the key composite variables. For independent-samples t-tests, homogeneity of variance was tested using Levene's test, and interpretation was corrected based on the case where variance equality is uncertain, where the Welch adjustment is used. Multicollinearity was modest (variance inflation factors <2.0). Sensitivity studies with other mismatch calculations yielded substantively comparable results. The important estimates were derived using bootstrapped confidence intervals with 5,000 resamples. Bootstrapping yields more robust interval estimates when sample size is moderate and normality cannot be assumed perfectly. These checks confirmed the large positive curriculum mismatch and the negative link between industry-academia collaboration and curriculum mismatch.

8. CONCLUSION

This study investigates the congruence between business education and industry needs in Bangladesh through survey results from students, employers and faculty members. The research title was kept, but the analysis was altered to clarify the theoretical underpinning, methods, assumptions, and statistical interpretation. The findings indicate that stakeholder expectations exceed students' perceived competencies, especially in sustainability awareness, digital literacy, and curriculum relevance. Curriculum mismatch was statistically significant, indicating a need for business schools to align better with industry requirements. Perceived employability was not significantly related to digital-skill mismatch and sustainability perspective, and curricular mismatch was not significantly influenced by internship experience and gender. However, industry-academia partnership had a major impact on reducing curriculum mismatch, pointing to planned and persistent employer engagement as being key to increasing graduation preparation. This research contributes to the business education literature by integrating the ITESCM with the TPB, quantifying the significance of particular competency gaps, and differentiating



between internship engagement and wider industry involvement. Its limitations must be recognised. The sample was purposeful and restricted to chosen stakeholders in Dhaka and Chittagong. Therefore, the results should be generalised to all Bangladeshi universities with care. The cross-sectional design also does not allow causal inference. Future research should engage with larger nationally representative samples, longitudinal designs, employer performance data, and qualitative interviews to explore how curricular modifications effect actual job outcomes over time.

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SYSTEMIC STRESSORS AND INSTITUTIONAL EFFICIENCY: A MIXED-METHODS ANALYSIS OF SCHOOL TEACHER PERFORMANCE IN WEST BENGAL

Shashi Bhusan Mishra

Assistant Professor in Economics, Department of Economics, Aliah University, Kolkata, India. ORCID ID: <https://orcid.org/0000-0002-2871-756X>

Shrayan Banerjee

Ph.D Research Scholar, Department of Economics, Aliah University, Kolkata, India.

Corresponding author E-mail: shashi@aliah.ac.in

ABSTRACT

The paper tries to explore statistically the connection between stress from external factors in the work environment and how teachers perform in West Bengal's educational system. We used a mixed-method design, involving a sample of 104 teachers. We collected data through convenient clustering and purposive sampling in five densely populated districts. For the quantitative analysis, we used Pearson correlation tables and chi-square cross-tabs, along with inductive theme-based qualitative analysis. The study reveals serious system issues. Eighty-six percent of the surveyed teachers have moderate to high stress levels, with an average stress level of 0.62 (SD = 0.24). Contrary to popular belief, higher stress levels are not linked to working overtime, as teaching hours did not significantly correlate with stress. However, non-teaching duties turned out to be a major source of work-related stress. Stress leads to inefficiency in the institution and is significantly related to skipping classes ($r = 0.31$, $p < 0.05$) and poor syllabus coverage.

Keywords: Teacher Stress, Non-academic Workload, Econometric Analysis, Mixed-Methods, West Bengal.

INTRODUCTION

Among all the existing professions, teaching is one that is demanding. Teaching as a profession is distinctive due to its unique combination of skills required for nurturing students. The skills include intellectual, emotional and social from macro perspectives, though there might be various micro skills existing as well within teachers that vary across individuals. For shaping the minds of students who are the future generations, the performance of teachers is quite vital, and the way of instructional delivery has a direct impact on the quality of education. The teaching profession is at many times distinguished by high levels of workplace stress, which can negatively impact teachers' performance, job satisfaction, and overall well-being. Bhattacharjya and Choudhuri (2024) showed that stress comes significantly from working



conditions, which in turn adversely affect job satisfaction and performance. A huge workload, limited access to resources, and high expectations from students and other stakeholders are only some of the challenges that schoolteachers face in West Bengal. The education system in West Bengal is regulated by various rules and regulations, which might sometimes be the cause for stress for the teachers. Literature shows that almost one-third of teachers and administrators in privately managed institutes in West Bengal experienced high levels of work-related stress, indicating substantial workload pressure, (Bhuin, 2017). On the other hand, from the perspective of social and economic context in West Bengal, the state has a diverse student population and heterogeneous levels of infrastructure that might further increase the challenges faced by teachers. Stress for teachers is due to the academic works, non-academic responsibilities, and administrative duties. As pointed out by Wang (2024), educators need to balance pedagogical duties and administrative functions, including planning, instruction, grading, and record keeping. The existence of the diverse and demanding responsibilities leads to a strong correlation among elevated stress, burnout, and job dissatisfaction. It impacts the teachers' well-being and also affects student outcomes and overall school performance. Thus, understanding these stressors is crucial for achieving a healthier work environment improvement of the quality of education which is imparted.

The current paper focuses on exploring and analysing the impact of stress at workplace on the performance of the teachers in West Bengal. The main focus is on the workload, use of time, and financial gain verses the stress suffered. We aim to identify the factor which is responsible for the stress at workplace, Further; we aim to investigate the impact of the workplace stress on the performance of the teacher in terms of class performance, coverage of syllabus, preparation for the class and also on their personal life. The findings of the work are expected to provide an insight into the challenges faced by the teachers in West Bengal. This could encourage policy interventions in terms of reduction of workplace stress as a way to improve the performance of the teachers. This can help to develop targeted strategies to support teachers and to enhance the overall quality of education in West Bengal.

To analyze the connection between stress and teaching effectiveness, the current research uses the Job Demands-Resources (JD-R) Model as the theoretical framework (Demerouti et al., 2001; Bakker & Demerouti, 2017). According to the JD-R model, any occupation can be divided into two elements – job demands and job resources. Job demands refer to the characteristics of one's work, which involve constant physical or mental strain. These include a significant amount of classes, managing classrooms, and other job demands created by the administration. Job resources can be defined as the physical, social, or organizational means of helping to achieve organizational objectives, reducing job demands, and facilitating employees'



growth and development. Job resources used in the present research will include financial benefits, organizational support, and professional autonomy. If the structural job demands exceed the job resources on a persistent basis, the process of energy depletion takes place resulting in poor health outcomes, high burnout, and inefficiency. In contrast, providing strong job resources promotes greater engagement and commitment among staff members. The research hypothesis suggests that increasing administrative job demands leads to the exhaustion of the teachers' energy reserves, creating a spill over effect, such as a decreased syllabus cover rate and more frequent absences.

REVIEW OF RELATED LITERATURE

Previous studies have demonstrated that teaching is a job that is generally acknowledged as having a high level of stress which can have a negative effect on performance and wellbeing. Research has started to explore factors on a personal, institutional and environmental basis that creates this stress and its effects. Previous research indicates that several factors relating the teachers' personal characteristics as well as their work environment contribute to the stress experienced by teachers and its influence on their classroom effectiveness. The example of using stress and school teachers' performance as variables showed a negative (a higher stress level was related to lower job performance) showing the relationship of the variables. This illustrates the impact of stress as a personal problem where it has a direct impact in education. Specific aspect studies of work related stress are studied in further research. The researchers discovered that teachers tend to have moderate levels of stress with workload demands being one of the main reasons for their stress (Sarabia&Collantes, 2020). They also found evidence that the teaching performance is affected by gender and professional role—female teachers and those with higher positions, as in their study, tend to achieve more relatively. In a study by Chowdhury et al. (2025) the authors show that mental health has been a significant factor determining teachers' job satisfaction. The study showed that especially in the context of India and particularly West Bengal stress is a dominating factor. The findings of their research indicate that ensuring psychological wellbeing of the teachers is critical to both job satisfaction and satisfaction with performance. Studies by Chahar and Bhardwaj (2025) found several stressors, like emotional exhaustion, classroom management trouble, administrative problems, and lack of appreciation as important factors impacting the performance of teachers.

The burden of non-academic responsibilities is another important factor that emerges in literature. Based on a study conducted by Paramanik and Barman (2025) it has been revealed that overburdened workload in non-educational activities has a significant impact on the lives of the teachers of secondary schools in West Bengal. This extra workload reduces class time



available for key teaching and reduces stress levels. In general, the previous studies uniformly indicate that there is significant relationship between stress at work and instruction abilities of teachers. Across studies, factors like heavy workload, administrative duties, and inadequate institutional support come up frequently, as seen in recent studies such as Wang's (2024) and Bhui's (2017) works in this area. These include heavy workload, administrative responsibilities, and insufficient institutional support, which are frequently cited in multiple studies, including Bhattacharjya and Choudhuri (2024) and Wang (2024). Based on these findings, a need for focussed intervention in the reduction of the stress and improvement in the conditions of work arises, especially in structural and institutional influenced areas of West Bengal. But, there are some limited empirical researches, which include mixed methodology that looked at the synergic effect of non-academic, time utilization, financial stress on teachers' performance in the backdrop of West Bengal. This study is an attempt to fill the gap.

After reviewing previous literature, it becomes clear that the positive relationship among classroom hours (CT), occupational fatigue and the direct hours of non-academic demands that affect the academic stream (AM) are well established; however, the systemic stresses of exogenously imposed, non-academic demands require a path analytic framework. Figure 1 specifies a conceptual framework that is grounded in the basic principles of the Job Demands-Resources (JDR) model, which form the basis for this investigation. This model uses a diagram to show the internalisation of external workload stresses and how it manifests into decreasing external benefits and finally into actual consequences of the stress, in the form of lack of efficiency or inability to retain teachers in their jobs.

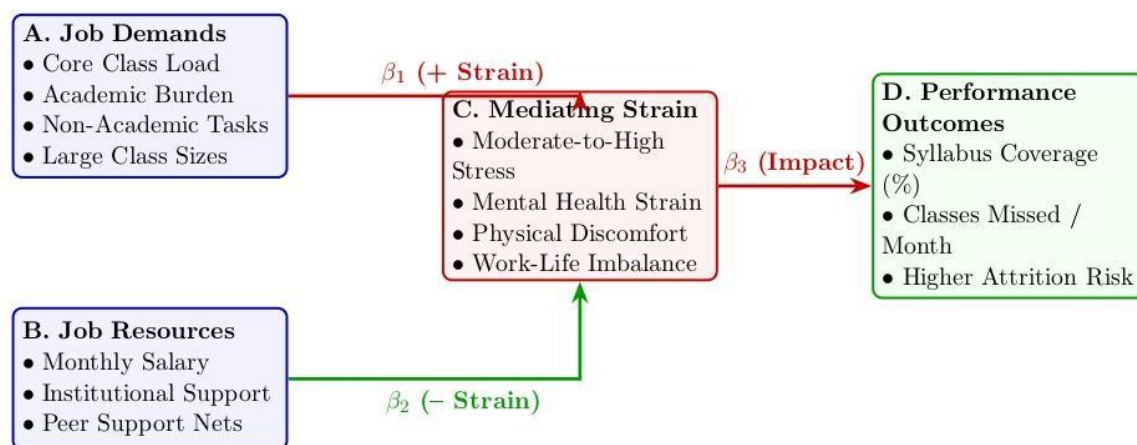


Figure 1: Conceptual Framework of Institutional Demands, Mediating Strain, and Teacher Performance Outcomes.

As illustrated in figure 1 above, the structural dynamics in teacher performance are captured through the exogenous path structure divided into four distinct categories. First, there is the “Primary Stress Vector” (Job Demands). Here, the fundamental stressors operating in the context of West Bengal’s schooling institutions are included. Although instructional time remains constant, adding the extra job of undertaking administrative activities like conducting elections or participating in the census as representatives of the government increases the workload, which in turn leads to operational friction. Second, the “Buffer Matrix” (Job Resources) represents the economic and institutional cushions available to the worker. Financial reward constitutes an important resource. Given the low salaries for these workers (< Rs. 30,000 per month), this buffer resource runs thin, thereby exposing teachers to excessive occupational stress. Third is the “Mediating Strain Nexus.” This is the effect on the individual teacher. The combination of high demand and low resources creates a serious health and well-being challenge. Our empirical data supports the occurrence of this crisis through the prevalence of reported mental stress experienced by 80.8% of our respondents and spill-over effects that negatively affected their private lives in 57.7%. Finally, it includes “Downstream Performance Disruptions.” This terminal block denotes the disruption of institutional efficacy. The strain has direct implications that result in operational challenges. These include a significantly negative relationship with the number of courses completed ($r=-0.29, p<0.05$) and positively correlated with absenteeism ($r=0.31, p<0.05$). This system failure ultimately increases the likelihood of attrition, with 40.4% wanting to leave. In order to build on this theoretical framework, we shall define the research objectives in the next section.



OBJECTIVES OF THE STUDY

Based on the above discussion, we have developed three specific objectives for our study:

1. Workload Optimization Analysis: To assess the effect of academic loads and other non-academic responsibilities imposed exogenously on the performance of instructional outcomes in terms of syllabus coverage, class preparation and teacher absenteeism.
2. Temporal Allocation Matrix: To conduct a full-scale time-use analysis of the allocation of the finite 24-hour cycle of school teachers in professional mandates, domestic labour and recuperative leisure.
3. Socio-Economic Strain Mapping: To study the mathematical relationship of income compensation structures and the observed occupational stress indexes and to assess the impact of income precarity on professional satisfaction.

RESEARCH QUESTIONS

1. What is the impact of different levels of non-academic administrative duties on quantitative measures of classroom performance and teacher well-being?
2. What are the structural characteristics of a teacher's 24-hour time allocation model when subjected to competing professional and personal demands?
3. Does income precarity display a significant correlation with heightened psychological and physical burnout metrics among school educators?

DATA AND METHODOLOGY

a. Design of the Study

The present study used a convergent mixed-method design to understand the problem of workplace stress among school teachers in West Bengal and its relationship with teacher performance. The design collected quantitative data on workload, stress indicators and demographic characteristics and qualitative data from open-ended questions on challenges, coping mechanisms and perceived solutions. This approach allows for the triangulation of findings, using qualitative insights to explain and contextualise statistical patterns (Creswell & Plano Clark, 2017).

b. Sample and Sampling Technique

We use a purposive sampling technique for choosing teachers from different districts of West Bengal. The sample districts included Kolkata, North 24 Parganas, South 24 Parganas, Hooghly and Howrah. From the selected districts, we choose the sample. Although 128



teachers were surveyed, the final sample after cleaning consisted of 104 school teachers. The teacher's participation was voluntary in the survey. Though the sample size is small, limiting the statistical generalizability to the entire population of teachers in West Bengal (estimated to be more than 400,000), but adequate for an exploratory mixed-methods study. Further, it allows for in-depth thematic analysis (Guest et al. (2006) who suggest saturation is often achieved within 12-30 interviews for qualitative themes. The sample comprised teachers from Government schools (n=28, 26.92%), Private schools (n=56, 53.85%), Aided and Missionary schools (n=20, 19.2%).

c. Data Collection Instrument

Teachers were given a structured questionnaire to collect the data. The instrument captured data in a number of domains:

Firstly demographic characteristics of the teachers like their age, gender, religion, teaching experience, district of residence, nature of employment, monthly salary, school type, medium of instruction and teaching level were asked. The second part of the questionnaire focused on the indicators of workload. These involved information regarding the school duty hours per day, time to class teaching, administrative work (academic and non-academic), number of classes taught per week, and subjects taught.

The third section focused on measures of stress and well-being of the teachers. For this, a set of Likert and dichotomous questions was asked. These questions related to physical discomfort, mental health problems, burnout, job insecurity, feelings of exploitation, resignation intention, and perceived discrimination. The next section focused on indicators of performance by the teacher (self-reported). This involved questions related to the coverage of the syllabus (in percentage terms), the number of classes missed per month and the perceived effectiveness of syllabus coverage. The fifth section captured the coping and support mechanisms. Questions about stress management strategies, private tutoring engagement, and preferences for institutional support were asked. Finally, there were open-ended questions. For this part, the teachers were invited to describe their most significant challenges, suggest workload reduction strategies, and identify desired support systems.

d. Instrument Validity, Reliability, and Psychometric Evaluation

Before deploying the questionnaire to the respondent, a rigorous two-phase psychometric evaluation was done. This helps us to ensure the empirical integrity of the structured questionnaire. The first was to ensure the validity of the content and face. The first draft of the survey was sent to an expert panel of three senior academic researchers with expertise in educational economics and psychometric design to establish structural alignment. The expert



panel judged the relevance, along with clarity and thematic coverage of the items in relation to the main objectives of the study. We systematically excluded items with low factor relevance or ambiguous wording and reworded them. Secondly, we ensure construct validity by locating the latent dimensions of “Workplace Burden” and “Occupational Strain” within existing theoretical frameworks, namely the Job Demands-Resources (JD-R) model (Demerouti et al., 2001) and the Transactional Theory of Stress (Lazarus & Folkman, 1984).

e. Pilot Testing and Internal Consistency

A localized pilot study was performed with an independent baseline cohort of school teachers ($n=15$). These observations were discarded from the final analysis. For the core items underlying the multi-dimensional Composite Stress Index, specifically evaluating the latent matrices of physical discomfort, mental health disruptions, and systemic burnout—the scale yielded a high internal consistency profile, demonstrated by a calculated Cronbach’s alpha coefficient (α) of 0.81. The value of well α is well above the standard academic threshold of 0.70. The final sample consists of 104 active school teachers of West Bengal. A sample of this magnitude limits the statistical generalizability across the broader educational sector of the state (estimated at over 400,000 active teachers). Still it provides strong statistical validity for an exploratory mixed-methods framework due to several critical econometric considerations:

Firstly, it optimises the degrees of freedom for the statistical analysis. For the primary bivariate correlation analyses utilised to isolate workplace stress mechanisms, a sample of $N=104$ provides an optimal 102 degrees of freedom ($df=N-2$). This provides sufficient statistical power to detect medium-to-large effect sizes at the standard 5% significance level ($\alpha=0.05$). Secondly we have non parametric cell adequacy. In cross-tabulation and chi-square (χ^2) analyses, the sample size ensures that the minimum expected cell frequencies consistently satisfy Cochran’s criteria. This helps in avoiding the statistical distortions common in hyper-sparse data matrices. Finally for the convergent qualitative component, a sample of 104 open-ended narratives significantly exceeds the standard thematic saturation thresholds established in mixed-methods literature, where core organizational themes routinely stabilise between 12 and 30 deep institutional interviews (Guest et al., 2006). Thus, a qualitative saturation threshold is ensured.

f. Variable Construction

In order to capture the multi-dimensional nature of occupational strain, a composite, normalised Stress Index (Y_i) was constructed for each individual educator (i) based on three self-reported latent strain indicators: Physical Discomfort (X_1), Mental Health Issues (X_2), and Professional Burnout (X_3).



Each constituent variable was transformed into an ordinal numeric scale based on response severity:

$$X_{j,i} = \begin{cases} 1 & \text{if response} = \text{Yes/ Strongly Agree} \\ 0.5 & \text{if response} = \text{May be/ Neutral} \\ 0 & \text{if response} = \text{No /Disagree} \end{cases}$$

Where $j \in \{1,2,3\}$. The composite individual Stress Index (Y_i) is mathematically defined as the unweighted arithmetic mean of these components. It is bounding the index strictly within a unit interval:

$$Y_i = \frac{1}{3} \sum_{j=1}^3 X_{j,i}$$

Where $Y_i \in [0,1]$. Mathematically, this specification assigns equal structural weights to the three indicators, i.e., physical, mental and burnout channels. This is under the classical parallel-indicator assumption. The middle weight of 0.5 serves as an agnostic representation of a latent state of uncertainty or partial strain confirmation.

Following index construction, the continuous metric Y_i was segmented into three mutually exclusive operational tiers to facilitate bivariate cross-tabulation profiling:

$$\text{Stress Category} = \begin{cases} \text{Low Stress} & 0.00 \leq Y_i \leq 0.33 \\ \text{Moderate Stress} & 0.34 \leq Y_i \leq 0.66 \\ \text{High Stress} & 0.67 \leq Y_i \leq 1.00 \end{cases}$$

g. Analytical Strategy

We proceed with the analysis in the three stages. In the first stage, we explore the descriptive statistics. Here, information of frequencies, percentages, means, and standard deviations was calculated to analyse the basic characteristics of the sample and document the prevalence of workload and stress indicators. Next, we consider a bivariate analysis. Here details on cross-tabulations and chi-square tests were used to examine relationships between stress levels and key outcomes such as syllabus coverage. Pearson correlation coefficients were calculated to assess associations among continuous variables. Finally, we have done a thematic Analysis.



Here the open-ended responses were analysed using Braun and Clarke's (2006) six-phase thematic analysis framework. Responses were coded inductively, and themes were identified, reviewed, and named. Representative quotes were selected to illustrate each theme.

h. Ethical Considerations

Participation in the survey was on a voluntary basis. The respondents were informed about the research objectives and methodology and were assured about the anonymity and confidentiality. The survey clearly stated that the information was for research use only. The survey did not include any personal identifiers that could link responses to individual teachers.

RESULTS

a. Sample Characteristics

Table 1 below presents the demographic and professional profiles of the sampled 104 teacher respondents.

Table 1: Demographic and Professional Characteristics of Teachers (N=104)

Characteristic	Category	Frequency (n)	Percentage (%)
Age Group	20-29 years	32	30.8
	30-39 years	34	32.7
	40-49 years	24	23.1
	50 years and above	14	13.5
Gender	Female	58	55.77
	Male	46	44.23
Teaching Experience	Less than 5 years	42	40.4
	5-15 years	20	19.2
	More than 15 years	42	40.4
	Kolkata	32	34.6



District	North 24 Parganas	18	17.3
	Hooghly / Howrah	16	15.4
	Other Districts	34	32.7
School Type	Private	56	53.85
	Government	28	26.92
	Aided/Missionary	20	19.2
Employment Nature	Full-time	92	88.5
	Contractual / Substantive	12	11.5
Monthly Salary	≤ Rs.30,000	50	48.1
	Rs.30,001 – Rs.50,000	28	26.9
	> Rs.50,000	26	25.0

Source: Calculated from field survey data by the author.

We observe from Table 1 that the sample is predominantly female (55.77%). Most teachers are early-to-mid career (63.5% under 40 years). A significant portion of teachers are employed in private schools (53.85%). A substantial proportion (48.1%) earns Rs.30,000 or less per month. This indicates a financial precarity among many respondents.

b. Workload and Stress Indicators

Table 2 below shows the descriptive statistics on workload and stress-related variables.

Table 2: Workload and Stress Indicators: Descriptive Statistics (N=104)

Indicator	Category	n	Percentage (%)
School Duties (per day)	More than 8 hours	8	7.7
	6-8 hours	66	63.5



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	4-6 hours	30	28.8
Administrative Duties (last week)	More than 8 hours per day	2	1.9
	6-8 hours per day	4	3.8
	4-6 hours per day	8	7.7
	2-4 hours per day	30	28.8
	Less than 2 hours per day	60	57.7
Involvement in Non-academic Duties	Very Often	16	15.4
	Often	14	13.5
	Sometimes	28	26.9
	Rarely	16	15.4
	Never	30	28.8
Feel Exploited at Work	Strongly Agree	22	21.2
	Agree	22	21.2
	Neutral	26	25.0
	Disagree	22	21.2
	Strongly Disagree	12	11.5
Desire to Resign Due to Burden	Very Often	18	17.3
	Sometimes	24	23.1
	Rarely	28	26.9
	Never	34	32.7



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Impact of Workload on Personal Life	Very High Impact	28	26.9
	Significant Impact	32	30.8
	Moderate Impact	24	23.1
	Slight Impact	16	15.4
	No Impact	4	3.8
Experienced Physical Discomfort	Yes	72	69.2
	No	24	23.1
	Maybe/Not Sure	8	7.7
Experienced Mental Health Issues	Yes	84	80.8
	No	14	13.5
	Not Sure	6	5.8
Experience Stress or Burnout	Yes	64	61.5
	No	28	26.9
	Not Sure	12	11.5
Non-academic Workload Impacts Class Responsibilities	Strongly Agree	30	28.8
	Agree	48	46.2
	Neutral	14	13.5
	Disagree	10	9.6
	Strongly Disagree	2	1.9

Source: Authors' calculations from field survey

The main findings from table 2 above show a burden of workload. 2 hours or more/day on admin work (42.3%) and most work 6-8 hours/day in school. Almost three in ten (28.8%) are “often” or “very often” involved in non-academic duties like election work or government



surveys. The second important findings are Health and Well-being Crisis. The prevalence of self-reported health problems is disturbingly high. More than two-thirds (69.2%) report experiencing physical discomfort (e.g., back pain, hypertension), while 80.8% report mental health issues such as anxiety, insomnia, and anger. Almost two-thirds (61.5%) admit to feeling stressed or burnt out. Also we see that teachers mention an impact on their personal life.

A majority (57.7%) state that workload has a “significant” or “very high” impact on their personal and family life. Notably, an impact on their teaching. Crucially, 75% of teachers agree or strongly agree that non-academic duties negatively impact their class responsibilities, validating a central hypothesis of this study. Attrition Risk 40.4% reporting a desire to resign due to workload is a concerning indicator of potential teacher turnover. Figure 2 below captures graphically the workload strain as shared by the educators.

Figure 2: Pathological Profile of Educator Workload Strain ($N = 104$)

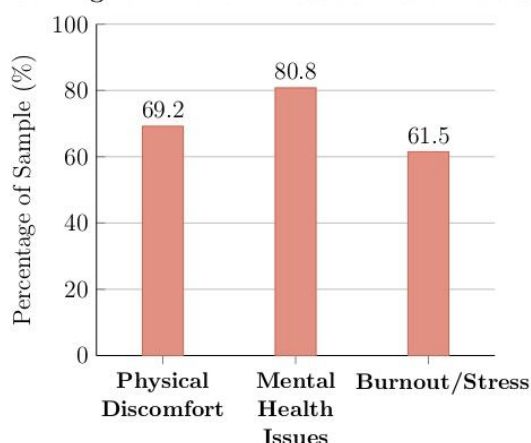


Table 3: Stress Index Distribution Across Teacher Subgroups



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Subgroup	N	Mean Stress Index	SD	Low Stress (%)	Moderate Stress (%)	High Stress (%)
Full Sample	104	0.62	0.24	13.5	46.2	40.4
Gender						
Female	58	0.68	0.21	8.3	41.7	50.0
Male	46	0.48	0.25	25.0	56.3	18.8
School Type						
Private	56	0.65	0.23	12.5	43.8	43.8
Government	28	0.55	0.26	20.0	50.0	30.0
Aided/Missionary	20	0.58	0.24	10.0	50.0	40.0
Non-academic Duties						
Often/Very Often	30	0.74	0.18	6.7	26.7	66.7
Sometimes	28	0.63	0.22	7.1	50.0	42.9
Rarely/Never	46	0.51	0.25	21.7	56.5	21.7
Work-Life Impact						
Significant/Very High	60	0.78	0.14	0.0	30.0	70.0
Moderate	24	0.58	0.15	0.0	75.0	25.0
Slight/None	20	0.35	0.17	70.0	30.0	0.0
Private Tutor						
Yes	34	0.70	0.20	5.9	35.3	58.8



No	70	0.58	0.25	17.1	51.4	31.4
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Source: Authors' calculations from field survey

The composite Stress Index (0-1 scale) had a mean of 0.62 (SD = 0.24) for the full sample, indicating a moderate-to-high level of overall stress. Categorizing this index: we observe that Low Stress (0.00 – 0.33): n = 14 (13.5%), Moderate Stress (0.34 – 0.66): n = 48 (46.2%) and High Stress (0.67 – 1.00): n = 42 (40.4%). We thus observe that over 86% of teachers fall into the moderate or high stress categories, with a concerning 40% in the high stress bracket.

Figure 3: Stress Index Stratification by Non-Academic Task Frequency

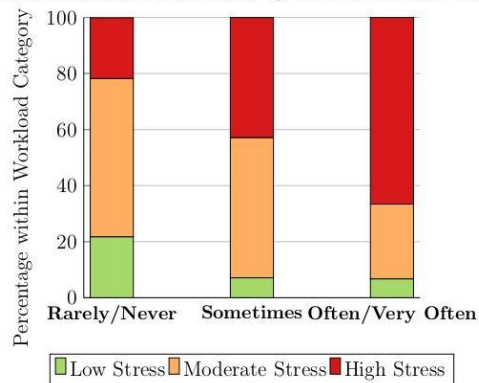
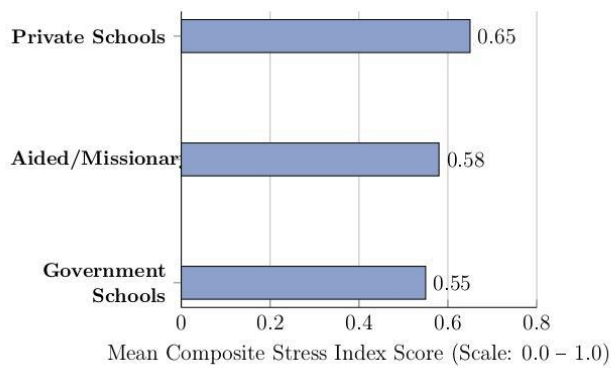


Figure 3 above shows the stress perception of the teachers arising from the non academic workloads. With almost 66% of teachers claiming to be under high stress most of the time. Figure 4 below shows the mean stress by teachers across different organisation. With teachers belonging to private schools claimed to be on average more under stress as compared to teachers of missionary schools or Govt schools.



Figure 4: Institutional Variations in Mean Stress Index



c. Stress- Syllabus Coverage analysis

Table 4: Stress Level by Syllabus Coverage (Cross-tabulation)

Stress Level	Syllabus <70%	Syllabus 70-84%	Syllabus 85-100%	Total
Low Stress	2 (14.3%)	6 (42.9%)	6 (42.9%)	14 (100%)
Moderate Stress	14 (29.2%)	10 (20.8%)	24 (50.0%)	48 (100%)
High Stress	10 (23.8%)	14 (33.3%)	18 (42.9%)	42 (100%)
Total	26 (25.0%)	30 (28.8%)	48 (46.2%)	104(100%)

*Note: $\chi^2 = 2.94$, $p = 0.57$. Percentages are row percentages.

While the chi-square test does not reach statistical significance, likely due to small cell sizes. No statistically significant association is observed; however, the descriptive pattern is consistent with qualitative findings. The proportion of teachers failing to cover at least 70% of the syllabus more than doubles from the low stress group (14.3%) to the moderate stress group (29.2%). This pattern, while not definitive, aligns with qualitative reports of stress impairing teaching effectiveness.

d. Correlation Analysis

Table 5 presents Pearson correlations among key continuous variables.

Table 5: Correlation Matrix



Variable	Stress Index	Teaching Hours/Week	Admin Hours/Week	Classes Missed/Month	Syllabus Coverage (%)
(1) Stress Index	1.00				
(2) Teaching Hours/Week	0.18	1.00			
(3) Admin Hours/Week	0.42**	0.21	1.00		
(4) Classes Missed/Month	0.31*	-0.08	0.19	1.00	
(5) Syllabus Coverage (%)	-0.29*	0.15	-0.24	-0.33*	1.00

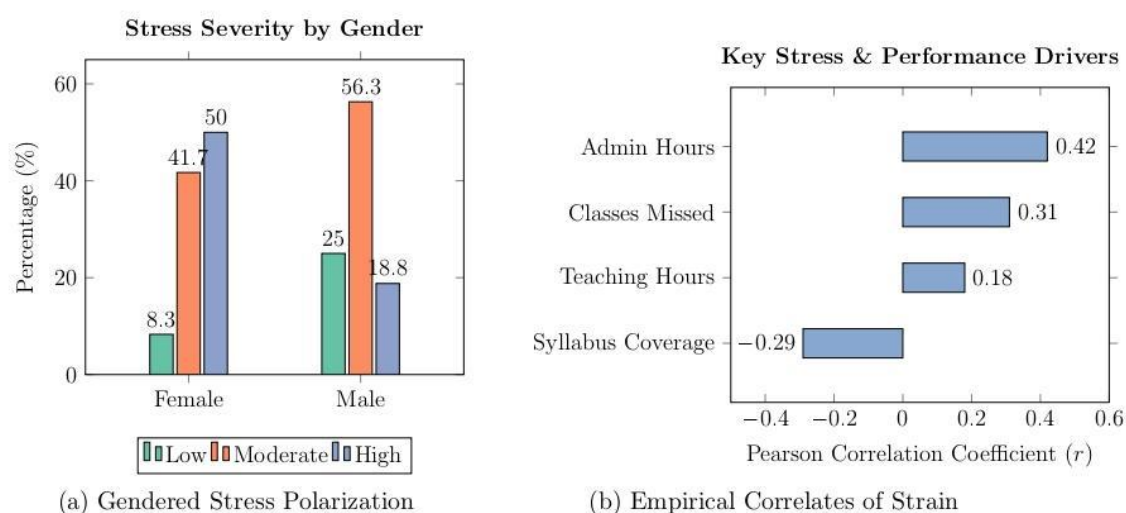
*Note: ** $p < 0.01$, * $p < 0.05$

From the table above we find that “stress” is positively and significantly correlated with weekly administrative hours ($r = 0.42$, $p < 0.01$) and classes missed per month ($r = 0.31$, $p < 0.05$). Further “stress” is negatively correlated with syllabus coverage ($r = -0.29$, $p < 0.05$), suggesting that higher stress is associated with lower perceived effectiveness. Finally, “Teaching hours” alone are not significantly correlated with stress, reinforcing the qualitative finding that it is the *non-teaching* burden that drives distress.

Figure 5 shows graphically points two important aspects. The first is that the women teacher points out that they are more stresses as compared to their male counterparts. And secondly that administrative duty is strongly related to the “stress” component.



Figure 5: Empirical Visualisation of Teacher Strain Profile and Institution Outcomes



e. Thematic Analysis of Open-Ended Responses

Analysis of responses to “What are the most significant challenges you face as a teacher?” revealed five dominant themes. The first theme revolved around low finances (n=24 mentions). Low salary was cited by many as a key cause of stress, driving them to work elsewhere. “Low salary or financial constraints.” (More than one respondent). “Financial reward is way lower than the stress or the work” (Recurring). The second theme revolved around student behaviour and management of the classroom (n=18). The teachers pointed out that dealing with student discipline and engagement issues was often a stressful event. (Numerous respondents). The third theme was “crowded Classrooms” (n=16). Constraints of large class sizes are felt as physical barriers to effective teaching. “Dealing with large classes” (Numerous respondents). The fourth theme focused on double burden of teaching and non-academic work (n=14). This theme codes the stress of non-voluntary work. (Numerous respondents) “Teaching plus other work duties” and election duties, and duties to the government and survey work” (one respondent). The fifth theme emphasized on work related stress and imbalance in personal life (n=8). Respondents cited the problems work created for their personal time and for their personal well-being. “Work-Life Balance or personal stress” (numerous respondents). There were some unique and pungent responses as well. Two responses were noteworthy because of the particularly moving and emotionally descriptive account. “*The biggest challenges for me are mental illness skimming and having a mentally ill colleague.*” (Teacher 26) and “*I have a very long commute of four hours for work and often miss trains due to having caused an anxiety traffic jam.*” (Teacher 40)



DISCUSSION

In this study a mixed-methods approach has been taken to analyse the conditions of stress related to work stress in the work among school teachers present in the West Bengal area. The results show that a large proportion of teachers are under stress (86.4%) at moderate and high levels. This indicates that stress at the workplace is not a concern for just one person, but rather a systems or workplace problem. A finding of importance is the high level of correlation between non-academic duties and stress levels. The amount of administrative and external work done was found to be the source of a greater level of stress and in the way the responsibility for external tasks was ordered, as well as on the level of administrative and external work done, there was a greater feeling of disruption and loss of involvement from teachers in administrative and external activities. The quality of workload (non-teaching tasks) is important at determining the nature of stress, as described before. The findings also point to serious issues related to teachers' wellbeing. Many described physical pain and/or mental health problems, thus posing stress not just in professional doing but also as a factor for health problems. Moreover, work-life imbalance seems to be a significant variable as well, with a higher stress level being found related to high flow of work into personal life among the teachers.

Gender gaps are evident in that female teachers view themselves as more stressed. While the exact reasons are unknown, it may be due to the additional social and domestic service responsibilities and the excess of such responsibilities. Stress levels negatively impact syllabus coverage and are positively associated with the number of classes missed. While this association is not strong with the performance indicators separately, it can be inferred that the overall association has the potential to impact the level of effectiveness in teaching. Amongst the most important features of the empirical stratification of the Composite Stress Index is the very polarised trend across gender and institutional typologies. There is now something called Gendered Stress Paradox. The average stress indicator for female teachers (0.68,SD=0.21) was significantly higher than that of male teachers (0.48,SD=0.25) and a

Half of females (50.0%) are in the high stress category. This dramatic discrepancy is strongly reflected from the double-burden hypothesis often mentioned in the literature of south Asian labours (Chowdhury et al., 2025; Paramanik & Barman, 2025).

In the context of West Bengal, there is an additional dimension of strict professional performance indicators for the teachers at the school which compounded with uneven and longstanding domestic labour and caregiving duties pose challenges for female teachers. This is a localised finding that correlates well with the findings internationally. Findings from Hanif



et al. (2011) and Sarabia and Collantes (2020) show that teachers of both genders often give higher scores on their physiological and emotional exhaustion scales because of the feel of holding their pedagogical duties and domestic responsibilities. At the same time, the average stress Index (0.65, SD=0.23) of the private school teachers was significantly higher, the high stress level represents 43.8% of them compared to the low stress level encountered in government school organisations (0.55, SD=0.26). These findings show that there exist structural inequities in terms of employment in the state's education system. Government school teachers have guaranteed job security, special status, and a uniform pay structure. At the other end of the spectrum, the private education sector suffers from a shortage of institutional safeguards, large bureaucratic requirements and an extreme level of contractual insecurity. In field data, such a structural reality is reflected as a significant 48.1% (declared as the sample size) of the population having an insecure monthly income of Rs. 30,000, a strong activity in a private school. Meanwhile, this reflects the structural demand models recognised internationally proposed by Wang (2024) and Njuguna (2024) that private educators in an environment in which high corporate performance metrics are placed on them and they cannot rely on financial security or professional support, tend to suffer from serious professional burnout with the yearning to want to resign. Last but not least, many teachers voiced their intention to quit the teaching profession because of workload pressure. A high workload pressure score is seen as a potential teacher retention risk due to workload pressures. The findings as a whole highlight that non-academic workload and work-life imbalance plays a pivotal role in comprehending teachers' stress. Sustaining teachers' well-being and quality of teaching is crucial in solving these problems.

POLICY IMPLICATIONS

The results generated by this study suggest several implications for policymakers and administrators in West Bengal.

Firstly, there needs to be an attempt at minimizing the workload of teachers that does not involve academic responsibilities. Administration of elections and surveys and other types of work outside of teaching ought to be reduced as much as possible. Secondly, the psychological well-being of teachers requires further attention from policy-makers and schools' management. It seems appropriate to introduce additional supports to help teachers cope with stress and create a work environment conducive to well-being improvement. Thirdly, it may be worth revising the remuneration policy and workload structure among teachers to align payments with the true number of working hours and explore the possibility of introducing compensatory mechanisms. Such measures could help to minimize stress as well as the number of teachers



who rely on secondary sources of income. Fourthly, policies aimed at promoting a better work-life balance should be considered. For example, it may be beneficial to limit non-teaching tasks during after-class periods, making sure that they do not extend beyond the regular working period. Fifthly, special programs may be introduced for women teachers in light of their high stress rates. These programs may help to solve the problem. Finally, it is recommended to consider investing in improvements in school facilities and increase in teacher staffing to improve work conditions of teachers and thus promote teacher well-being. In summary, these implications reflect the importance of dealing both with the composition of workload and availability of institutional supports to improve teacher well-being and minimize teacher stress.

LIMITATIONS OF THE RESEARCH

The study carried out faces some limitations that should be considered when interpreting its results. Firstly, the sample size ($n = 104$) used was relatively small. This resulted in limited ability of statistics to capture meaningful relationships. Furthermore, the results of this research could be applicable only to a certain geographical area of West Bengal. There were no data collected about other areas of the country. Secondly, since all measures were based on self-reporting, potential biases may affect results obtained. For example, people who experience stress might overestimate its effect while individuals who managed to adapt to stressful situations might underreport their effects on well-being. Thirdly, the cross-sectional nature of the research does not allow us to make conclusive remarks about causality of the observed relationships. There might exist another unobserved variable causing both non-academic workload and stress rates.

CONCLUSION

Through this study, it is clearly indicated that school teachers experience widespread levels of stress in their workplaces, and a significant percentage of teachers have been found to face moderate to high stress levels. From the study, it can be seen that workload issues and work-life imbalances play a critical role in increasing stress levels in teachers. It is noted that stress may lead to decreased performance levels as far as teaching is concerned, as it may limit syllabus completion and cause frequent absences. It is important to note that the high percentage of teachers intending to quit teaching is a clear indication of the gravity of the situation. In conclusion, it is clear that the problem faced by school teachers is not only an individual one; rather, it is structural. This problem is driven by various characteristics of workload structure. Future studies can adopt similar strategies using bigger and diverse samples and longitudinal studies.



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ROLE OF THE DIKSHA PLATFORM IN TEACHERS' CONTINUOUS PROFESSIONAL DEVELOPMENT AND EMPOWERMENT: A SYSTEMATIC REVIEW

Rubina Khatun

Senior Research Scholar, School of Education, Pondicherry University,
email id - rubinakhatun.pu.2022@gmail.com, Orchid id- 0009-0007-9376-5756

Vijaykumar R

Professor, School of Education, Pondicherry University,
Email Id - vijaykumarsoe@gamil.com, Orchid id- 0000-0002-8569-686

ABSTRACT

India has initiated the 'Digital India' program to increase the nationwide use of the internet. Simultaneously, the Ministry of Education launched a unified national digital platform for students, teachers, and parents, namely DIKSHA (Digital Infrastructure for Knowledge Sharing), which has emerged as a resource/ platform for supporting teachers' professional development and their empowerment in India. However, evidence regarding the platform's potential to empower teachers remains limited. Hence, the objective of this systematic literature review is to examine the potential of the DIKSHA platform to promote teachers' continuous professional development and empowerment. The study followed the PRISMA guidelines, and relevant prior research was identified from databases such as ERIC and Google Scholar. Studies published between 2017 and 2025 were considered and screened through the predefined criteria. Finally, 22 articles met the eligibility criteria and were included in the further thematic analysis. Findings highlight the potential of DIKSHA as an effective digital platform for strengthening teachers' professional competency and fostering empowerment in classroom decision-making. The study is significant for educational planners and policymakers, highlighting the effectiveness and limitations of large-scale digital initiatives and offering suggestions for teachers and policymakers on teacher training and capacity building to fulfil the vision of NEP 2020.

Keywords: NEP 2020, Digital competency, Digital tool / Platforms

INTRODUCTION

“By education I mean an all-round drawing out of the best in child—body, mind, and spirit.”

- Mahatma Gandhi

With this enlightening quote, Gandhiji underlines the importance of teachers in students' overall development. So, enhancing students' learning outcomes requires improving teachers' quality with the changing dynamics of the educational system (Hammond, 2006). The rapid growth of digital technology has revolutionized teachers' professional learning systems.



In this context, the "Digital India" campaign has been introduced by the government of India to increase internet use across the country. In alignment with this, the Educational Ministry (MOE) of India has also started a unified national digital platform, popularly known as 'DIKSHA (Digital Infrastructure for Knowledge Sharing).', to support students, parents, and teachers across the country. The platform provides high-quality content and structured courses for teaching and learning (UNESCO, n.d.). This national digital initiative is a part of the "Atma Nirbhay Bharat" program, under the Prime Minister e-vidya scheme, which aims to create a large national repository of open educational resources (OER)

Teachers' professional competency has received special attention in India since the implementation of the National Education Policy, 2020, which urges teachers to engage in 50 hours of professional development activities each year. Continuous Professional Development (CPD) is an essential part of teachers' professional growth (Avalos, 1998). It is defined as structured learning that enhances teachers' knowledge and guides them in improving their instructional strategies and their competency to respond effectively to diverse needs (Hammond & Hyle). Whereas Teacher empowerment refers to the process of providing autonomy, responsibility, and authority in their work, enabling them to make decisions on their teaching strategies and curriculum, thereby encouraging them to take an active role in decision-making processes in schools, which leads to increased job satisfaction, enhanced teaching effectiveness, and better student learning outcomes. Snodgrass Rangel et al. (2020) proposed six dimensions of teacher empowerment, including decision-making, professional growth, status, self-efficacy, autonomy, and impact.

Digital platforms have proven to be an effective tool to enhance the professional competency of teachers (Hennessy et al., 2022). Previous studies have focused on several dimensions of DIKSHA's effectiveness related to awareness (Ahmad & Raheem, 2025); perceptions of the quality of e-content on the DIKSHA platform (Roul & Mohalik, 2025); the relationship between awareness and utilization of the platforms (Singh, 2023); patterns of DIKSHA usage, its perceived relevance, and its impact on lesson planning, curriculum alignment, and career advancement (Karthikeyan, 2025); challenges and remedies associated with the availability of e-content in Diksha (Thate, 2021). Nevertheless, there is limited evidence of the extent to which the national digital learning platform DIKSHA has contributed to enhancing teachers' professional competency and empowering them to make informed classroom decisions.

Hence, the objective of the present study is to explore the potential of the DIKSHA platform to promote continuous professional development and empowerment of the teachers.

CONCEPTUAL FRAMEWORK

The conceptual framework of this study is based on the assumption that digital learning platforms support teachers' continuous professional development (CPD) and teachers' empowerment, which can be understood through the theoretical lenses of Adult Learning Theory and Experimental Learning Theory.

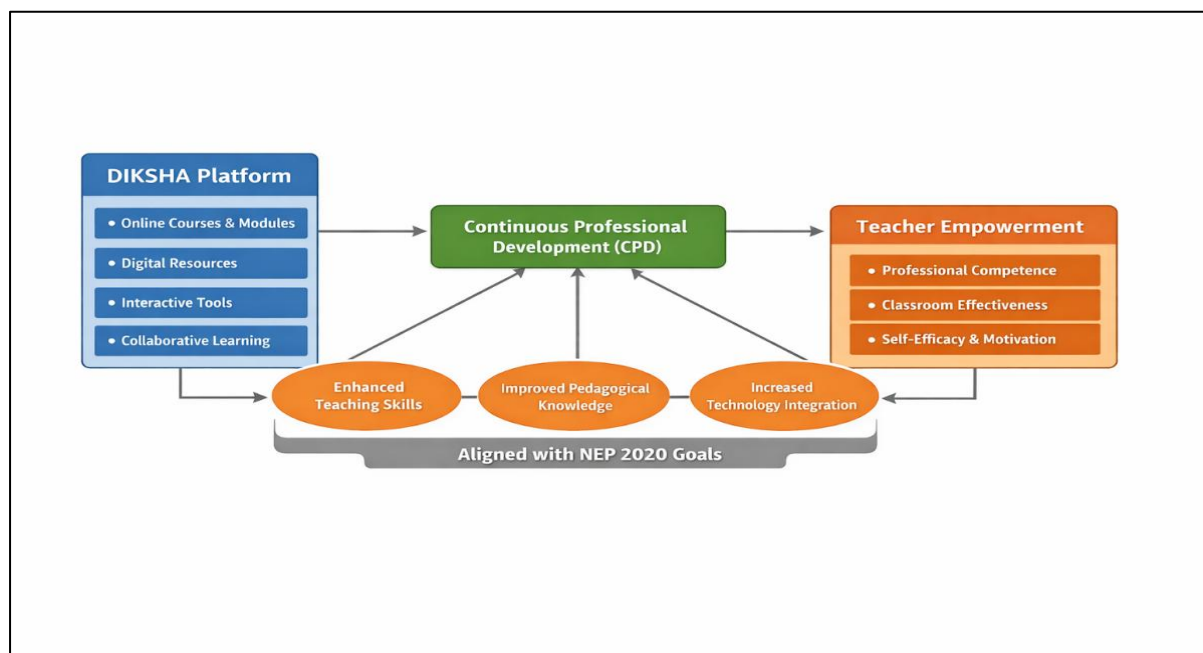


1. Malcolm Knowles (1968) proposed the Adult Learning theory, which highlights that adult learners prefer learning autonomy, self-directed learning, and professional needs, aligning with the continuous learning process of teachers through DIKSHA

2. Teachers improve knowledge, skills in pedagogy, professional competencies, and become more confident in using digital tools and autonomous in instructional decision-making through this continuous teaching-learning cycle, leading to their empowerment. This process aligns with Kolb's Experimental Learning Theory, which explains that 'knowledge is formed through the transformation of experience', and proceeds through Concrete Experience - Reflective Observation - Abstract Conceptualization - Active Experimentation.

There is a mutual, two-way relationship between teachers' continuous professional development (CPD) and their empowerment (Dey, 2024; Yalçın et al., 2025; Yao et al., 2024). Empowering teachers, thereby, means engaging them more in continuous learning and supporting sustainable professional development (CPD) in accordance with the National Education Policy 2020, which promotes teachers' continuous learning.

Figure 1: Theoretical framework of the study (Source: Author made)



METHODOLOGY

The study employs a systematic literature review to examine the role of digital platforms in teacher continuous professional development and their empowerment, with a particular focus on the DIKSHA platform in the Indian context. A systematic literature review (SLR) is a



structured, transparent, and reproducible research methodology for identifying, selecting, and critically appraising relevant prior studies to answer specific research questions, following strict predefined norms. (Rivera et al., 2022; Feak et al., 2009; Hecker & Kalpokas, n.d.).

The data were collected from academic databases, such as **Google Scholar and ERIC**, using keywords such as **“DIKSHA platform AND digital teacher training AND teacher professional development” OR “DIKSHA platform and teacher competency”**. In addition to this, the government. and other institutions' policy documents related to digital and teacher education have been analysed. After initial data collection, a robust screening was performed and systematically filtered using predefined inclusion and exclusion criteria (Khatun & Vijaykumar, 2026).

▪ **Exclusion and Inclusion Criteria**

The study primarily considers research published between 2017 and 2025, since the DIKSHA platform was launched in India in 2017. The authors systematically and manually searched the aforementioned database using predefined keywords “DIKSHA platform AND digital teacher training AND teacher professional development” OR “Digital platform and teacher competency” and identified 89 articles during the initial screening. Following that, the study conducted a second screening and identified 17 duplicate studies, 7 in languages other than English, and 25 studies that were not relevant to the topic; these have been removed from the datasets (presented in Table: 1). After thoroughly cleaning the datasets, the authors reviewed the abstracts individually and selected only those studies that met this criterion; these are

Inclusion criteria

- Relevant to teacher professional development
- Focusing on digital platforms or technology-enabled teacher training
- Articles discussing teacher empowerment in the context of digital learning
- Policy documents related to teacher education and professional development

Exclusion criteria

- Studies not related to teacher professional development
- Articles lacking sufficient theoretical or empirical relevance to the topic

Screening: The authors removed 9 studies that did not meet the inclusion criteria; full articles were unavailable for 10 studies, and 3 studies lacked proper empirical data. Finally, 22 articles were included in Synthesis, reviewed, and thematically arranged using a deductive coding



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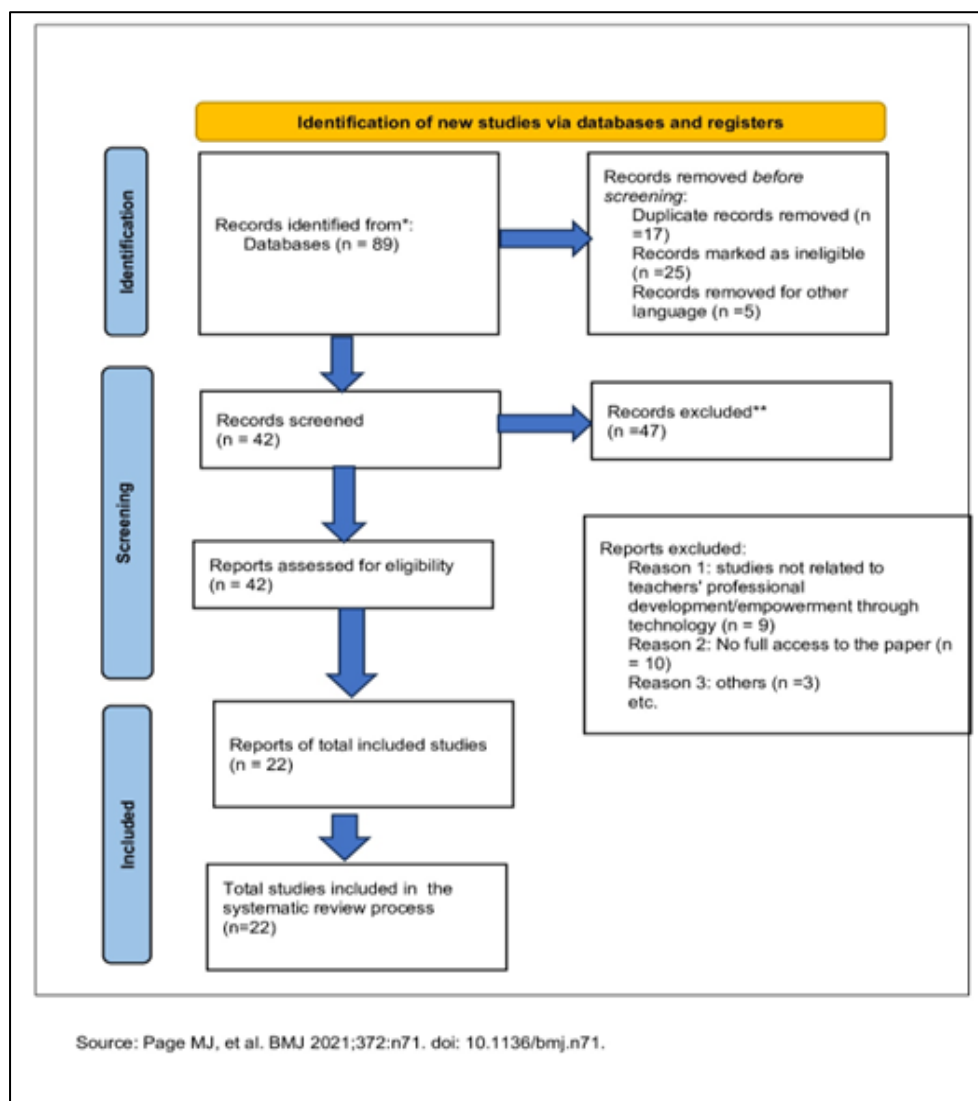
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method to identify the major dimensions of digital professional learning and teacher empowerment.

Quality Appraisal: Both authors have assessed the quality of the included studies in accordance with predefined criteria, including clarity of the research question, appropriateness of the research methods, sample size, data collection technique, analytical rigor, and transparency of reporting.

Figure 2: PRISMA 2020 flow diagram for the systematic review



FINDINGS & INTERPRETATION

❖ *Diksha platforms as a means of professional development for teachers*

Theme 1: Accessibility & self-paced training program

The landscape of professional development for teachers has been revolutionized by the integration of digital learning platforms, which offer greater flexibility, availability, and scalability in teaching and learning, regardless of geographic barriers (Avalos, 1998; Desimone, 2009; Mishra & Koehler, 2006). The essential features of DIKSHA are that its



content is available in 36 Indian languages and aligned with national and state curricula developed by NCERT, CBSE, and various State Education Boards. Teachers can easily integrate digital resources with physical textbooks via Quick Response (QR) codes, which improves classroom teaching and learning by connecting traditional instructional materials with digital learning resources (UNESCO, n.d.).

Altaf & Azad (2024) highlighted that 80-85% of schools are adopting the DIKSHA platform to support academic success, personal growth, and learner development. Students also reported that teachers use the Diksha app and energized text materials in the classroom to update their knowledge (Kumar & Kumari, 2023). Shokeen & Kaur (2025) stated that 69.01% of the teacher participants felt that the Nishtha modules are easily accessible *via DIKSHA*.

Theme 2. Curriculum-aligned Teaching and Learning Resources:

The national platform provides access to a large repository of teaching and learning resources, including lesson plans, instructional videos, interactive learning modules, and digital textbooks. These materials assist teachers in planning and delivering effective classroom instruction. Even those with 1-3 years of experience and middle school educators found the courses most relevant (Karthikeyan, 2025). Roul and Mohalik, (2025) showed that teachers have positive perceptions regarding the quality of the content, alignment, and accessibility available in the Diksha platform.

Theme 3. Capacity Development Programme

One of the major initiatives available through DIKSHA is NISHTHA, which focuses on building the professional capacity of teachers and school leaders. 88.9% of teacher respondents agree or strongly agree that Diksha enhances lesson planning and classroom teaching (Kumar & Kumari, 2023). Karthikeyan, (2025) highlighted that 80% of the participants, comprising 71 teachers from the Delhi-NCR region, have completed at least one Nishtha training module through the DIKSHA Platform. The platform includes practice exercises, quizzes, and question banks that allow teachers and students to assess their understanding of various subjects. These tools help teachers evaluate student learning and provide feedback for improvement.

Theme 4. Collaborative Knowledge Sharing and Professional Communities:

DIKSHA promotes collaborative knowledge sharing or collaborative learning. Teachers can create and participate in peer groups and online discussions, and share their content within these groups, thereby enhancing their professional networking and knowledge sharing (Peng et al., 2024; Ravi, 2020). Such kinds of collaborative environments encourage teachers to engage in reflective practice, collective problem-solving, and help them to stay up-to-date with the new teaching strategies and educational innovations (Badoni & Pachauri, 2021)

Theme 5. Crowdsourced Content Development: Teachers, subject experts, and educational organizations can contribute digital content to the DIKSHA platform through the ‘Vidya Daan’



initiative. These initiatives not only enrich the repository of Open Educational Resources (Karwal, 2020) , but also enable them as active contributors and collaborators in knowledge creation. Such participation strengthens their technological and digital pedagogical skills, which are essential for modern classroom practice.

❖ *DIKSHA platform as an instrument for Teachers' Empowerment*

Teachers' empowerment refers to the process by which educators build their professional autonomy, confidence, and competence to make informed pedagogical decisions in classrooms (Guskey, 2002). The DIKSHA / NISHTHA platform offers lesson plans and interactive teaching modules designed with inclusive practices and student-centered pedagogy, which substantially strengthen teachers' instructional and technological skills. Biswas & Banerjee (2025) highlighted NISHTHA, improved competency gains among the teachers (20-25 %), Most of the teachers are comfortable in using the DIKSHA app in classroom teaching (Kumar & Kumari, 2023). Even, Badoni and Pachauri (2021) reported substantial improvements in teachers' abilities and self-efficacy in creating e-content and using web tools effectively.

Table 1: DIKSHA and Teacher Empowerment Aspects

<i>Theme wise Empowerment aspect</i>	<i>Role of DIKSHA</i>	<i>References</i>
1.Digital Competency	Skill gains, tech integration, better lesson design	(Altaf & Azad, 2024; Badoni & Pachauri, 2021; Bhardwaj & Rathee, 2024; Karwal, 2020;Karthikeyan, 2025; Biswas & Banerjee, 2025)
2. Self-Efficacy	Enhance confidence, efficiency , and classroom effectiveness	(Kanvaria & Dubey, 2022; Biswas & Banerjee, 2025)
3.Autonomy & agency	Access to OER, ability to create/share resources	(Kanvaria & Dubey, 2022; Peng et al., 2024; Biswas & Banerjee, 2025; Ravi, 2020)
4.Inclusion & reach	Rural, SC/ST, women teachers benefit from flexible access	(Karthikeyan,2025; Biswas & Banerjee, 2025; Verma et al., 2025)



5.Career growth opportunity	Provides certification and professional growth opportunity	(Karwal, 2020; Karthikeyan, 2025)
6.Classroom Effectiveness	Improve students' outcomes (10-15% increase in pass percentage).	(Altaf & Azad, 2024; Karthikeyan, 2025; Biswas & Banerjee, 2025)

❖ *Challenges*

Despite the potential benefits, the use of digital platforms for teacher professional development also faces several challenges. Issues such as limited internet connectivity, limited digital literacy among teachers, and inadequate technological infrastructure in schools can hinder the effective use of these platforms (Kanvaria & Dubey, 2022; Peng et al., 2024; Shokeen & Kaur, 2025; Singh, 2023). Additionally, some teachers may struggle to adapt to online learning environments due to limited technological confidence or insufficient institutional support, awareness, and not believing in future career growth (Ghosh, 2022; Kumar & Kumari, 2023; Karthikeyan, 2025; Thate, 2021). To maximize the potential of the DIKSHA platform, it is necessary to resolve challenges as early as possible.

DISCUSSION

The study's findings revealed that the national digital platform has changed the dynamics of teachers' continuous professional learning in India by shifting the workshop-based CPD training model to a flexible, accessible, technology-enabled, and self-directed learning ecosystem. This finding is the same as with the global studies on digital platforms for teachers' professional development, which indicate that these are the key strengths of digital platforms for teachers' continuous professional development. (Rashida & Bariham, 2025; Rienties et al., 2023). Although research has been conducted in tech-savvy countries, where teachers' engagement with digital tools is common, in the Indian Context, there remain infrastructural inequalities that affect equitable access to professional learning opportunities for teachers (Peng et al., 2024; Shokeen & Kaur, 2025).

The enhancement of teachers' empowerment, viz., self-efficacy and autonomy, may be attributed to opportunities gained through the DIKSHA platform, including repeated engagement with the training module, collective problem-solving, content creation, and sharing, which build teachers' digital competency. The findings are similar to those in previous global settings (Graziano et al., 2023).

However, Professional learning for teachers through DIKSHA has expanded at a national Scale, but the study results indicate that access alone does not guarantee meaningful participation. Teachers living in resource-constrained areas may continue to face difficulty related to internet connectivity, device availability, and digital competency (Kanvaria &



Dubey, 2022; Peng et al., 2024; Shokeen & Kaur, 2025; Singh, 2023), suggesting that digital inclusion remains a structural challenge rather than merely a technological issue.

Recommendation:

This reflection is particularly significant in the context of the National Education Policy 2020, which envisions teachers as reflective practitioners and active contributors to educational reforms. To strengthen the vision of the National Education Policy 2020, the study provides some suggestions for educators, curriculum, and the policy level. These are

- **Recommendation at Teacher's Level**

- a. Teachers should be motivated to use DIKSHA or other digital professional development platforms for their meaningful professional growth and classroom improvement.
- b. Teachers should be encouraged to use digital tools such as the DIKSHA platform or others in their day-to-day classroom while teaching.
- c. Teachers need to strengthen their digital literacy and technological skills to effectively use this technology in classroom teaching.
- d. Teachers should be motivated in collaborative professional learning and peer-sharing networks available through digital platforms more.
- e. Teachers should encourage more participation to create and share localized and context-specific digital learning resources through initiatives such as Vidya Daan.

- **Recommendation at Curriculum Level**

- a. Curriculum for teachers' education courses must integrate technology-infused instructional practices and digital pedagogy to equip future teachers for digitally enhanced classroom settings.
- b. Teacher education programs must include practical training on the use of digital learning platforms, digital assessment tools, and the creation of e-content to strengthen future teachers' professional competencies and classroom effectiveness.

- **Recommendations at Policy Level**

- a. Policymakers must focus to strengthen digital infrastructure in schools, particularly in rural and resource-constrained regions, to ensure equitable access to digital opportunities.
- b. Continuous technical support along with digital literacy training, and institutional encouragement should be provided to teachers for effective utilization of DIKSHA and other similar digital learning platforms.



c. Educational authorities make mandatory participation in digital CPD in long-term teacher professional development policies to promote lifelong learning and teacher empowerment.

CONCLUSION

The quality of education within a nation largely depends on its teachers' quality, because teachers' competence, commitment, and preparedness for professional development are the most influential factors in determining students' achievement, motivation, their attitude and overall their lifelong development. Hence, the development of teachers' professional empowerment in the changing landscape of technological advancement is necessary for any country. In light of this, the DIKSHA platform has become a significant initiative by the Indian government to facilitate continuous professional development and teachers' empowerment.

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BANU MUSHTAQ'S *HEART LAMP*: AN ECOFEMINIST RE-READING OF THE VOICE FROM THE MARGIN

Elham Hossain

Associate Professor, Department of English, Green University of Bangladesh

Email: elhamhossaindcc@gmail.com

ABSTRACT

2025 International Booker Prize winning book of twelve short stories *Heart Lamp* poignantly voices the margin, specifically the Muslim women, being victims of the persecution of the patriarchal socio-religio-economic dynamics. This paper seeks to explore how Banu Mushtaq brings the marginalized women to the fore against the backdrop of the environment and narrates the struggle of gender and environment leading to the revelation of deprivation, exploitation and consequential predicament. Banu Mushtaq chronicles the lived experiences of the Muslim women and her depiction of their interaction with the feudal as well as capital-centric power-structure transcends and universalizes them in relation to their interlink with the realities that tend to construct, deconstruct and reconstruct their identity, and thus, exhibits their vulnerability in contrast with the extreme intensity of the elements of nature, such as winter, rain, darkness, storm and the other natural forces. Banu Mushtaq, true, questions the nexus among religion, politics and the power-structure which, in collaboration with one another, create oppressive discourses to challenge the agency of women. From the ecofeminist perspective, ensuring gender equality goes with ecological balance which is badly required for the empowerment and agency of women. Borrowing the theoretical framework from the contemporary ecofeminist theory, this paper seeks to explore how the restoration of ecological balance can ensure the gender equality and empowerment of the marginalized women.

Keywords: Margin, Voice, Otherization, Transformation, Resistance

INTRODUCTION

While approaching Banu Mushtaq's *Heart Lamp*, an anthology of twelve exquisite short stories, from the very first page all the stories of the book feel quite familiar due to the author's meticulous visit to the corners of human life, specifically the conditions of women in the patriarchal framework, with a profoundly scathing outlook (Tripathi, 2025). All the characters of twelve stories are from the minority section of people living in Karnataka, an Indian State, mostly guided and controlled by their religious ideology. The life that these people lead outwardly seems humble, colourless, uneventful and insignificant. But the undercurrent of resilience and resistance that pulsates Banu Mushtaq's stories cannot but captivate the readers'



thinking and re-reading. People in her stories seem to be ordinary and insignificant but the world where they inhabit is a sordid space where devotion leads to debt and love slides into servitude. The narrator of the story “Stone Slabs for Shaista Mahal”, of course, a woman, depicts her predicament as a wife of Mujahid, a service holder in the following words:

A wife is usually the one who stays at home, so that makes her the home person. Perhaps then Mujahid is my office person. Che! I have made a mistake again. The office is not mine, after all. How else can I say this? If I use the term yajamana and call him owner, then I will have to be a servant, as if I am an animal or a dog. (p. 7)

Across the stories women have to struggle not only against men but also the social system, ideology and the dominant belief-system. In the story “Heart Lamp”, Meherun’s husband Inayet chooses second wife even if the couple has already had five children. Meherun comes back to her parents’ house after feeling humiliated by her husband’s ingratitude towards her. She comes to her parents and brothers with a hope that they will try to understand her. But the home where she was brought up in her childhood seems to her unfamiliar, strange. Her old and retired father who is coughing all the time grabbing his chest is now dependent on her sons, and so does her mother. They are silent. Her mother weeps in silence and says prayer to God for her daughter’s peace. True, money or economic ability is strongly related to authoritarian power which has gone out of Meherun’s father as he is no more an income generating person. Her sisters-in-law show a kind of cruel indifference to her. Her brothers rebuke her as they think that she has led their honour into ashtray. Conversation between Meherun and her brothers exhibits how cruelly patriarchy treats in a traditional Indian society:

‘Meher, did you inform anyone at home before coming?’

‘No.’

Why? Why didn’t you tell them before leaving? It seems like you have made up your mind to bring us dishonour’ (p.100).

When Meher tries to defend herself and expose her husband’s faithlessness, her mother exhorts her to try to bring her husband back to the right path. Then she piteously cries out:

‘Amma, don’t I have something called a heart? Don’t I have feelings? I cannot respect him as my husband when he has gone off like this. My body fills with disgust when I see him. Loving him is a very distant idea. It is not about him giving me talaq- I will get it from him’. (p.102)



The stance that Meherun demonstrates speaks out about resistance she recklessly wrestles to pose against the patriarchal oppression. But she finds nobody beside her in her fight against the attitudes and norms of her faithless husband. Her father, mother, brothers, even neighbours cannot overcome the normative stance set by the patriarchy emanated out of millennium old tradition of the Indian subcontinent. She is bound to go back to her husband's house helplessly after discovering the horrible truth that it is even better to jump into the fire than to oppose a faithless husband, and thus she perceives that she is an 'other', an isolated self devoid of agency in the battleground, and her fight is not against a single man, but a whole system. On the face of such a formidable force, she melts down like "the darkness of the night thaws" (p.111), and realizes the millennium old patriarchal cult that the tasks of a traditional woman are "heirmaking and housekeeping" (Chakravarti, 2017, p. 211).

Further, women, with specific emphasis on their conditions, are traditionally defined, interpreted and constructed in terms of nature since the time immemorial. Nature is traditionally addressed as mother-nature due to its all-pervasive accommodative disposition, tolerance, flexibility and sacrifice. Banu Mushtaq's *Heart Lamp* anthologizes twelve short stories mostly dedicated to the portrayal of the predicament of minority women in the patriarchal backdrop. The author casts women against the forces of nature, such as storm, rain, winter and depicts their helplessness and vulnerability in association with these ecological phenomena. She does it aptly and metaphorically with a view to delving deeper into women's helplessness and voicelessness. Since the inception of human civilization, women live closer to nature than men for many practical reasons, and hence, silence, sublimity and apparent passivity of nature are aptly employed to define their subservient conditions.

With the rise of industrialization, both nature and women have started falling victim to death and destruction. Capitalism intends to maximize profit and hence, it requires more and more cheap labour, and women can meet up this increasing demand of cheap labour in exchange of negligible amount of wages. Due to environmental pollution, excessive use of CFC, emission of carbon, decay of ozone layer agricultural land is losing its fertility; coastal areas are getting barren because of the increase of salinity and other maritime disasters. Consequently, the inhabitants are deranged and shifted to the urban setting. But urbanization accelerates migration of people from rural areas to urban areas, from one country to another country, and thus, "migration became an explosive political issue, destabilizing governments..." (Ghosh, 2025, p. xiv). Such circumstances lead women to uncertainty, and unpredictability soars higher when it is accompanied by religious fundamentalism which usually tends to keep women aloof from income generating activities. It consequently turns women helpless entity with no agency, and thus, they turn subservient to men who are engaged in income generating activities. In the



stories of Banu Mushtaq, all women, specifically belonging to the Muslim community, are housewives and devoid of agency in terms of decision-making regarding childbirth, healthcare, and the second marriage of their husbands, and consequently, their miseries after marriage get multiplied as they totally depend on their husbands for the maintenance of their life. The stereotype set by the traditional patriarch seems to teach the women here in the subcontinent that “[T]he wish of the husband is as the *Vedas* to the wife and if the husband is pleased, then god too is pleased” (Chakravarti, 2017, p. 224), and as soon as the husband dies the woman turns into an outcast, nowhere.

Capitalism turns both man and women into commodities, and the commoditization challenges human emotion and relationship. When religious ideology makes nexus with capitalism, which is masculine in nature, women’s predicament is intensified. Banu Mushtaq explores the precarious conditions of the minority Muslim women living in the fringe of Karnataka, and while producing the narratives of their vulnerability, she sometimes associates them with nature to draw their conditions with more emphatic gesture. She builds up her career as an author in the decades “when the personal-is-political” (Bhasthi, 2025, p. 209) became a cult in the socio-economic reality. Banu lashes her whip upon the back of the hypocritical masculine society which in collaboration with religion suppresses women. Banu Mushtaq very often takes resort to nature or natural elements to depict the predicament of women with more intensity. In the story “Black Cobras” the protagonist Ashraf, who has come with petition to the Mutawalli as her husband has recently chosen a second wife and deserted her and her three children into utter uncertainty, Banu describes the all-engulfing darkness and silence of night turning crueler in association with rain and seclusion, “There was a quietness to the green light emanating from the mosque veranda. A cool breeze from the heavy rain and a peopleless environment” (2025, p. 55). The merciless forces of nature make Ashraf’s predicament more miserable and touchier. She undergoes all injustice inflicted upon her in silence because she is taught by the patriarchs that they must worry about what “boys think of them” (Adichie, 2014, p. 24).

In the story titled “Be A Woman Once, Oh Lord” Banu Mushtaq offers a narrative depicting the subservient predicament of women in association with nature. The story depicts the precarious condition of the narrator whose husband tortures her for dowry. The helplessness of her parents is added to her predicament which makes her think “All I could see were a few green memory trees, as they shed their leaves and grew bare” (203). The narrator’s experiences turn into accusation against God and she asks God,

“Come to earth as a woman, Prabhu!

Be a woman once, oh Lord!” (208)



The story is written in the form of a monologue and the narrator's minute investigation of her experiences derived from her hellish conjugal life with her husband who tortures her for dowry, and choosing second wife. The story "Red Lung" with equal impetus depicts how patriarchy slides into social discrimination, and in this process religious ideology, whatever religion it may be, works as a tool of hegemony. "The Shroud" echoes the same tone of transformation in association with power and wealth. Privileges dull one's capacity to assess other people's dignity, and this is the underlying tone of this short story.

Actually, all the twelve stories of *Heart Lamp* resist the traditional tendency of romanticizing women. Women fight and struggle continuously against the vast backdrop of nature which aptly depicts their triviality and helplessness. They may not fight in the battleground but they fight in their own way in the domestic arena. Their resilience to fight against their husband's demand for dowry, second marriages and sheer negligence challenges the traditional romanticization of women. In many of her short stories, Banu Mushtaq depicts women's predicament in relation to nature's fragility and feebleness. Sometimes women have been cast against the robust forces of nature and from this perspective *Heart Lamp* can be explored from the ecofeminist perspective.

LITERATURE REVIEW

Ecofeminism, nowadays, turns into a popular approach to fiction, that investigates women's relationship with and dependence on their surrounding environment. In Bangladesh ecofeminist study of fiction has recently got an impetus due to the increasing involvement of women in income generating activities, and also the rising rate of oppression and exploitation that affect both these women and the rural set up from which they are deranged for both ecological disruption and economic compulsions. Due to environmental pollution and economic exploitation, women are deranged from their root, that is, rural set up which cradles them very closely because of their engagement with agriculture, poultry raising and livestock rearing or horticulture. As the economy is getting corporatized, women cannot compete with the billionaire investors, and their small individual initiative of agricultural work cannot sustain on the face of wide industrializing venture of the Capitalists whose disposition is mostly patriarchal or gender-biased. In such a situation while their husbands are forced to migrate to the cities for survival, women also follow them and become totally dependent on their husbands' income. They are exploited in many ways and there are affinities between women and the environment in terms of falling victim to wide exploitation. Nowadays, it has become a pressing issue not only for the social workers or environment-workers, but also a very crucial subject-matter to literature, especially fiction. Bengali literature specifically Bengali fiction



showcases with importance the miseries of both women and the surrounding environment in its canvass. Humayun Kabir's *Nadi O Nari* (Women and Rivers, 1952), Adwaita Mallabharman's *Titas ekti Nadir Nam* (A River Called Titas, 1956), Manik Bandyopadhyay's *Padma Nadir Majhi* (The Boatman of the Padma, 1936) are some of the major fictions which depict close affinity between women and the environment. In poetry and short stories of Bengali literature, the portrayal of the close relationship between environment and women is not as much as it is depicted in the fiction. In Jasim Uddin's *Sojan Badiyar Ghat* (Gypsy Wharf, 1933), Duli, a Hindu girl's abortive love affair with a Muslim boy Sojan is depicted against the vast canvas of the rural areas of Bengal and the rivers which serve as a perennial source of living for them. The rivers also impact their emotional life and shapes their joys and sorrows. How river, air, soil and human emotion get intertextualized with one another and how such interaction impacts the life of the traditional women of this part of the world, is very aptly depicted by the poet.

In the same vein, Indian female fiction attains significant amount of attention from literary critics for many things, though specially for their close investigation of women's relationship with the surrounding environment. With the advent of environmental imperialism as an integrated progeny of capitalism which demonstrates the propensity to cause derangement and displacement of human habitation, women grow awareness and develop environmental activism with a view to conserving environment as it is closely related to their own existence. In India, Chipko Movement that took place in 1970s for the conservation of forest from the commercial logging and the government policies on deforestation, is still referred as an example of environmental activism (Chanda, 2014, p. 33). Due to extensive commercialization, forest is cut down, in consequence of which drought takes place and waterbodies are drying up. As in many Indian regions women are to collect dry fire materials and water for domestic use, they are to undergo more troubles as they need to travel farther place in search of them. Not only that because of building banks and embankments, vast track of agricultural land is transformed into desert. Consequently, women along with their families are forced to leave their habitation and in the urban set up they turn into a pool of cheap labour. Homelessness of women is the ultimate consequence of environmental disasters. Miseries of women in association with environmental disruption are portrayed by many Indian fiction authors, such as Kamala Markandaya, Anita Desai, Arundhati Roy, Sohaila Abdulali, Amitav Ghosh and several others. In their oeuvre, women receive significant amount of importance because like Rabindranath Tagore, they realize that "women are the fundamental custodians of the cultural life..." (Bose, 2024, p. 116). Consequently, they have brought women to the canvas of their fiction, and cast them against natural background to show how they are reduced to nothingness by the oppressive patriarchy and the masculine power-structure. Masculinity is characterized



by the promiscuity of dominating upon the nature, an entity metaphorically representing voicelessness, tolerance, and passivity.

But this issue of ecofeminism is not discussed much in the canvass of poetry and short stories in comparison with fiction. Banu Mushtaq holds a distinct place in terms of depicting women's location in the dominant culture, cast against the vast canvass of the ecological dynamics. Her women do not seem to be direct victims of environmental pollution or disaster. Their fragility and vulnerability are depicted in comparison with nature. Night is dark but the darkness of cruelty upon women of the patriarchal society appears more intense while it is cast against the secluded night and its impenetrable darkness. Pathetic fallacy is employed with a subtle and delicate dexterity to delve deeper into the voice women for freedom, justice and equity. Hopelessness of women is portrayed metaphorically in association with the sordid and secluded darkness of the night. In the eponymous story "The Heart Lamp" the protagonist Meherun's helplessness is depicted with emphatic intensity in association with the darkness of the night at which she comes out of her room to the stretching yard with a bottle of kerosene to burn herself alive and thus, commit suicide. The narrator narrates, "She stared into darkness and made sure she thought of how she had nobody, how no one wanted her, as she poured the kerosene on herself" (110). Here the seclusion of the dead of night interprets the helplessness of Meherun and thus, her alienated self has been universalized in terms of the predicament of women in the margin.

Women's relationship with environment is ambivalent, and it is gender discrimination which leads women more to the environment. Because of coldness that they receive from patriarchal society they gradually grow more dependence on environment. And hence, when the environment fails women suffer terribly. Kamala Markandya's *Nectre in a Sieve* depicts Rukmani's struggle after marriage with a peasant Nathan. Society changes; economic framework changes but the fate of the village women does not alter, and they seem to be fated to wrestle with poverty, unemployment, deprivation and exploitation. Anita Desai's *Fire on the Mountain* depicts the struggle of Nanda Kaul, an elderly woman who seeks to live in the Himalayan hills for solitude and freedom, though her desire is a far cry as she still continues to bear the agony of the troubled relationship between parents and siblings. If viewed from the ecocritical perspective, Arundhati Roys's *God of Small Things* portrays how women struggle against the exploitation of environment. Industrial development and the reckless rise of capitalism cause environmental damage. Arundhati Roy describes that once the river Manachal was overflowing. But now it is polluted and dying. Hence, the women who were once were once dependent on nature are now jobless, and consequently penniless.



Women and environment are intertextualized in ecofeminist portrayal. Actually, intersectionality is a technique which is used to describe the situations of women in relation to the surrounding environment. For instance, vulnerability of nature is metaphorically associated with that of women. The sublimity and tolerance, silence and consistency of the surrounding nature or environment interpret the similar qualities of women. Even in Shakespeare's *Othello* Desdemona's vulnerability and helplessness are narrated rhetorically through the willow tree. When Desdemona feels deceived by her own choice of her husband, she finds her fragility similar to the vulnerability of a willow tree, and hence, she sings:

A poor soul sat sighing by a sycamore tree

Sing all a green willow

.....

Sing willow, willow, willow-/ My garland shall be. (Shakespeare, 2010, p. 267)

Willow tree represents Desdemona's profound sorrow and fragility. Even Ophelia in *Hamlet* out of frenzy climbs up a willow tree and slips down into a fountain where she drowns and dies. Such intersections between ecological aspects and women actually mark identity constructions, symbolic representations, and social structures (Kings, 2017, p. 68). Even in the 21st century, women from the working class are forced towards "everyday activism in part by lack of power in parliamentary and local politics and limited power in the labour movement" (Cagatay, 2025, p. 350). Due to the lack of opportunities to work outside, "women engaged in forms of labour activism that draw on their work as mothers and as wives as often as on their experience of paid work" (Cagatay, 2025, p. 360). But patriarchy does not call all these jobs of women wage labour that is usually done by men. As they are not involved in income generating activities, they fall victim to various sorts of humiliation. Banu Mushtaq depicts how financial women's dependence pushes them towards grave miseries inflicted upon them by men, the income generating agency. In the story "Black Cobras", the protagonist, Ashraf an impoverished woman is depicted in association with nature with all possible vulnerabilities. Her husband has recently taken second wife and deserted her with all her hungry and ailing children. Her youngest child Munni, a suckling baby, is seriously ill, and she direly needs food and medicare. But Ashraf's husband cares about neither his wife nor his children. When Ashraf goes to Mutawalli so that he may convince her husband to give some money at least for the treatment of the ailing child, she receives nothing but the cruelty of her husband that leads Munni to death and Ashraf to more agonies. Her vulnerability is depicted in association with the aspects of nature. It is raining on the night she is waiting for verdict from the Mutawalli.



The dark night, stormy wind, rain, rain, just like pathetic fallacy depict the intensity of Ashraf's miseries.

Relevantly enough, even in the Rig Vedic era (1500-1000 BC), the "position of women was high and honourable" (Mazumder, 2008, p. 208), and marriage was considered to be a sacred union. But with the advent of European colonisation, the day to day thoroughfares started to be considered from commercial perspective. That was a vital paradigm shift in the social interaction and relationship among the people. In line with the corporatizing mission the union between a man and a woman in wedlock gradually lost its emotive faculty, and thus, women, as they were segregated from industry-based income generating activities, they inescapably fell victim to various abusive behaviour from the patriarch. Women's deteriorating status relates to the rise of industrialization and their consequential segregation from economic activities, as agriculture which was previously their source of income, succumbs to the industrialization. Under such circumstances, the concept that husband is to a woman like a god, gets widespread publicity and recognition on the part of the patriarchal society. Banu Mushtaq, in her stories of *Heart Lamp*, depicts the consequential miseries and woes of women, after being alienated from the agricultural land or environment, caught up by the corporate economic framework leading man-woman relationship to the situations in which it can be measured not by human feelings, but by 'give and take' disposition.

In this connection, the review explicitly notes that the ecofeminist nexus has been extensively analyzed in a good number of full-length novels but there is a significant dearth of critical academic concentration given to how ecofeminist anxieties, intersectionality, and environmental degradation are articulated within short stories. Hence, in connection with this, Banu Mushtaq's short stories can be a suitable field of exploration to hear the voice of resistance from the margin. In addition, this paper seeks to connect the shift of historical paradigm from the classical eras to industrial colonization, as it finds a gap in examining 21st-century short stories that address the recent wave of exploitation in the digital and micro-economic framework which affects rural women and their frequently changing relationship with everyday activism.

THEORETICAL FRAMEWORK

The in-depth analysis of Banu Mushtaq's short stories from *Heart Lamp* is based on a multidimensional theoretical framework that fuses radical ecofeminism with postcolonial theorist and philosopher Gayatri Chakravorty Spivak's theory of subaltern silencing and Afro-American feminist critic bell hooks's concept of the "homeplace" as a site of resistance.



Actually, Banu Mushtaq's *Heart Lamp* deserves to be interpreted and analyzed in ecofeminist theoretical framework, though, in addition, Gayatri Charavorty Spivak's concept of subalternism and silencing in the margin and Afro-American feminist bell hooks' concept of homeplace as a site of resistance are very relevant to pursuing the research question in this paper. Nature, an inevitable ingredient of ecosystem, can aptly analyze human conditions because ecocritics hold a belief that "our ideas about nature are too often a product of our fears and desires, rather than a response to reality" (Tyson, 2023, p. 422). Radical ecofeminists cherish a conviction that women, by instinct, are closer to nature than men. Even the voicelessness of women in the patriarchal society is metaphorically interpreted in association with the absence of verbal expression of nature. They lack proper language to proclaim their agency. Actually, "language is the privileged medium in which we 'make sense' of things, in which meaning is produced and exchanged" (Hall, 2013, p. xvii). The language of women is defined and decided by the male-dominated society which assumes the disposition of the capitalists who cause damage and destruction to nature, and thus, exercise their masculine power upon nature as, in a patriarchal society, men oppress women for silencing their voice and reducing down them to subordination.

Gayatri Chakravorty Spivak criticizes both Karl Marx and Sigmund Freud because she thinks their conceptions of alienation are incomplete. While Marx delineating the concept of alienation, he does not take women into account. Again, when Freud delineates the concept of penis envy, he skips the idea that womb is a site of productivity. Spivak refers to the traditional definition of women, which puts a woman as a dichotomy or binary opposition of a man. But as a deconstructionist, Spivak challenges the dichotomy because deconstruction considers nothing as absolute or constant. But she further believes that definition, on the other hand, is needed to keep going. In her words:

The only way that I can see myself making definitions are necessary in order to keep us going, to allow us to take a stand. The only way that I can see myself making definitions is in a provisional and polemical one: I construct my definition as a woman not in terms of a word currently in use. "Man" is such a word in common usage. Not *a* word, but *the* word. I therefore fix my glance upon this word even as I question the enterprise of redefining the premises of any theory (Spivak, 1996, p. 54).

Gendered propensity of defining women is interdisciplinary in terms of intersectionality of cultures and distinct geographical realities. For example, when William Jones who, in these days, is popularly known as the first orientalist, and being appointed puisne judge to the Supreme Court of Judicature at Fort William, while translating Kalidasa's drama *Sakuntala*,



reconstructed, to be specific, Europeanized the eponymous heroine and made her fit, in terms of physical stature and complexion, for the European readership. Manu S. Pillai rightly asserts:

... this tendency to 'purify' assumed a tone of moral judgement. So, if Jones was feted for his translations, into the same translations were also braided Western, Christian sensibilities. Where in Kalidasa's original, Sakuntala is sweaty, for example, Jones transcribed a glowing complexion to avoid shocking white readers with the text's open sensuality. Where her breasts are described, his inner senses purged the line, so that Sakuntala in Europe was a deterged, redated heroine. (2024, p. 145).

Portrayal of Sakuntala drenched in sweat aligns the ecological or climatological realities, geography and ethnographical environment of the subcontinent where Banu Mushtaq meticulously detects these limitations with women and the colonized mind in European framework with men. The polished and deterged figure of Sakuntala that William Jones offered to his European readers is also favorite to a man in the patriarchal society. For example, in the short story "Stone Slabs for Shaista Mahal" Banu Mushtaq dissects the mindset of Iftikhar who married Shaista at her twenty and fathered seven children. But only forty days after her untimely death, he marries a young woman of only eighteen, a typically deterged woman like Sakuntala in Jones's translation, in place of Shaista, a woman surrounded by children and suffering from inherent ailments quite common with the traditional women of the subcontinent.

Again, even in the same story, when Mujahid compartmentalizes women by placing mother and wife side by side for demonstrating the unique love of a mother, his wife Zeenat, just like a subaltern in Spivak's "Can the Subaltern Speak?" feels unable to resist this masculine discourse with a counter discourse. According to Mujahid, mother's love is of special kind and unique, and if mother dies you will not find a woman like her with the same affection and love. On the other hand, if a wife dies "one can get another wife" (p. 13). The narrator of the story Zeenat ironically refers to her grandmother's analogy that the shock emanated from a wife's death is just like a wound in the elbow, and it is extreme instantly though very soon it fades away.

But the most common aspect of all the twelve stories is that the narrators are women from the minority segment of the society, especially Muslim community, and during an in-depth perusal readers hear the voice from the margin. In this connection, Afro-American feminist bell hooks sounds very relevant when she claims that homeplace is a site of resistance to the patriarchal process of stereotyping Indian women. It is usually found that "An Indian girl is brought up on myths and legends celebrating these archetypes, and inculcated with the belief that her mission in life is to try and live up to them (husbands) as lords and masters" (Ho, 2005, p. 20). From



exterior, the location of Banu Mushtaq's women is mostly the margin, encapsulating the minority, especially the Muslims in Karnatak. These women like traditional Indian women deprived of education and completely depending on men for livelihood, and they are narrating their stories, and this very task is also vehemently like "making a homeplace, of making home a community of resistance..." (hooks, 1990, p. 42). The liberatory struggle of the women is seriously undermined by patriarchy which rigorously tends to subvert the homeplace into a site of patriarchal domination upon women. The characters of Mutawalli in the stories, such as "Fire Rain", and "Black Cobras" obviously depicts the dominating force against which women are restlessly struggling to construct their own identity. Banu Mushtaq depicts the struggle of women with analogies, metaphors, references from the environment, which invites this paper to make an ecofeminist study of the text. The curse of a deprived and deceived sister is compared to a rain of fire that showers upon the deceiving brother. Even in English translation Deepa Bhasti retains some words and phrases from the local Kannada language, which inspires the readers to peep into the margin, the voicelessness and listen to them. Not only this, Banu Mushtaq's use of the excellent cadence of syntax, language of the marginalized people of Karnatak, women's negotiation with the social and religious institutions lend weight to the view that *Heart Lamp* can be aptly studies from the ecofeminist perspective.

FINDING AND DISCUSSION

With immense fortitude Banu Mushtaq depicts how women's lives are shaped, constructed and re-constructed by patriarchal norms, religious authority, domestic chores, marriages, childbirth capacity and motherhood. All the social, political and religious institutions claim absolute subjugation of women, and in the way of implementation of these expectations they do not care about human aspects of women. They rather fortify their dominance and hegemony with narratives, myths, logocentric religious faiths, stories and many other sources which deliberately established their superiority upon women. It is quite similar to the process in which man establishes his superiority upon nature. They celebrate the discourse which tempts them to cherish the norm that on this planet everything is created for human beings, and taking resort to such discourse humans destroy forest, kill rivers, contaminate seas and desperately kills wild animals in need and even while there is no need to kill them. Even the overall passivity of women aligns the passivity and voicelessness of nature. Aligning *Heart Lamp* with all that are already said, it can be affirmed that Banu Mushtaq depicts her female characters from ecofeminist perspective.

But *Heart Lamp* is not wholly an ecofeminist text, and here women are not directly cast against nature for struggle as an antagonistic agent. Nature now and then relevantly appears in course



of the flow of the narrative, but it is not wholly anthropocentric. True, in the postcolonial situations, women are to fight “with multilayered traditions rooted in indigenous custom with overlays of colonial influence” (Katrak, 2006, p. 156). As a result, feminism develops a number of ramifications, and ecofeminism is one of them. But it is also political as well as patriarchal that Vandana Shiva mentions in an interview. In her words, “Ecofeminism is a good term for distinguishing a feminism that is ecological from the kind of feminisms that have become extremely technocratic. I would even call them very patriarchal” (2011). She claims it rightly as nature or ecosystem is marked as a site of voicelessness and patriarchy being aided by religion, tradition and culture deliberately tries to control voice, resistance and counter discourse on the part of women. Banu Mushtaq, in this connection, depicts the voicelessness of women and her depiction becomes more intense while she has borrowed metaphors, imagery from the environment around women.

To sum up, *Heart Lamp* truly resists a simplistic and essentialist application of ecofeminism. It is also evident that the book avoids the reductionist trope of casting women as direct, antagonistic combatants against the externalized forces of nature. Instead, the natural environment functions as a fluid, non-anthropocentric presence embedded within the narrative fabric. True, postcolonial female subject have to navigate multilayered traditions where indigenous customs are deeply entangled with colonial configurations of the power-structure. As a result, Mushtaq’s ecofeminist disposition aligns with several ecofeminists’ conceptualization of the discipline as an inherently political assessment—one that distinguishes itself from technocratic, assimilationist feminisms, inadvertently replicating patriarchal power-structure. By treating both the ecosystem and the female body as twin sites of enforced silence, *Heart Lamp* deploys ecological metaphors and localized environmental imagery not as mere backdrop, but as vital semiotic tools to amplify the subaltern voice and articulate structural defiance.

CONCLUSION

Banu Mushtaq’s *Heart Lamp* offers a multifaceted lens through which readers find how Indian women from the margin negotiates with the discriminatory forces of the society, mostly represented by patriarchy, “one of the dominant systems that as a debilitating social construct has led to gender oppression universally” (Kumar and S. Armstrong, 2025, p. 5). But patriarchal discourse is never monolithic; it is rather polyphonic for its diverse ramifications and close engagement with race, culture, class, tradition, and above all, religion. In the existing social framework, women cannot speak out or rebel because it goes against the myths, and legends which are constructed to suppress them. But for attaining sustainable development



goals globally, women must be free from all the ostracizing forces against which Banu Mushtaq formidably raises questions. She has culled the materials of her stories from all around her, but the focus that she sets, that is, the gender-oppression and exploitation of women in the name of religion and tradition, draws wide attention for the stretching range of impact of the dominance of the myths and legends constructed by the religious narratives. Though *Heart Lamp* can be perused from various perspectives, ecofeminist perspective, which this paper emphasises, opens up a new horizon for the successive researchers to juxtapose women side by side with nature, and they may, thus, explore this area more extensively and add new ideas and findings to the existing academia.

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CULTURAL EPISTEMOLOGY TOWARDS A NEW PERCEPTION OF TRANSDISCIPLINARY RESEARCH IN EDUCATION

Abbas Ali

Research scholar, Department of Education, University of Kalyani,

Email: abbas.ku.edcn@gmail.com

Dibyendu Bhattacharyya

Professor, Department of Education, University of Kalyani, Email: db.ku@rediffmail.com

ABSTRACT

This study explores cultural epistemology as a transformative paradigm for considering transdisciplinary research within educational contexts, moving away from traditional multidisciplinary barriers toward a truly integrated pedagogical approach. The research investigates how a foundational cultural framework composed of contextual understanding, cognitive readiness, a collaborative mindset, and structural and social upgradation serves as the essential precursor for meaningful knowledge production. The paper explores how these four pillars interact to show how their convergence promotes a thorough cultural synthesis, which is the source of advanced cross-sectoral collaboration. The results indicate that by bridging the gap between theoretical academic frameworks and actual social realities, this synthesizing technique effectively constructs a new cultural epistemology through qualitative mixed-method research, which combines various qualitative methods to justify the paper's outcomes. Embracing an expanded perception of research not only enhances the inclusivity of educational systems, but it also provides a scalable approach for solving complex, real-world challenges through a unified, culturally informed point of view. The study argues that cultural epistemology is not merely a theoretical construct but a practical necessity for developing educational paradigms, ensuring that knowledge production is inclusive, flexible, and deeply rooted in the social realities of the modern global landscape.

Keywords: Cultural Epistemology, Transdisciplinary Research, Knowledge Systems, Indigenous Knowledge System, Collaborative Knowledge Production.



INTRODUCTION

In the era of the 21st century, education is encountering new obstacles and problems stemming from the complex interaction of social, cultural, technological and ecological phenomena that transcend the traditional framework of disciplines (Nicolescu, 2002; Bernstein, 2015). Such phenomena include, for example, globalization, ecological sustainability, diversity of cultures, new technologies and the list of such factors is not limited. As Max-Neef (2005) remarks, although a deep understanding of educational problems cannot be developed within the limits of a single discipline, it is equally the case that education cannot be resolved within the framework of separate disciplines, because educational problems arise from complex interactions of a culturally and socially diverse nature that cannot be dealt with successfully by dividing them into specific disciplines.

The mentioned limitations made us look for new ways of approaching and tackling the difficulties and problems that appear in educational systems. That is why, based on the suggestions presented in the debate on alternative approaches to educational research, we chose the transdisciplinary approach. In the paper “The Transdisciplinary Method” (Nicolescu, 2002) the author explains very well the ways in which the new approach transcends the multidisciplinary and interdisciplinary approaches, by providing the basis of a new way of thinking and of understanding, beyond the frameworks of the separate disciplines; it is thus a knowledge approach that is holistic, problem-oriented, and social. The transdisciplinary way of approaching, in turn, implies the co-construction of the knowledge, the plurality of the views, and as a consequence, the offering of more adequate and durable answers to the complex problems that arise in the education system. (Bernstein, 2015).

According to Geertz (1973), cultural epistemology holds that knowledge is a culturally generated artifact that is dependent on the social and cultural context of the moment in which it is created rather than an absolute or universal construct. A particular culture's learning and thought processes are directly impacted by this context, which is a collection of socially and



culturally produced values, beliefs, conventions, and practices. In this way, cultural epistemology offers a means of introducing the idea of cultural diversity, often referred to as epistemic diversity, and going beyond the conventional framework of object-subject connections.

Cultural epistemology therefore becomes a critical element so as to ensure that the integration of knowledge for the purposes of resolving various global challenges is not just done technically but also in a culturally and socially meaningful way. To address the complexity of the issue, transdisciplinary research combines different knowledge systems in a thorough, context-appropriate manner (Nicolescu 2002). It encourages participatory approaches to knowledge creation that allow people from diverse socio-cultural contexts to share their distinctive experiences and viewpoints on learning and knowledge, as well as culturally relevant and suitable education (Dei, 2011; Banks, 2015).

OBJECTIVES OF THE STUDY

1. To study the concept of cultural epistemology in the context of education.
2. To explore the role of perspectives and contextual understanding in transdisciplinary research.

METHODOLOGY

Research Design

This study adopts the **Qualitative Mixed Method Research (QMMR)** approach which emphasizes the integration of multiple qualitative methods to generate a holistic and context-sensitive understanding of complex educational phenomena. Unlike conventional mixed-method research that combines qualitative and quantitative data, QMMR employs diverse qualitative strategies to examine a phenomenon from multiple epistemological perspectives.



The present research investigates the role of cultural epistemology in shaping new perceptions of transdisciplinary research in education. Since the study is theoretical and exploratory in nature, it relies on qualitative evidence gathered from scholarly and documentary sources. Following Bhattacharyya's QMMR framework, the study combines the following qualitative methods:

1. Document Analysis 2. Interpretative Analysis 3. Thematic Analysis.

Cultural Epistemology in Transdisciplinary Research

Multiplicity: Unlike traditional research paradigms that privilege universal and standardized forms of knowledge, cultural epistemology advocates for the inclusion of multiple knowledge systems, such as indigenous, local, experiential, and community-based knowledge, alongside formal academic knowledge. This perspective is consistent with the one that posits that there is no epistemology alone that can solve complex and real-world problems, more especially in different educational settings (Battiste, 2002; Nicolescu, 2002).

In transdisciplinary research, the goal is to break down disciplines but, if without cultural underpinning, it may be a reminder of the dominant epistemology that silences other modes of knowing. The issue is resolved by cultural epistemology, which promotes epistemic pluralism, whereby different perspectives are valid and important. It follows the idea of the 'ecology of knowledge' that posits the coexistence and interaction of different knowledge systems for the purposes of planning solutions to global and local problems (Santos, 2014).

Collaboration: It becomes a key element in this framework. The cultural epistemology approach to transdisciplinary research needs active engagement from a variety of stakeholders, such as educators, researchers, policymakers, and local communities. This kind of co-operation encourages discussion, exchange of knowledge and knowledge creation. It also guarantees that the findings of the study are not only academically sound but also socially relevant and culturally relevant (Freire, 1970; Vygotsky, 1978).



For example, the concept of cultural epistemology helped to inspire innovative approaches in teaching, curriculum planning and policy making in schools and education. Finally, cultural epistemology redefines transdisciplinary research as a process of knowledge creation that is dynamic, inclusive and culturally responsive, not a process of incorporation of disciplines. (Max-Neef, 2005).

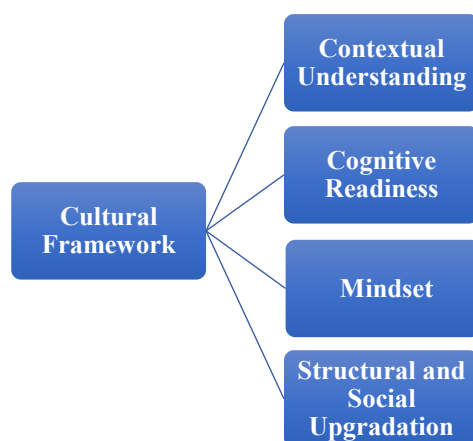
Cultural synthesis: The important cultural approach to this is cultural synthesis, which is an approach that encourages transdisciplinary research in the cultural epistemology. Cultural synthesis refers to the process of synthesizing or negotiating between a number of cultural perspectives, experiences and knowledge traditions to produce new, comprehension understandings. It does not just represent the merging of disciplines, but an engagement with the cultural context and conceptual frameworks. This process will help researchers break through the silos of knowledge and develop contextually appropriate and socially responsive solutions (Nicolescu, 2008).

CONCEPTUAL FRAMEWORK OF CULTURAL EPISTEMOLOGY

The proposed framework situates the cultural framework as the base of knowledge in the beginnings of knowledge formation with an emphasis that knowledge is not neutral or universal, but is formed by socio-cultural circumstances. This view is consistent with the view that learning and cognition are socially determined and that there is a strong linkage between learning and cultural contexts (Vygotsky, 1978). The framework identifies four interrelated components that influence knowledge construction:



Figure: Cultural Framework



Contextual Understanding

Perspective is influenced by cultural and social context in the way that it affects the interpretation and construction of knowledge. Cultural epistemology is a focus on the fact that there is no single perspective that can capture the complexities of reality (Bruner, 1996). Thus, Contextual understanding is crucial in transdisciplinary research. The educational strategies should take into account the learners' cultural backgrounds, social contexts and historical experiences. This facilitates the application and sense of knowledge. For example, teaching strategies that are culturally appropriate for pupils enhance engagement and comprehension. Therefore, incorporating multiple perspectives results in a more comprehensive understanding of educational issues.

Cognitive Readiness

The term “cognitive readiness” describes a learner’s willingness to interact with new information, which is significantly influenced by prior cultural experiences and existing cognitive structures. Vygotsky’s theory of the Zone of Proximal Development, states that learning occurs when new information is connected to existing knowledge within a culturally relevant framework (Vygotsky, 1978). Context plays a crucial role for shaping cognitive



structures. According to Vygotsky (1978), that learning is a socially mediated process, and that interaction within cultural contexts leads to cognitive development. Cultural epistemology supports that cognition is indirectly linked to the learner's surrounding rather than existing in a vacuum. When educational content reflects learners' cultural experiences, it strengthens their ability to understand and apply knowledge. In transdisciplinary research, recognizing the role of context helps in constructing learning experiences that engage with learners' cognitive frameworks, which encourages deeper and more meaningful learning.

Cultural Epistemology and Mindset

Learner awareness and mindset are critical for effective knowledge integration. Cultural epistemology suggests that willingness is influenced by social norms, previous knowledge, and social prospects (Bandura, 1997). "Mindset" signifies individual's attitudes, beliefs, and values that they embrace towards learning. Social norms and value systems play a critical role in determining students' motivation, sincerity, and receiving of knowledge. These cultural mindsets form how students address challenges and create meaning (Dweck, 2006). A learner's mindset regulates their genuineness to new ideas and their ability to engage with several knowledge systems. Transdisciplinary research needs students to adopt flexible and critical thinking approaches. Teachers must consequently make learning environments that support cultural diversity and encourage curiosity. Developing such readiness enables learners to effectively contribute to transdisciplinary knowledge creation.

Structural and Social Upgradation

The incorporation of cultural epistemology in education leads to both structural and social upgradation. Structurally, it effects curriculum design, teaching strategies, and valuation approaches by combining various cultural perceptions (Freire, 1970). Knowledge pays to the conversion of social structures and formal practices. Culturally conversant knowledge systems can encourage social equity, inclusion, and development by addressing remaining disparities



and permitting progressive change (Freire, 1970). Socially, it encourages inclusivity, equity, and common admiration among students. Education progresses a tool for social renovation by addressing disparities and allowing relegated communities. Transdisciplinary research, led by cultural epistemology, contributes to sustainable development by addressing multifaceted social problems in a comprehensive manner.

These mechanisms interact energetically and cooperatively contribute to the development of cultural synthesis, where various knowledge systems, perceptions, and skills are integrated. This synthesis encourages discussion and common understanding across cultural boundaries. Furthermore, it nurtures collaboration, which is crucial for transdisciplinary engagement and cooperative knowledge construction. Through this procedure, cultural epistemology develops as a comprehensive, inclusive, and sprouting system of knowledge that replicates the diversity and involvedness of human experience (Battiste, 2002).

Cultural Synthesis

Cultural synthesis is the process of integrating different cultural knowledge systems in the production of new ways of understanding. In education this translates into the integration of traditional knowledge and modern scientific methods (Gibbons et al., 1994). Cultural synthesis is an essential step in knowledge construction, when various aspects of the culture, and learning dimensions combine into a coherent, sensuous and meaningful whole. It is the product of four pillars of understanding-contextual understanding, cognitive readiness, mindset, and structural and social upgradation -all of which have a strong influence on the perception, interpretation, and application of knowledge.

Cultural synthesis is also embedded in context, that is, knowledge is always historically and culturally local. Learners make sense from and construct knowledge from their experience and cultural contexts, so that there can be several different points of view and they can be heard



and understood. Concurrently, cognitive readiness refers to whether the person is ready to take in and assimilate new material and relate it to past cultural experiences (Vygotsky, 1978).

In addition, mindset is a significant factor in this process. Cultural beliefs, values and attitudes influence how learners are receptive of other perspectives and adapt to and accept new forms of knowledge. There is open and tolerant attitude which enables the integration of knowledge systems and synthesis. In addition, structural and social upgradation creates the wider societal and institutional setting which enables the integration of knowledge by fostering inclusivity, equity and progressive change (Freire 1970).

These elements are dynamic and allow for the synthesis of a variety of cultural perspectives, disciplines and knowledge traditions. It does not just provide a side-by-side presentation of ideas but makes new, enriched understandings that are holistic and contextually relevant. This is the process of not only bridging the different knowledge systems, but also of laying foundation for collaboration, where shared learning and knowledge building will happen.

Therefore, cultural synthesis can be seen as a transformative process in the context of cultural epistemology. It supports the creation of inclusive and dynamic knowledge systems that reflect human experiences and create more meaningful and context-sensitive learning and transdisciplinary research. This synthesis is supported by transdisciplinary research practice which promotes cross-disciplinary and cross-cultural collaboration. It results in innovative solutions and enhances the educational experience.

Revisiting Cultural Epistemology

The proposed framework is revealed as dynamic, emergent, and integrative in revisiting the cultural epistemology in the construction of knowledge. The technology framework proposes that cultural epistemology is not a static or universal knowledge; it is a process that is open and dynamic and results from a continuous process of interaction between the cultural, cognitive and social dimensions. In the context of culture, knowledge is formed due to the circumstantial



understanding, cognitive readiness, mindset and structural and social upgradation, which has an impact on the perception, interpretation and application of the knowledge.

This view breaks with the dominant epistemologies that tend to privilege standardised and decontextualised knowledge. Rather, it is claimed that knowledge is locally produced and is of a cultural nature, and that it has to be viewed in its cultural and historical context (Bruner, 1996). The cultural epistemological revisiting therefore entails acknowledging the legitimacy of other knowledge systems, such as indigenous, local and experiential knowledge systems, which may have been marginalized in formal schooling (Battiste, 2002).

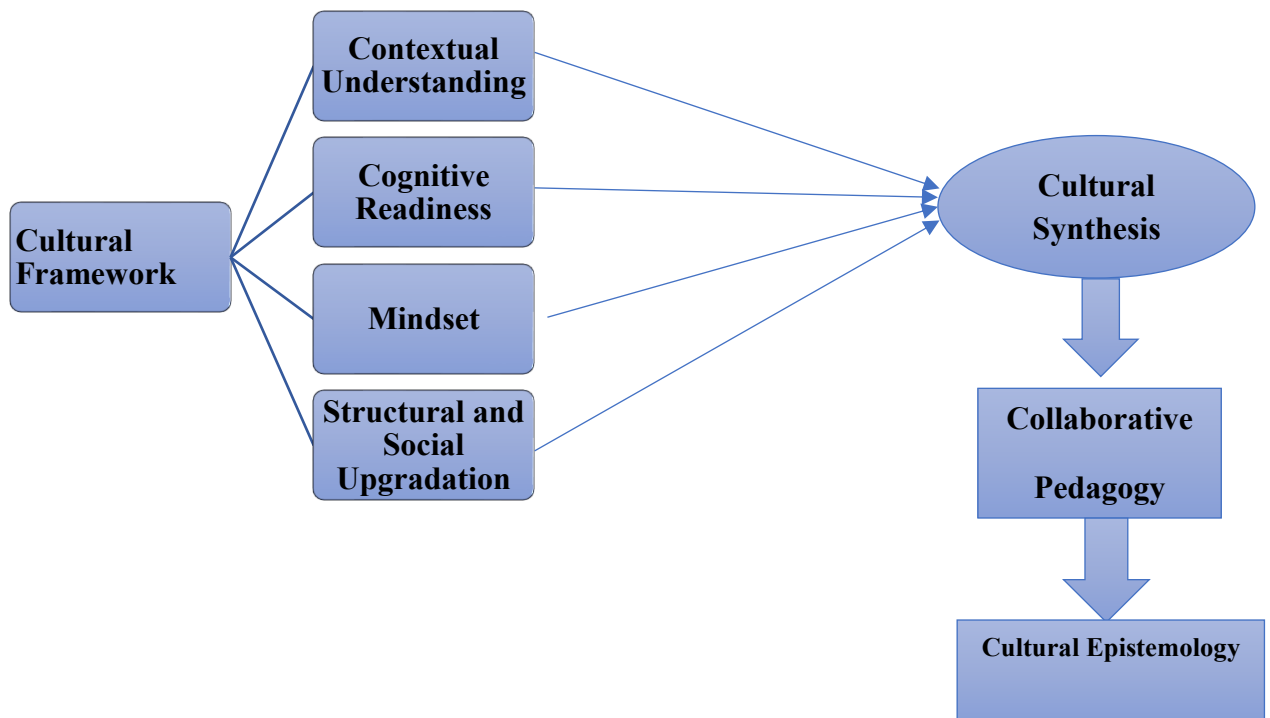
The framework also emphasizes cultural synthesis, which occurs when its core elements interact to produce more holistic and meaningful understandings, driven by the interaction of its core elements. Collaboration is a key element of this synthesis, and it facilitates dialogue, mutual learning and co-construction of knowledge between different stakeholders. This cooperative interaction is an example of the social nature of learning and knowledge construction (Vygotsky, 1978).

Furthermore, the study of cultural epistemology highlights its potential to change the world in response to current educational problems. It establishes cultural diversity in knowledge systems, fostering inclusivity, equity and relevance in education. It also encourages critical reflection on existing structures and practices, setting the stage to structurally and socially upgrade with respect to culturally-congruent and socially-just educational objectives (Freire, 1970).

The rethinking of cultural epistemology in the context of transdisciplinary research can redefine the process of knowledge creation in a new way, as a collaborative, context-sensitive and inclusive process. It transcends discipline and epistemological divisions and promotes innovation and comprehensive problem solving. Finally, the return to the cultural epistemology offers a route towards the construction of a robust, socially relevant and culturally situated knowledge system.



Figure: Cultural Epistemology



THEORETICAL IMPLICATIONS

This study, Cultural Epistemology towards a new perception of transdisciplinary research in education, offers conceptual understanding of the connection between culture, knowledge construction and educational research. It helps to develop epistemological awareness, and to articulate that knowledge is not constructed only through universal or discipline-based conclusions, but is also constructed through one's culture, experiences, and perspectives. The study highlights cultural epistemology as a paradigm that allows for understanding the various



ways of knowing and that supports the use of indigenous, local and experiential knowledge systems within educational research.

The study enhances the theory behind transdisciplinary research by proposing the need for cooperation between various disciplines in education such as cultural and contextual awareness. It suggests that the interpretation and use of knowledge is influenced by viewpoint, attitude and social context. This is a way to cross disciplines and to create a new knowledge making that is more diverse, flexible and comprehensive. The study adds to the theoretical framework of comprehensive education that cultural knowledge and contextual understanding can be used to offer meaningful learning experiences. It offers a framework for researchers and educators to contemplate the need for cultural diversity as an integral part of innovative educational approaches and practices.

LIMITATIONS

While the study is a conceptual analysis of cultural epistemology and transdisciplinary research, the study has some limitations. First, the research is an abstract or theoretical research study that no empirical data was collected from educational institutions, teachers and students. Therefore, the expected effectiveness of the proposed approaches should be further investigated by field study.

Second, cultural epistemology is a large and complex concept that is different in different social and cultural context. The study might not be representative of diverse cultural views and knowledge traditions around the world. Cultural knowledge may be understood within the context of culture, history and education. The study addresses primarily on the theoretical relationship between cultural epistemology and transdisciplinary research, but doesn't go into the implementation issues like institutional issues, curriculum issues or research methodology issues. Future study was required to ask about this practical.



FUTURE DIRECTIONS

This study can be extended in future research by conducting empirical studies on the potential applications of cultural epistemology in the classroom, in teacher training, and in the procedures of educational research. Comparative studies in different cultures could be used to identify the role of other knowledge systems in transdisciplinary learning and research.

There is a need for further research on the development of more inclusive knowledge system using the collaborative research methodology that engages educators, learners, communities and policy makers. These can contribute to developing a vision of education that is transformative, in which cultural diversity, contextual understandings and inter-disciplinary collaboration is significant to sustainable educational development.

CONCLUSION

As a transformative general framework that can be applied to re-examine interdisciplinary research in the education field, cultural epistemology centers its core focus on how context, perspectives, and cultural diversity shape knowledge. This study extends the value of this framework, proposing that it can cover the full process of knowledge development in multicultural contexts, and that the cultural framework it relies on incorporates five core categories of elements. These elements are not separate from each other but are interconnected and influence people's knowledge and learning. It encourages cultural integration and synergy, with a focus on context, cognition, attitude and upgrading, both structurally and socially. This is a more dynamic and inclusive process in terms of construction of knowledge. This view enables education systems to overcome the discipline boundaries and embrace diversity, resulting in meaningful learning and sustainable social development.

The process culminates in cultural synthesis, which combines multiple views and knowledge systems to generate a more comprehensive and inclusive understanding of reality. This synthesis is further strengthened through collaboration, by allowing for debate, mutual respect,



and the sharing of ideas across cultural and disciplinary boundaries. This type of collaboration is critical in addressing complex educational and social problems that cannot be answer a single epistemic viewpoint.

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ENGLISHIZATION OF PEDAGOGY: AN EMPIRICAL STUDY OF THE NEOLIBERAL DATA ECONOMY IN THE CONTEXT OF DHAKA

Maherun Nesa

Post-graduate student, Department of English, Green University of Bangladesh

Email: mnesa834@gmail.com

Elham Hossain

Associate Professor, Department of English, Green University of Bangladesh

Email: elhamhossaindcc@gmail.com

A man who has a language possesses the world expressed and implied by that language. What we are getting at becomes plain: Mastery of language affords remarkable power... Every colonized people—in other words, every people in whose soul an inferiority complex has been created by the death and burial of its local cultural originality—finds itself face to face with language of the civilizing nation; that is, with culture of the mother country. (Fanon, 1952/1967, p. 18)

ABSTRACT

Mode of economy is capable of shifting the paradigm of the teaching-learning process, and it keeps changing continuously since the inception of human civilization, and it receives unprecedented speed and impetus with the advent of industrialization. To ensure and invigorate its widespread hegemony and competitive survival, not through coercion, but through consensus, it assumes neoliberal disposition under the pretext of democratization of economy. With the wake of data technology in the first few decades of the 21st century, economy is ramified into gig economy or data economy which is surely a progeny of neoliberal economy, with the same content but a different container, and inescapably it is occupying a pervasive role in Englishizing pedagogy far and wide. Using an empirical approach, this paper seeks to show how data economy, a comparatively recent phenomenon, and neoliberal governmentality turn English a market-oriented default language and Englishize the pedagogy across the educational streams in Dhaka. A total of 60 students from secondary and higher secondary level who belonged to different streams like Madrasa, Bangla Medium and English Medium were surveyed through a structured questionnaire. Furthermore, this paper draws on theoretical



frameworks from Robert Phillipson, Alastair Pennycook, Suresh Canagarajah, Norman Fairclough, and a few more scholars in the relevant field to exhibit the entanglement of English, power-structure, and market-driven education policy, and the pedagogical autonomy in Dhaka.

Keywords: Englishizing, Pedagogy, Neoliberalism, Data Economy, Market-Oriented Teaching

INTRODUCTION

Englishization of pedagogy emanates from the globalizing process and its inherent neoliberal economy which promotes the use of English in educational theories and practices. Actually, pedagogy as a distinct discipline, more of social science than of humanities because it is empirical, quantitative while humanities are mostly qualitative (Landahl & Larsson, 2022, p. 81). If ontologically approached, pedagogy refers to the process which encompasses “an array of disciplinary and contextual foci and applications” (Demuro & Gurney, 2025, p. 85). The first and foremost objective of pedagogy is to generate new knowledge, and impart it to the learners who develop problem-solving skill and intellectual potential to navigate the world and leverage the standard of human cognitive faculty. Thus, pedagogy, in particular, aims at developing the learners’ “power to perceive critically the way they exist in the world” (Freire, 2005, p. 83). As learners are always, in relation to their own agency, cognitive capacity and response to their surroundings, pedagogy, whether it is openly declared by the educators or not, plays an intrinsic role in navigating the learners’ activities and the framework of mind, and thus, developing their critical consciousness about the ways they negotiate with the society. As such, pedagogy helps learners understand their connectivity with their comprehensibility of diverse determining and defining factors of the society, such as, economy, ethics, aesthetics, science and all other aspects which constitute their whole self. As a result, it is mostly connected to praxis which triggers up the transformation of cognitive faculty and action. In this connection, Demuro and Gurney relevantly argue:



Critical pedagogy is a response to material inequality and the inequalities of an unjust world, with an aim of better understanding the position and constraints placed upon the subject/self and hence, of transforming the conditions of inequality through education. (Demuro & Gurney, 2025, p. 86)

But the connectivity that critical pedagogy promises for is determined by the mode of economy and other ideological state apparatuses, and that is why, Freire argues that pedagogy is concerned with the material world which alienates the working class of people from the privileged class, and dehumanizes them and leads them to inequalities (Freire, 2005, p. 15). This process of dehumanization and alienation gets an impetus while English taking up neoliberal role turns into a sole instrument of pedagogy, and it happens in Bangladesh where English language teaching and learning are considered as an investment, and profit-generating activity. It has been expedited with the advent of a new form of economy, that is data economy, a world-wide digital system where data is used to create economic value. True, with the change of the mode of economy, mode of pedagogy changes with a view to addressing the innovative and transformative issues. Since, 1971, that is, after the political independence of Bangladesh, there emerged a new bourgeois class which cherishes and nourishes the colonial bourgeois ideology. In collaboration with neoliberal economy this class attains more strength and English starts assuming instrumental role in the education system. At the same time the rise of English being supplied with a congenial environment by the neoliberal economy contributes to the creation of social discrimination as English turns into a commodity that only the haves of the society can buy. At present the most horrific impact of the Englishization of pedagogy is that the education system is split up or stratified into various streams, and most of the streams are alienated from the main stream of the society, and they cannot participate in the present mode of economic enterprises. The recent phenomenon is also drastically affecting the pedagogy. Digitalization, advent of AI, cyber technology are transforming pedagogy into a transformative tool which is snatching away the agency of the learners and transforming them into human resource with necessary skills essential in the job market.



It is widely argued that digital transformation provides growing economies new scopes and opportunities to expedite industrial age infrastructure, “to draw on the vast knowledge spillovers from the internet, to take advantage of new markets offered by digital platforms and to exploit production possibilities enabled by digital technologies” (Ciuriak & Ptashkina, 2019, p. 1). Teaching-learning, in the corporate economic set-up turns into an industry which is increasingly aided by machine learning, a very common mode in the pedagogy in vogue in the developed countries which are now putting emphasis on the development of knowledge-based economy. Even research-work has been industrialized with the wake of this knowledge-based economy or data-driven economy which “promises to take the optimization of production processes to a new level through the use of data generated by Internet of Things (IoT)” (Ciuriak & Ptashkina, 2019, p. 3). IoT refers to the devices like smart phone, computer etc. interconnected through internet at a broad scale and it ensures autonomous monitoring or surveillance. As it is an interconnected network, it enables everybody connected in this network to know each other’s data and information. This process has got cost involvement which creates profit center. Data management job is expensive and it is usually in the control of the developed countries. They have rich libraries with rich data bank, data analysis cells and experts and hence, they are always in advantageous position enjoying the status of the manufacturers while the developing countries take up the role of consumers. Thus, data economy is created and it, in the framework of neoliberal market policy, that is, open market policy and privatization of institutions, goes on exploiting the developing countries which, with huge population, are unable to claim jobs in the global distribution of work without potent skill and education in digital technologies. With less revenue these countries cannot afford updated education to their learners. Intellectual property is the pivotal factor of data economy, and its development requires a huge investment, and it is difficult for the developing countries to cope with this huge cost-involvement for the development of digital literacy. Though some developing countries, for example- Rwanda, are adopting the mode of digital economy, the main challenge for the countries like Rwanda is to control Rural to urban migration of the people because if it happens it will mar every possible means of overcoming the impoverished situation.



But data-driven economy poses some crucial threats to the existing establishments, such as market, government and even society. Market may fail because the data-driven economy promotes the emergence of highly competitive superpower which may devour the small entrepreneurs. Government may fail because it empowers the government with absolute surveillance agency which challenges the individual liberty of self-entirety. But collective action and consensus are needed for the success of the government. In such situation, the balance between these two parties collapses and it leads the government to failure. Even social dysfunction is caused by the data economy as it offers the truth which is virtually post-truth; it creates man who is already dead; it creates the past which never existed and constructs the future which is unpredictable. In this way, data economy constructs a society which is already past. Thus, the advent of data economy will frustrate many of the features of the industrial era that provide opportunities for developing countries to converge. It can even put the Global South under pressure from the Global North geopolitically. In such a very crucial situation, the developing countries, for survival, have to take a combination of strong leadership, clever digital economy, industrial strategies and leveraging the possibilities of digital transformation with an addition to ensuring participatory democracy. It is only then implementation of digitalization of pedagogy will bring positive impacts on all probable sectors of life.

Now English is primarily the language of data economy in which digital data becomes a central resource for value creation. In this world of cyber technology companies, institutions, governments collect, process, and monetize it through algorithms, analytics, and Artificial Intelligence (AI). Obviously, data economy relies on global digital platform such as, Google, MS Teams, Coursera, Canvas, Turnitin operate data primarily in English. In addition, academic contents in English are more easily indexed. As English dominates the academic corpus, it suits machine learning, too. Finally, education inevitably moves into data-driven environment, and so, English becomes a default language of pedagogy. Datafication of academic performances is usually done in English. University rankings, downloads and digital engagements are done in English. Times Higher Education database, SCOPUS or Web of Science indexing or any



other digital engagement are done in English. Even educational platforms and global pedagogical market are implemented in English. Google Classroom, Zoom, MS Teams, Google Meet and various other support materials, AI tools are primarily in English. Knowledge visibility worldwide is next to impossible without English. Thus, data economy promotes the Englishization process of pedagogy.

LITERATURE REVIEW

Pedagogy which is one of the most powerful means of raising a nation to an elevated status, plays, no doubt, a transformative role and it impacts both the instructors and the learners. Not only that, the medium of instruction has got an intrinsic connectivity with the receptive dynamics of the learners. The instruction's objectives are also directly influenced by the medium of instruction. Actually, "An objective is a description of a performance you want learners to be able to exhibit before you consider them competent" (Mager, 1975, p. 5). True, performance-oriented pedagogy also intends the learners to "communicate something to somebody. If that somebody doesn't get the message as intended, don't argue or defend, fix" (Mager, 1975, p. 68). Objective based pedagogy aligns the neoliberal economy which slides into data economy in place of, grossly speaking, factory-manufacture based economy. Neoliberal economy promotes open market policy with a fervent advocacy in favor of privatization of the mode of production and the distribution of goods in a highly competitive environment. The concept of globalization melts the whole world into a pot, creating a disorderly mixture of diverse elements, marked by confusion and paradox, leading the countries of the world into an unequal competitive arena. It essentially transforms human beings into human things, humanity into human resource manufactured, constructed and commoditized as per the required demands of the corporate-controlled job market. In such a highly competitive era of de-humanization, universities are inescapably taking up the role of manufacturing bodies producing human resources with demanded problem-solving skills needed in the corporate world whose motto is to maximize profit.



In such an era, Bangladesh cannot but assume English as a medium of instruction in its universities, which historically recalls Babington Macaulay's confident affirmation in 1835 that "There never, perhaps, existed a people so thoroughly fitted by nature and by habit for a foreign yoke" (Chakravarti, 2017, p. 174). Similarly, English falls upon the shoulder of the Bangladeshis as a 'foreign yoke' beyond which there is no other alternative excepting fortifying the neoliberal economic dynamics, leading to derangement and non-entity, devoid of originality. As the corporate economy is unmasked in many ways and questioned from different angles, it is innovatively revolutionizing into data economy in collaboration with cyber technology and artificial intelligence (AI) which is threateningly challenging the agency of the Global South, a transformed consumer, not manufacturer, a market of the Global North.

Robert Phillipson rightly argues that pedagogical practices are embedded in power relations, ideology, and policy (Phillipson, 1992). He also believes that English language teaching all over the world, specifically in the Global South is deliberately political, not pure or innocent. Some myths are created around the status of English language in the pedagogy. For example, unless and until you can speak good English you are not fit for the job market. Job market-oriented pedagogy assumes it unquestionably and Phillipson (1992) thinks it is an initiative on the part of the imperializing countries to recolonize the natives who were once colonized by the today's imperializing forces. True, language, a very powerful ingredient of culture serves as a memory bank of a community which speaks the language which "do not grow, age, and die. They do not become irrelevant to the 'modern age' due to some intrinsic fault in their composition... They are lost when the predominant class in society has no use for them" (Ngũgĩ wa Thiong'o, 1993, p. 54). Ngũgĩ wa Thiong'o appears to be true when we hear Gayatri Chakravarti Spivak saying, "We know no world that is not organized as a language-languages that we cannot possess, for we are operated by those languages as well" (Spivak, 1996, p. 55). Language is symbiotically connected with its speaker-community. However, independence, in many developing countries has turned into a process of shifting the countries from colonial economic arrangement to neocolonial political arrangement because



independence slides into the hands of those who, according to Frantz Fanon, dreams of becoming like the colonial bourgeois. The middle class which takes up the power-structure lacks both intellectual capacities to deal in the politics and take the nations to the destination saturated by the all and sundry. They also lack sufficient competence in technology. That is why, a kind of nervousness works in their minds and this fatal drawback weakens nationalism and leads the nations to neocolonial realities. At present, it is a common fate of most of the postcolonial countries. In such a very ambivalent situation, the imperialist countries in the name of co-operation come forward and impose their curriculum and English as a medium of instruction. Their purpose is to produce intellectual slaves for their job market with a view to maximizing profit. Hence, Robert Phillipson, like Ngũgĩ wa Thiong'o, is true when he detects the imperializing germ in the process of imposing English as a medium of instruction.

In the same vein, Pennycook (1994) argues that English and English language teaching encompassing methods, curricula, materials, teacher-student relations, classroom arrangements cannot be understood without acknowledging colonial histories. At present, English Language Teaching course is getting immensely popular, and even outdoing literature teaching course. Students are preferring English language to literature as its job opportunities are great. On the other hand, literature is getting marginalized. True, literature has the power to make connectivity with history, heritage and culture which English language does not have as it totally alienates the learners from his own linguistic realities. That is why, Pennycook (1994) claims that the teaching of English is not apolitical, and even the classroom is a political and cultural site. Englishizing pedagogy is utterly beneficial for fortifying the hegemony of the foreign culture and challenges the agency of the learners, and thus transforming the learners into others. In the same vein, Canagarajah (1999) argues that English should be taken critically in the pedagogy. Even in the margin or periphery the negotiation between English and the local community of learners is needed to overcome the challenges related to the hegemonic role of English.



METHODOLOGY

Research methodology is a strategy for carrying out research as well as the framework through which the research is conducted. In one of his studies Gamage (2025) explained that, research design serves as an essential part more specifically a blueprint of a study that details the methods, procedures and strategies by using them to collect and analyze data (p. 93). It reflects a researcher's systematic and logical process for investigation of a research problem and outlines what information will be collected, from where the data will be collected, along with the process of the data being collected and analyzed.

This is an empirical study based on primary data, combining quantitative and qualitative analysis. As Creswell and Creswell (2018) explain, empirical study serves as a form of investigation that systematically collects and analyzes data to generate evidence-based insights about real-world phenomena (p. 4). Here, the choice was made based on the nature of the research topic, the availability of data and the researchers' expertise in using structured statistical tools to analyze educational trends.

According to Willie (2024), the study population is the complete set of individuals who meet the study criteria (p. 77). And this study population includes students enrolled in different streams like Madrasa, Bangla Medium and English Medium public and private schools and college in Dhaka. As explained by Ahmed (2024), the sampling techniques are fundamental to ensuring the nature and generalizability of research due to its process of involving the selection of a subset from the larger population (p. 1). Thus, the study used a stratified random sampling method to ensure fair representation across three major educational streams. Where one Madrasa, one English Medium school, one Bangla Medium school and college were selected from Dhaka division. The selected madrasa, school and college locations include: Tejgaon, Laal Matia and Dhanmondi area.

In one of his studies Ahmed (2024) defined that, sample size is the number of participants or unit selected from a population which is very crucial for the validity and



reliability of research outcomes (p. 2). So, students from secondary and higher secondary level were selected from the identified area who participated individually in the survey. The sample size of N=60 with 20 respondents drawn equally from each educational stream is appropriate for cross stream analysis. As Cohen (1992) explained, sample size adequacy in group comparison designs is evaluated per group rather than in aggregate (p. 158). Thus, the mixed-method nature of the study prioritizes depth of cross-stream comparison over statistical generalization.

To carry out the research survey questionnaire sets were formed in both English and Bangla languages. The self-administered questionnaire comprised 26 items in mixed-method format that covers 8 thematic dimensions of Englishization in education which include: demographic background, exposure to English in pedagogy, neoliberal and data-economy influence, power and colonial legacy, learner agency, inequality, policy orientation and qualitative lived experience. The questionnaire included Likert-scale, multiple choice and one open ended item and was provided to 60 participants. The data collection took place from November to December 2025 and secondary data from publications, research papers and journals supplemented the primary data.

After gathering the data by manually providing survey questionnaires and completeness before analysis responses to the questions (Q1-Q25) were numerically coded and entered into Microsoft Excel. The dataset was cleaned through manual verification to minimize entry errors and descriptive statistics including frequencies and percentages were calculated and presented using charts to summarize responses patterns in relation to the research questions.

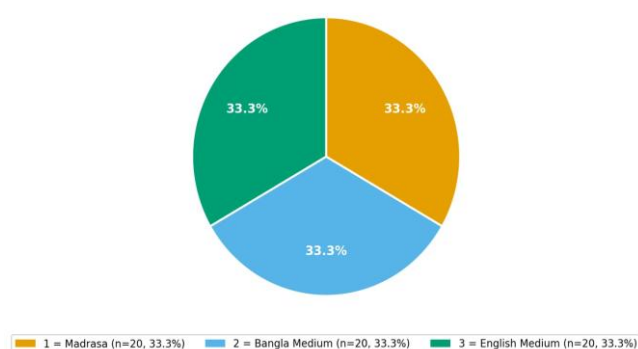
The responses to the open-ended question (Q26) were analyzed using thematic analysis. The answers were read repeatedly, coded inductively and grouped into broader themes reflecting participants' experiences of Englishization, learning confidence and perceived opportunities. Therefore, the quantitative and qualitative findings were interpreted together to provide a comprehensive understanding of the research problem.



The researchers' provided participant institutions' a consent form that clearly states the purpose of the study and their involvement in it. The research only included those who willingly agreed to participate and the researcher assured the participants that their privacy and anonymity would be completely accepted as well as the data obtained would be used solely for research purpose. Ethical standard shall also be maintained by avoiding plagiarism and properly citing sources throughout the study process.

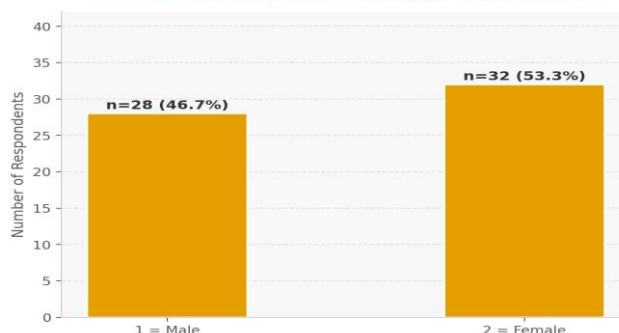
DATA ANALYSIS AND RESULT

Distribution by Institution Type (Q1)
(N = 60, Englishization of Pedagogy Study, Dhaka)



The study's sample comprised 60 students from three different streams in Dhaka with an equal distribution of 33.3% students from each stream consisting Madrasa as type 1, Bangla medium as type 2 and English medium as type 3.

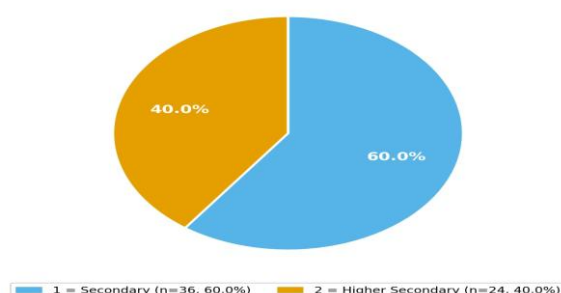
Gender Distribution (Q3)
(N = 60, Englishization of Pedagogy Study, Dhaka)





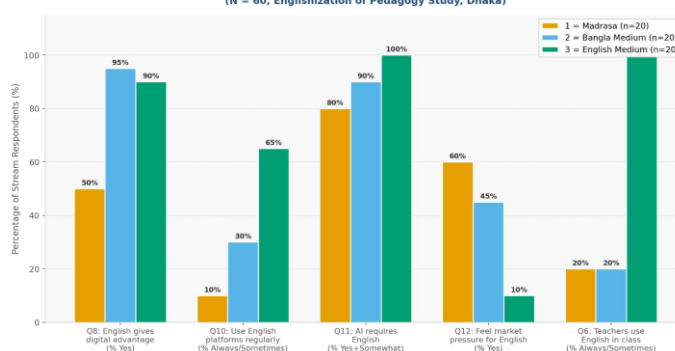
The majority of respondents 53.3% (n=32) fall within the numeric value 2 which indicates female participation and the minority respondents 46.7% (n=28) are male who are identified within the numeric value 1.

Distribution by Level of Study (Q2)
(N = 60, Englishization of Pedagogy Study, Dhaka)



In terms of academic background, the study sample comprised approximately 60% (n=36) respondents from type 1 which is secondary level and remaining 40% (n=24) from type 2 which indicates higher secondary level.

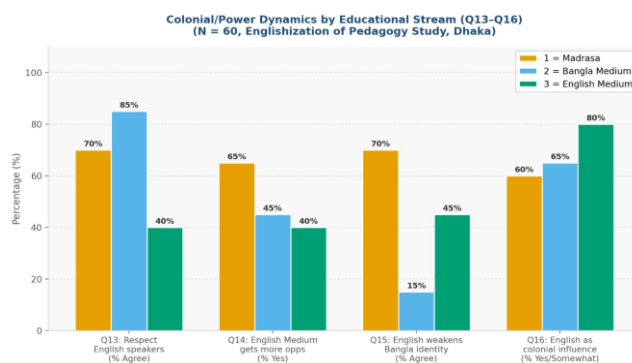
Data Economy & Digital Platform Access by Educational Stream
(N = 60, Englishization of Pedagogy Study, Dhaka)



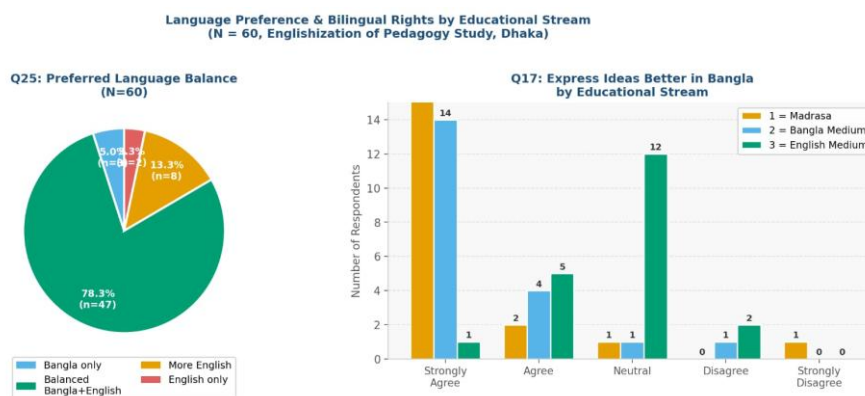
The chart compares students' views about English and digital access. Where nearly all students agree especially English medium (100%) that AI requires English (Q11), most agree that English gives digital advantage (Q8) but Madrasa students (50%) are less convinced, then using English platforms (Q10) English Medium leads (65%) in comparison to that Madrasa students rarely do which is (10%). Also, the market pressure for English (Q12) Madrasa feels



it most (60%) where English Medium scores least (10%) and teachers use of English (Q6) is exclusive in English Medium (99%) but very low elsewhere (20%).



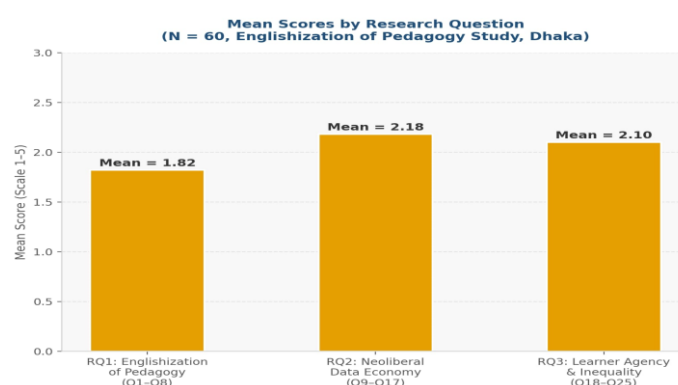
On the view of English and colonial power dynamics the chart shows students from Bangla Medium feel respect for English speakers (Q13) most strongly (85%) while English Medium least (40%), students from Madrasa agree English Medium gets most opportunities (Q14) most (65%) which English Medium students somewhat agrees too (40%), Madrasa students agree English weakens Bangla identity (Q15) strongly (70%) but Bangla Medium shows least concern (15%) while English Medium is moderate (45%) and in English as colonial influence (Q16) students from English Medium are most aware (80%) followed by Bangla Medium (65%) and Madrasa (60%).



In terms of preferred language balance (Q25) the pie chart shows most students want both languages where 78.3% prefer a (Bangla + English) balance, 13.3% want more (English),



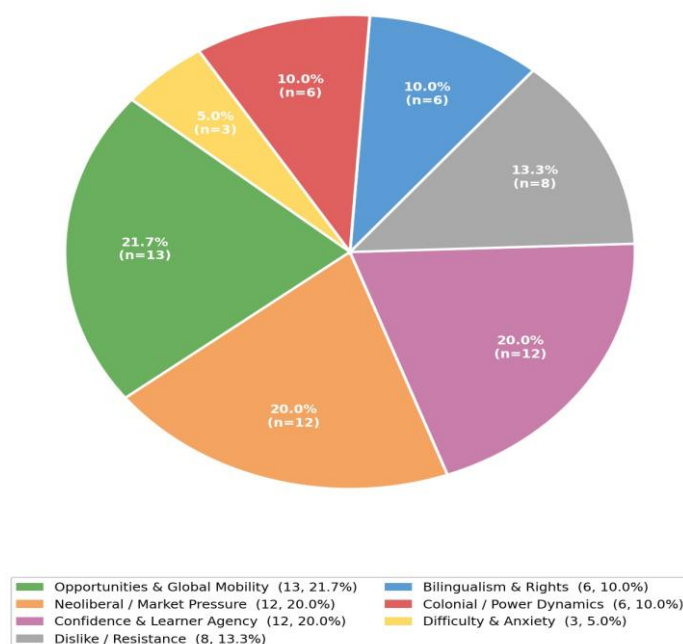
5% only want (Bangla) and 3.3% want only (English). Then, (Q17) in the bar chart shows in terms of expressing ideas Madrasa and Bangla Medium students (14 each) strongly agree that Bangla is their natural voice. While, English Medium students reflecting their English-dominant schooling are more divided like many are neutral (12) or disagree (2).



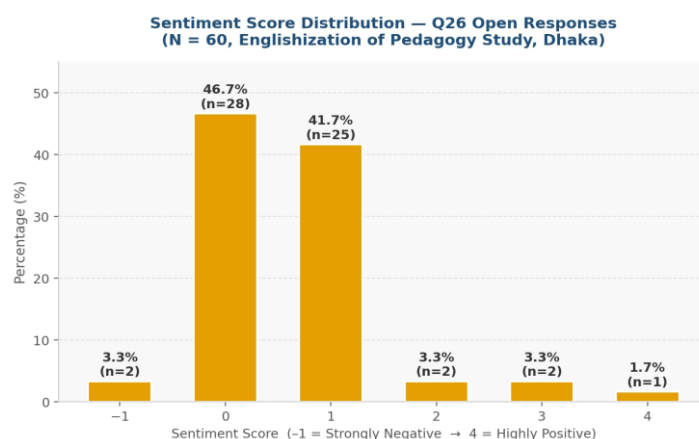
The chart shows the mean scores of three research questions from the study conducted. Among the three question areas RQ2(Q9-Q17): Neoliberal Data Economy received the highest mean score (2.18), then RQ3(Q18-Q25): Learner Agency & Inequality (2.10) and RQ1(Q1-Q8): Englishization of Pedagogy received the lowest mean score (1.82). Though these mean scores are below 1-5 scale of the midpoint the stronger responses of RQ2 and RQ3 indicate the concerns of the participants about digital educational structures, inequality and learner positioning in English dominated pedagogical environments.



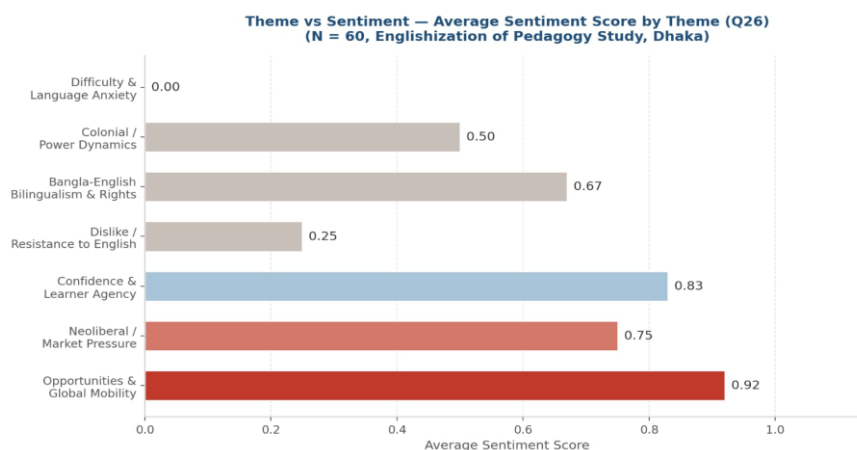
Q26 Thematic Distribution (Pie)
(N = 60, Englishization of Pedagogy Study, Dhaka)



This pie chart shows that the largest portion of students 21.7% see English as a gateway of opportunities and global mobility, 20.0% students feel pushed to learn English due to neoliberal/market pressure, also 20.0% students connect English proficiency with confidence and learner agency, 13.3% students express dislike/resistance, 10.0% students advocate for bilingualism and rights in education, 10.0% students recognize English as tied to colonial/power dynamics and the smallest group of students 5.0% find English difficult and feel anxiety.



The sentiment score distribution regarding students open ended responses to (Q26) in the histogram chart about English in education (scale: -1 to 4). Among the students 46.7% are neutral (scored 0), 41.7% were mildly positive (scored 1), 8.3% were genuinely positive (scored 2-4) and just 3.3% were negative (scored -1). This suggests students view Englishization as practical reality rather than something they are deeply against.



In the horizontal bar chart students' responses discussing the themes about English in education scores range from 0 (neutral) to 1 (positive). With (0.92) Opportunities and Global Mobility theme scored highest, students linking English to Confidence and Learner Agency scored (0.83) that is second highest, students accepting learning English as a necessary reality: Neoliberal/Market Pressure theme in moderately positive tone scored (0.75), Bangla-English



Bilingualism and Rights theme suggesting a moderate positivity scored (0.67), reflecting critical and measured responses Colonial/Power Dynamics got evenly balanced score (0.50), the most negative theme is Dislike/Resistance to English scored (0.25) and the theme Difficulty and Language Anxiety scored (0.00) where students expressing anxiety or difficulty were completely neutral in tone. This shows students are pragmatic about Englishization where they view it as a complex but accepted part of their educational reality.

FINDINGS AND DISCUSSION

The study findings show that Englishization of pedagogy in Dhaka is not a neutral linguistic shift but a structurally produced outcome of neoliberal governmentality and the expanding data economy. As, in one of his research works Khranchenko (2025) presented that, the global patterns observed in Africa and Asia represent the concept of Englishization functioning as a governance mechanism that aligns education with competitiveness, efficiency and global market integration (pp. 50–55). This is also supported by Rahman and Hu (2025), who show that the use of language in education policies reproduces neoliberal ideologies by framing English as economic necessity rather than pedagogical choice (pp. 3–7). Within this framework, the study confirms that English simultaneously operates as opportunity and control, reinforcing existing educational and class-based inequalities.

Learner Agency and Inequality (RQ3) with its high mean score indicates that respondents strongly associated marginalization with confidence, participation, and future mobility. However, this agency in general is unevenly distributed and structurally constrained. Devkota's (2025) study of marginalized EFL learners illustrates how agency emerges through constant negotiation within unequal sociocultural structures (pp. 2–4). Both Rahaman (2025, p. 13) and Wang and Jiang (2025, pp. 252–269) similarly show that English proficiency functions as linguistic capital shaping identity, aspiration, and self-worth. These findings align with Fanon's (1952/1967) insight that Englishization produces both symbolic empowerment and psychological alienation, particularly among Bangla medium and madrasa learners who lack institutional access to linguistic capital.



The strong perception of Neoliberalism, Power and Colonial Legacy (RQ2) underscores how Englishization operates through ideological state apparatuses embedded in education. Chang (2025) argues that EMI policies gain legitimacy by becoming “common sense” through the masking of their neoliberal foundations (pp. 7–9). Cornelissen (2025) similarly conceptualizes this process as neoliberal imperialism, wherein colonial power is rearticulated through market logic rather than direct political domination (pp. 5–9). Respondents’ belief that English is essential for employability confirms Fairclough’s (1989) claim that neoliberalism discursively transforms learners into human capital, a process also evidenced in MOI discourse analysis by Rahman and Hu (2025, pp. 4–6).

Exposure to English and the Digital Economy (RQ1) scored comparatively lower, which does not suggest weaker influence but rather ideological normalization. Chang (2025) notes that when English becomes infrastructural to academic systems, its dominance escapes critical scrutiny (pp. 10–13). The ideological invisibility described by Pennycook (1994) is evident in the pervasive reliance on English in LMS platforms, academic indexing, online classrooms, and AI-mediated pedagogy. This finding aligns with Khranchenko’s (2025) argument that digital globalization renders English the default language of data circulation, knowledge validation, and academic legitimacy (pp. 58–62).

Throughout the study findings 78.3% respondents who prefer a bilingual model in (Q25), Madrasa and Bangla Medium students (14 each) strongly identify Bangla as their comfort language in educational spaces (Q17) and the 13.3% of respondents who expressed dislike or resistance to Englishization in thematic and sentiment analyses reveal a strong emotional and pedagogical attachment to Bangla in spite of being aware about the instrumental value of English. This mirrors Alonso and Rojo’s (2025) claim that resistance to linguistic dominance often takes subtle, affective, and identity-based forms rather than overt rejection (pp. 4–6). Bawm’s (2025) documentation of cultural displacement among indigenous students further supports the view that linguistic dominance destabilizes identity and belonging (pp. 47–54). The preference for Bangla in this study reflects no anti-English sentiment but rather



resistance to the monopolization of pedagogy, echoing Ngũgĩ wa Thiong'o's argument that language carries culture, memory, and cognitive grounding.

The sentiment that are rendering around neutrality and moderate positivity suggests that Englishization is experienced less as liberation and more as compulsion. Akbar (2025) in accordance to that reveals the process through which young people often internalize dominant success narratives while remaining ambivalent about their cultural costs (pp. 55–57). In alignment with that Ichikawa and Törngren (2025) emphasize the reason because of which pedagogical processes are affective and embodied, producing emotions such as anxiety, fear, and resignation (pp. 5–9). These findings support Canagarajah's (1999) argument that learners engage in critical negotiation, positioning English simultaneously as capital and constraint rather than fully embracing or rejecting it.

Through all the study findings, this discussion confirms that Englishization in Dhaka is driven less by pedagogical necessity than by neoliberal demands of the global data economy. Bosio and Waghid (2023) warn that such instrumentalization of education gradually undermines its capacity to cultivate critical consciousness (pp. 133–136). Mehrin et al. (2025) further demonstrate that linguistic inequality in Bangladesh's mainstream education reproduces social injustice (pp. 5–6). Giroux (2020) also argues that, without critical pedagogy, Englishization risks transforming education into a technocratic system that prioritizes market compatibility over emancipation, equity, and cultural plurality. Therefore, the findings and supporting literature confirm that Englishization of pedagogy in Dhaka operates as a neoliberal, data-driven, and ideologically normalized process rather than a purely pedagogical choice.

CONCLUSION

This study within the specific context of Dhaka's urban educational landscape concludes that Englishization of pedagogy is a structurally rooted phenomenon driven by the data economy and neoliberal ideology. The findings show that English is far from being a neutral instructional tool but operates as a form of symbolic capital that aligns education with market imperatives



rather than emancipatory learning. The data economy further entrenches this dominance by privileging English in digital platforms, academic visibility, and knowledge production, thereby marginalizing learners and institutions that lack linguistic and technological capital. As a result, pedagogy increasingly serves corporate and global interests at the expense of cultural authenticity, critical consciousness, and social justice. Thus, in the globalized world, English as a language cannot be evaded, but the negative impact of the Englishization process can be mitigated through equitable distribution of resources among students. It is anticipated that this research will attract successive scholars to advance these findings further.

LIMITATIONS

- The geographic scope of the study is confined to three urban localities of Dhaka division. Rural areas, semi-urban regions and other administrative divisions of Bangladesh have not been represented in the sample.
- The findings may resonate with broader trends in the Global South as they reflect the experiences of secondary and higher secondary students in Dhaka and can not be generalized to rural Bangladesh or other divisions without further empirical investigation.
- The study does not capture the perspectives of teachers, school administrators or policymakers whose roles are central to the Englishization process and incorporating these voices would provide a more comprehensive picture of the structural and institutional forces in future research.

RECOMMENDATIONS

- A balanced pedagogical model should be followed by the educational institutions where English is taught as a critical and functional resource instead of a hegemonic default medium.
- The structural disparities among Madrasa, Bangla Medium and English Medium institutions need to be reduced by policy interventions.



- National education policy should ensure equal access to quality English education, trained teachers and learning resources across rural and urban setting in all the streams.
- Teacher education programs should include training on language ideology, neoliberalism and data economy to implement inclusive, reflective and socially responsive pedagogy.

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A THEMATIC EXPLORATION OF CONCEPTS OF SETS, RELATIONS, AND MAPPINGS IN FISHING ACTIVITIES

Mampi Howlader

Research Scholar, The University of Burdwan, Golapbag, Purba Bardhaman-713104, West Bengal, India, Email: mampihowlader99@gmail.com

Puja Sarkar

Assistant Professor, Department of Education, The University of Burdwan, Golapbag, Purba, Bardhaman-713104, West Bengal, India, Email: psarkar@edu.buruniv.ac.in

ABSTRACT

Although mathematics is essential, many students struggle with it. Incorporating cultural contexts into mathematics education, ethnomathematics, can help alleviate this difficulty. This study examines how abstract mathematical concepts, such as sets, relations, and maps, are incorporated into traditional fishing practices in the Purba Bardhaman area of West Bengal, India. This research uses an ethnographic case study design. Thirteen fishermen were selected as participants, and their interviews were analyzed using deduction. thematic analysis. The study revealed that the fishermen used sets, relationships, and maps easily in their way of doing things. For example, they combine fish, nets, and tools and relate different types of fish to different sizes of nets. These findings suggest that complex mathematical knowledge can be deduced from the traditional fishing practice without introducing any formal mathematical notion. This study points to the importance of ethnomathematics in implementing it in daily life in order to make learning more relevant and meaningful to culture.

Keywords: Ethnomathematics, Sets, Fishermen, Deductive Thematic Analysis, Indigenous Knowledge, Mathematics Education.

INTRODUCTION

Research indicates that many students perceive mathematics difficult, and it causes low performance (Jackson et al., 2017). This difficulty creates a fear, and students consider mathematics a boring and dry subject. This problem is identified as developmental dyscalculia



(Reusser, 2000). Moreover, in addition to individual learning challenges, classroom environment has a significant impact on poor mathematics performance. Present-day mathematics classrooms include a variety of students' perspectives, alongside diversity in languages, cultures, ethnicities, and prior mathematical experiences, reflecting a globalized society marked by heightened movement between nations and regions (Meissner & Vertovec, 2015). Sutarto et al. (2022) found that certain mathematics classrooms lacked innovation and technology and were teacher-centered and textbook-focused, lacking cultural context. Students struggled to comprehend arithmetic concepts in textbooks, highlighting the necessity to include local culture in math instruction. Magni (2017) argued that indigenous knowledge may be used to teach mathematics, since mathematics is socially and culturally constructed. Ethnomathematics serves as a conduit to connect cultural activities with academic mathematical education. D'Ambrosio (1985, p. 45) defines ethnomathematics as "*the mathematics practiced within distinct cultural groups, including national-tribal societies, labor organizations, age-specific children, professional classes, and others.*" In modern times, ethnomathematics has been recognized as a program that offers potential remedies to many challenges facing mathematics education by emphasizing the significance of the curriculum and grounding the courses in students' local cultures (Rosa & Orey, 2015).

The development of set theory is significant in the advancement of contemporary mathematics. In the late 19th century, Georg Cantor conceptualized how a collection of objects can be mathematically formulated. Fundamental notions such as functions, relations, sequences, and algebraic systems can be described in terms of set. From a certain perspective, the notions of set, relation, and mapping may seem to be straightforward ideas to comprehend. Fisheries are an integral part of the blue economy and demand thorough research across multiple scientific disciplines to ensure sustainable management. These techniques include sorting, classifying, grouping, and making decisions, all of which show how arithmetic works. By looking at these hidden mathematical structures, we may learn how indigenous knowledge systems use formal mathematical ideas.



RATIONALE OF THE STUDY

The NCF (2023) and the Position Paper of the National Focus Group on Teaching of Mathematics (PPNFGTM) and NEP-2020 strongly advocated that educators must understand their students' cultural and social backgrounds and utilize their everyday experiences to facilitate the learning of mathematics. Global research demonstrates that a student-centered instructional method markedly improves students' understanding of mathematical concepts (Nurbavliyev et al., 2022). Literature indicates a scarcity of studies about the application of advanced mathematics within diverse ethnic communities, such as carpenters, fishermen, and weavers. By relating what students learn to their culture and personal experiences, ethnomathematics seeks to make learning more relevant and meaningful for them. Connecting mathematical concepts with culture nowadays has become an essential part of teaching. On the other hand, research shows that students more often struggle with abstract mathematical concepts (Subedi, 2020). As set theory is the fundamental concept of higher mathematics, it motivates us in finding set-theoretic concepts in fishing activity.

RESEARCH QUESTIONS

Based on the research gap, the following research question is addressed in the present article:

RQ 1: How do fishermen's narratives of their daily fishing activities reflect mathematical concepts such as sets, relations, and mappings?

OBJECTIVES

RO1: To explore how fishermen's narratives of their daily fishing activities reflect underlying mathematical concepts such as sets, relations, and mappings.

DELIMITATION OF THE STUDY

The present study was delimited to fishermen from Purba Bardhaman district of West Bengal and focused exclusively on traditional inland fishing practices. It examined only three



mathematical concepts sets, relations, and mappings, within the context of these activities. The study adopted a qualitative ethnographic approach and did not involve any quantitative analysis. Furthermore, the participants were restricted to experienced male fishermen, based on specific inclusion criteria.

METHODS

Research Design: To understand the concepts of sets, relations, and mappings in traditional fishing, an ethnographic case study design was conducted. This technique was chosen because it allows for a contextualized study of geometrical notions in a community's cultural activities. Ethnography is qualitative research that uses observations, interviews, and documentary evidence to provide rich and complete narratives of social phenomena, according to Reeves et al. (2013). Case studies, on the other hand, are empirical investigations *“that facilitates exploration of a phenomenon within its context using a variety of data sources”* (Baxter & Jack, 2015). Schwandt & Gates (2018, p. 344) define ethnographic case studies as *“employing ethnographic methods and focused on building arguments about cultural, group, or community formation or examining other sociocultural phenomena”*. An ethnographic case study is ideal for our research because we want to find the underlying geometric pattern behind fishing, which demands an in-depth look at this community's culture and tacit knowledge.

Participants: To maintain consistency with the principle of reflexive thematic analysis (Braun & Clarke, 2022), a total of 13 fishermen with an age range from 30 to 70 in Purba Bardhaman district were taken as participants for this study. Since, women participants in fishing is comparatively less in India (Gopal & PS, 2022), only men fisherman were considered. We set the inclusion criteria that fishing is the primary source of income, and each of them has more than 5 years of fishing experience.

Tools for data collection: Semi-structured interviews were used for data collection. The researcher used this way to gather open-ended data based on fishermen's thoughts, feelings, and issues of personal nature (Denzin et al., 2023). It consists of three parts, as shown in the



interview schedule. It followed the closed-ended demographic, eight questions about demographics. Part two consists of eight open-ended questions regarding their native fishing, plans, ceremonies, and traditional practices. The third part consists of twelve open-ended questions related to mathematical ideas (e.g., daily planning, fishing tools, fishing places, boats) in the practice of fishing strategies. The researcher had a conversation with the fisherman to make an open-ended question for this interview. To ensure that the interview questions are clear and understandable, they were tested with three fishermen before conducting the final interview.

Trustworthiness of the study: Our approach was built on (Lincoln & Guba, 1985) to make sure the reliability of qualitative data. This first data was put into context and grew with more involvement from September 2024 to April 2025. Triangulation was used to make the results of this study more reliable and trustworthy. Three different types of data collection were used: semi-structured conversations, subject observation, and photos. We talked to three fishermen to see if what we thought was the same as what they thought. Colleagues who worked with the managers went over the tapes and study reports. Before they spoke publicly, the researchers wrote in journals about their own biases and assumptions about mathematical ideas that were connected to fishing. This was done to get rid of researcher bias.

Procedure for data collection: Data was collected during winters and summers from September 2024 to April 2025. As we wanted to reach a hard-to-reach population (Noy, 2008), snowball sampling was used for participant selection. These interviews were in-person. This study obtained doctoral committee (DC) ethical clearance from the University of Burdwan. As the interviewers' mother tongue is Bengali, each interview question was translated into Bengali. This translation was thoroughly checked by a high school English teacher. Data was collected using video and photography. Preliminary data analysis was conducted parallel to data collection for the determination of data saturation. For confidentiality, all potentially identifiable information (i.e., other than the generic names of the village and/or other

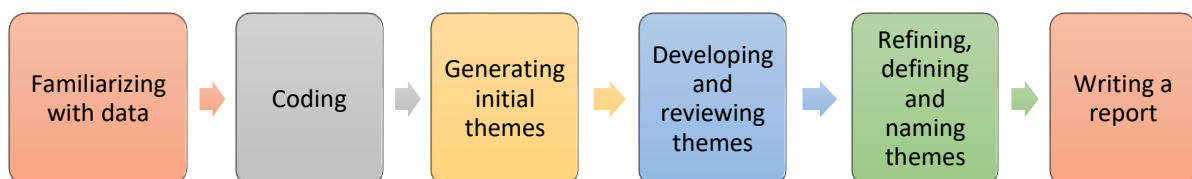


identifiers) was removed from the transcripts and field notes. All participants are referred to in this study by pseudonym (e.g., Fisherman 1, Fisherman 2).

DATA ANALYSIS

The deductive thematic analysis (Braun & Clarke, 2022) was used to analyse the interview data. This method was used because it was guided by established mathematical concepts, namely, sets, relations, and mappings. Rather than allowing themes to emerge entirely from the data, deductive thematic analysis applies pre-existing theoretical knowledge (Naeem et al., 2023). The goal was not to test a hypothesis but to explore how participants' descriptions of fishing activities reflect forms of mathematical reasoning consistent with these concepts. The six phases of the reflexive thematic analysis proposed by Braun and Clarke (2022) as follows:

Figure 2: Six phases of thematic analysis



Both researchers began the analysis process by reading and rereading the transcript, as well as watching recorded videos to become familiar with it (phase 1). In phase two, researchers coded the transcript using MAXQDA 24. Since we are using deductive thematic analysis, we, at first, start with a set of pre-defined codes. Following the research question, we categorized the pre-defined codes into three themes (Phase 3):

- i. **Sets:** references to groups of fish, fishing zones, or daily catch sets.
- ii. **Relations:** descriptions of connections between fishermen, nets, locations, or tasks.
- iii. **Mappings:** assignments of fish types to locations or fishermen to specific tasks.



RESULTS

Findings: In this section, we explore how set-theoretic mathematical knowledge is embedded in traditional fishing activity. Set-theoretic mathematical knowledge, i.e., the concept of set, relation, and mapping, is very abstract in nature. However, our study reveals how naturally these abstract concepts work behind traditional activities like fishing.

i. Theme 1: Sets

The following comments from fishermen reveal how the concept of sets naturally arises in fishing activity. In layman's terms, a collection of distinct objects is called a set. For example, a collection of fish or a collection of fishing tools such as nets and traps are sets.

“For small fish like shrimp, we use specific methods... tools like polo, birti, or jhapa. For larger fish like Pangas, we use nets with specific gaps to trap them...we make tools like bira or polo for catching shrimp and smaller fish...” (fisherman 1)

There's karen net, so many names—fandi net, bashari net. How many names should I tell you? There are a lot—bin net, and those spiked nets (you can't see them from here)... (Fisherman 11)

“There are different types of nets like Ghurna Net, Ghai Net, and Fadi Net. Each net serves a specific purpose. We buy the type of net we need at that time....Some ponds are shared among partners, and we mainly grow large fish in those. For business purposes, we also have smaller ponds where we grow baby fish, called Chara Pona...” (fisherman 4)

From the comment of fisherman 4, we can construct a set that includes ponds of different sizes and shapes. Additionally, we can introduce the concept of subsets; for example, if we have a collection of fishing tools like nets, traps, and containers, we can create subsets such as traps specifically for small fish, like polo, bira, etc. Moreover, we can perform basic set operations



like union and intersection. For instance, we can find the intersection of tools used for small fish and those for large fish.

ii. Theme 2: Relation

In mathematical terms, a relation means pairing two objects within a set while satisfying a certain condition. More specifically, a relation is a subset of the Cartesian product of two sets. There are many types of relations, such as binary relations, order relations, equivalence relations, and partial order relations. In fishing practice, the following comments demonstrate how the concept of relation can be constructed:

“Usually we use nets — like encircling nets, drag nets, circular nets, and traps. In small areas, we also use fishing rods or bamboo traps. In rivers like the Damodar, encircling nets and drag nets work best....If we want to catch small fish, the gaps are small. For bigger fish, the gaps are made larger. Typically, in encircling nets, the gap is about 2 to 3 lagas, and in circular nets, it’s smaller — around one laga...” (fisherman 10)

“...First, we think about what kind of fish we want to catch—because different fish need different mesh sizes. For example, to catch small fish, we use nets with one or two-finger-sized holes. For bigger fish, we need nets with four or five-finger-sized holes...” (Fisherman 13)

We can create a relation like this. Suppose, we made three sets:

A= Collection of fish, B=Collection of fishing nets, C= Gap sizes of net.

Now, define a relation on $A \times C$ by a fish (by size) is related to a particular mesh/gap size; depending on the size of fish it can catch. Also, we can define a relation on $A \times B$ by relating the net to their gap size.

iii. Theme 3: Mapping



One of the fundamental concepts in mathematics is mapping or function. Mapping means a correspondence between two elements of two sets. Fishermen use this concept abundantly in their daily activities.

“I adjust the size of the net holes based on the size of the fish. For example, for catching small fish like "chuno," I use 1-size holes, and for bigger fish like rohu or katla, I use 2 to 3-size holes....” (fisherman 8)

“I choose nets based on the size of the fish. Bigger fish need wider mesh, smaller fish need finer mesh....To catch small fish, we need nets with small mesh; for big fish, we need larger mesh. For example, if I want to catch chuno fish, the mesh has to be 1 mm. But if I want to catch rohu or catla, then I need 50 mm mesh. Without knowing this, it's hard to catch the right fish!” (fisherman 7)

“Yes, yes, we plan it out. For example, if we go out in the morning, we can't fish the entire day without eating. We usually spend about five to six hours on the boat, casting the net two or three times. After catching the fish, we return, take a bath, eat, and then go out again to fish until around 8 PM...” (fisherman 1)

“There's jal (net), thela jal, pata jal, fandi jal, tana jal...Yes, the gaps are different...The sizes are like 1 laga, 2 laga, 2.5 laga, 3 laga...” (Fisherman 12)

From the above comments, we can gather various notions of mapping. For example, we can have two sets: set A containing fish and set B as the collection of net holes. Now, we can define a function between A and B by connecting a fish with a particular hole size of the net used for catching. This type of function is not injective but surjective.

DISCUSSION

Our study explores various set-theoretic concepts in fishing activities.

Fishermen use different nets and traps in order of daily use. From the quote of fisherman 11, we have nets like Karen's net, Fandi's net, Bashari's net, and bin nets. It clearly shows that



the fisherman is using categorical data. According to its formal definition, a set is a collection of unique things already well-defined. Think of these collections of fishing nets as a set. Another excellent example is selecting different fish of various sizes and weights. As we see in the quotations of Fisherman 4, there are two kinds of ponds: a shared pond and a smaller-sized pond for baby fish. This is a significant observation. In truth, the member of a set in formal set theory does not change with time. However, in fishing, one pond could be “community” during one season but “private” at another. This element of the set can be recognized as a time-dependent element. Thus, this set has a fixed number of items in it, but its name changes with time. Some sets are also relative to fishermen. Ex. set of large fish (fisherman 7). It relies on the judgment of an individual or a collective to adjudicate this assembly of fish.

And the idea of relation itself that a fisherman uses unconsciously through his daily life. Let us have the collection of fish with different weights, as Fisherman 11 said there are big fish and small fish. Now, let us induce a relation on the set of all fish: A is related to B if and only if the weight of A ($W(A)$) = the weight of B ($W(B)$). This type of relation is known in the formal language of mathematics as an 'equivalent relation. Now we can construct a class from this relation, i.e., the set of fish of a given weight. Abstract mathematical concepts can be expressed through everyday life practices such as this. As Stoica (2015) argued, mathematics is not only meant to learn the concepts and techniques until they come out of one's ears but also a perspective in which one must understand at least enough of it to be able to utilize it in their daily activities. Our research backs up that assertion. And again, based on the fisherman's interview, we understand that not every kind of net (or trap) is effective to capture each kind of fish. Therefore, if you want to catch some fish, then we tend to want a specific net. This gives us a correspondence between the nets and the fish. Mathematically, this is commonly referred to as a function or a mapping.

Concepts like relation and mapping are very abstract in nature. But by integrating these concepts with traditional fishing activities, we illustrate that not only elementary mathematics



but also highly abstract concepts are embedded in daily life. This opens up a new possibility in teaching set-theoretic concepts to students. Dorwu et al. (2025, p. 3) expressed that *“mathematics is a discipline influenced by human culture and subject to personal opinions, ideas, and values”*. Therefore, integrating mathematical concepts with culture is not artificial but natural; for example, research by Kyeremeh et al. (2025) shows how geometric concepts are abundant in architecture, cultural artifacts, cultural activities, craftworks, and the structure of animals and plants. Despite all this research, students find mathematics very artificial, and they can hardly link mathematical concepts with their lives. One of the reasons that the challenge emerges is that the connection to reality is frequently fabricated by the teacher, and rarely arises from an instinctive understanding by the kid (Hart, 1989). Studies show that this lack of connection is due to the way mathematics is presented to a student. They often struggle with numbers, formulas, and notations (Wisenoëcker et al., 2024). By contextualizing sets and relational concepts within familiar practices such as fishing, we believe that students will be more engaged and demonstrate deeper conceptual understanding. Payadnya et al. (2024) clearly argued that including ethnomathematics in the educational framework can help create an accessible and stimulating classroom for students of all backgrounds.

CONCLUSION

This study emphasizes the significant presence of set-theoretic principles in the daily fishing methods of traditional inland fishermen in West Bengal, India. Through deductive thematic analysis of interview data, we categorized the set-theoretic concepts into three themes: sets, relation, and mapping. Our findings indicate that, despite minimal or absent formal instruction in mathematics, fishermen exhibited practical applications of highly abstract mathematical concepts such as sets, relations, and mappings. Our findings demonstrate that mathematical reasoning is intricately integrated into culturally established work practices. This study promotes the implementation of culturally sensitive pedagogy in mathematics education. Integrating community-based knowledge into the classroom could reconcile the disparity between formal and informal mathematical instruction. One of the most effective methods for



making mathematics more relevant to learners and emphasizing its significance is to encourage them to explore mathematics within the framework of their own cultures (Kabuye & Marjorie, 2024). Furthermore, ethnomathematics may expose learners to different perspectives on mathematics that both contest and support the ideas and methodologies presented in the mathematics classroom.

RECOMMENDATIONS

The study suggested the following to improve the teaching of mathematics using an ethnomathematics approach.

- Our fishing activity research is rich in mathematical concepts. Therefore, when teachers create curriculum, it is of utmost importance that example exercises and problems are culturally relevant to students.
- Teachers are to embrace continuous assessment and feedback mechanisms for evaluating ethnomathematics teaching. Hands-on practice in areas of ethnomathematics can improve the mathematical maturity of students. Teachers need to number the way that the students are going to participate in the ethnomathematics class, what will be assessed and what instructional strategies will be used so that they get involved.
- More research is needed to study alternative methods, technology, and theoretical frameworks. Mathematics instruction needs to improve, and students need to develop cultural awareness with respect to priorities for financing if there are gaps. Future studies could follow up on this research by applying it to other groups of fishers, such as those involved in marine fishing, or explore other mathematical disciplines, including algebra, statistics and probability, in applied aspects.

LIMITATIONS

The following study limitations should be noted when interpreting the results:



- i. This qualitative study used a small sample size in a specific region, drawing conclusions from interview data. These findings may not fully explain how set is used in fishing. Again, in our study, we exclude the marine fishing. This limits our study.
- ii. We only include male fishermen in our study; this may lose gender-based information and bias results.
- iii. Although the researchers translated the interview transcripts from Bengali to English, meaning loss or distortion may occur, especially when translating indigenous fishing words.

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THEATRE OF WAR AND DRAMATURGICAL TRANSFORMATION: A TEXTUAL AND PERFORMANCE-BASED STUDY OF SELECTED PLAYS BY K.M. SHANMUGALINGAM

K. Rathitharan

Senior Lecturer Grade-I, Department of Drama and Theatre Arts, University of Jaffna, Jaffna, Sri Lanka. Email: rathitharan@univ.jfn.ac.lk, 0094779982001

ABSTRACT

This study examines five selected dramatic texts by the well-known Sri Lankan Tamil theatre playwright Kulanthai M. Shanmugalingam. Most of his scripts reflect the issues encountered by masses during the period of internal conflict and war in the country. In the context of Tamil theatre, the number of production of dramatic text is in decline, which is currently a scholarly concern. This exploration aims to urge novice writers to learn about contextual, structural and artistic aspects. In addition, this investigation will enable students, pedagogical practitioners, scholars and critiques to have insights into how social issues can be brought out through artistic expressions and perceive the propensity in social, political, cultural domains. This study employed a qualitative framework, and data were gathered by reading the texts and watching the plays. When it comes to the perspective of reading for text analysis, the post structural approach was adopted more frequently than the formalist one. This study argues that the setting of war influences dramaturgical practice tendencies along with the form and aesthetics of theatrical illustration. His plays produced amid armed conflict reflect stylized theatrical forms, which were often employed to interact effectively and share intended messages with public swiftly. It also emerged that various sensitive factors were brought out through symbolic and metaphorical expressions. The side effects that stemmed from during the peak of the armed conflict led to the transition from already existed stylized form to realistic form since some messages had to be conveyed to the public overtly. The findings of the research are beneficial to practitioners related to theatre education, sociology.

Key Words: Tamil Theatre, War, Nonrealistic, Transformation, Realism.



INTRODUCTION AND BRIEF OVERVIEW OF TAMIL DRAMATIC TEXT IN SRI LANKA.

This study is conducted based on dramatic texts. Research on Tamil theatre has predominantly focused on modern theatrical performances and traditional theatre forms. Particularly in Sri Lanka, theatre studies expanded into diverse areas after Drama and Theatre were introduced as subjects in schools and universities. These studies have examined theatrical performances from social, political, cultural, and aesthetic perspectives. Although numerous theatrical performances emerged during the wartime period, comprehensive scholarly studies on them remain limited. Moreover, dramatic texts have largely been approached within educational curricula for academic purposes rather than as subjects of critical research inquiry. The early traditions of Tamil theatre were primarily rooted in traditional forms and ritual practices. During this period, performances were transmitted mainly through oral traditions rather than written scripts. However, various restrictions affected the continuation of traditional forms and ritual performances. The introduction of Western theatrical forms brought new developments and transformations to Tamil theatre. Furthermore, with the arrival of the printing press, dramatic texts began to be published more extensively. Examining dramatic texts from the colonial, postcolonial, and particularly the thirty-year wartime period provides significant insight into the theatrical trends and social conditions of those periods. Such an approach helps to understand the historical evolution and changing dynamics of Tamil theatre.

Kulanthai M. Shanmugalingam (1931–2025) wrote over two hundred plays in various kinds of genres and topical issues. Shanmugalingam's scripts are readable, yet they convey distinct points of view and dynamic forms rather than keeping to a traditional linear system of writing. Brecht's scripts can be considered readable texts that do not conclude complete meanings, as Liyanage (2016, p. 46) pointed out, citing Roland Barthes. From the beginning of the war through its intensification and eventual conclusion, he documented the experiences of a community and a historical period through his dramatic writings. His contribution was central to the emergence of new trends in modern Tamil theatre. His plays laid an important foundation for socially engaged theatrical practices within the Tamil theatrical tradition. His



dramatic approach changed dramatically during the Sri Lankan civil war, particularly after the riots in 1983. The conflict had an effect on his plays' style, content and form. Shanmugalingam applied play as a tool for reflection and engagement while living in a theatre of war and creating works for it.

In both academic contexts and among theatre practitioners, dramatic text analysis has gradually received limited attention. Therefore, understanding how social movements and social realities are artistically constructed through drama is highly important in the contemporary context. This study will be valuable for scholars and practitioners engaged in Drama and Theatre Studies, particularly in areas such as dramatic literature, script writing, script analysis, theatre and society, participatory theatre, and community theatre. Examining socio-political and cultural reflections in theatre also enables society to be understood from a historical perspective. Furthermore, this study is significant for academics and researchers because conclusions drawn from artistic representations of lived social realities can contribute meaningfully to understanding and shaping future social conditions. In particular, understanding how various dimensions of war are reflected in drama, and how war transformed theatrical forms and aesthetics, is essential for both theatre studies and sociological inquiry.

The history of dramatic texts in Sri Lankan Tamil modern theatre and their socio-political contexts are briefly overviewed. Kanapathipillai introduced realistic plays of colloquial Tamil with melodramatic structure (Sokkalingam, 1977, p. 112) while post-1956 political awareness inspired new theatrical directions (Maunaguru, 1993, p. 162). and Vithiyananthan's traditional adaptations marked further shifts, leading to traditional *Kooththu* plays like *Ravanesan*. The 1956 political changes marked the starting point of ethnic conflict and its consequent riots. Sanjeewa quoted the Peebles pointed out that Sinhalese mobs then attacked the Tamils in Colombo; violence broke out in Trincomalee and Jaffna. (Sanjeewa 2021, p.826). Consequently, a play addressing ethnic issues, *Thurokikal* Traitors 1956), was written by Kanapathippillai.

Scholars and artists such as Tarcisius *Poruththathu Pothum* (Enough of Keeping Patience 1979) and Maunaguru *Sankaram* (Annihilation 1980) used the *Kooththu* form to



critique caste and class hierarchies (Sokkalingam, 1977, p. 238). These plays also reveal anti-capitalist tendencies and demonstrate an affinity toward communist ideologies. In the post-ethnic conflict period, theatrical productions began to bring out the profound impact of the riots and violence experienced by communities. For instance, Elaya Pathmanathan's play *Thodarkathai* the Serialized Story 1984) addresses themes of sexual violence (Pathmanatham 2000, 79). During this time, the thematic focus of theatre transitioned from social and class hierarchies to issues related to ethnic conflict and civil war. Within this context, Shanmugalingam emerged as a significant figure, introducing a new theatrical approach that engaged directly with the realities of war. However, other local artists also produced many literary works related to the conflict.

Studies on Tamil theatre have largely concentrated on theatrical performances and theatre history rather than on dramatic literature or dramatic texts. Limited attention has been given to examining how drama reflects society and politics, the underlying ideological tensions within dramatic texts, and the artistic methods through which such realities are represented.

In particular, the dramatic writings of Kulanthai M. Shanmugalingam have not been studied in depth from a critical research perspective. His representation of the multiple dimensions of the Sri Lankan civil war across various plays remains a significant area requiring scholarly investigation.

PROBLEM STATEMENT AND OBJECTIVES

In the contemporary context, there is a noticeable decline in the production of literary-quality dramatic texts suitable for theatrical performance. Drama is often reduced merely to dialogue and stage presentation, resulting in performances that disappear once the enactment concludes. Theatre is essentially an ephemeral art form; therefore, without properly structured dramatic texts, it becomes difficult to understand a society through theatre or to reproduce performances for future generations.

A well-developed dramatic text is essential not only for theatrical performance but also for preserving social memory and historical realities. To understand what occurred within



society during particular historical periods, dramatic texts must possess substantial literary and artistic qualities. Without such textual foundations, both the theatrical work and the social experiences embedded within it risk disappearing over time.

- To analyze the literary and performance aspects of the selected Shanmugalingam's plays.
- To identify different forms and styles that emerged in various periods due to the impact of war.
- To explore his dramatic texts as political, cultural, and reflections during the wartime reflections
- To examine the contextual elements of Shanmugalingam's scripts that are useful for the novice playwrights.
- To provide young playwrights with insight into how to write dramatic texts that incorporate both with aesthetic nuances and social responsibility.

RESEARCH APPROACHES AND METHODS

This section provides an overview of how dramatic texts, performances and experiences influenced this research process. The researcher constitutes an integral component of the research process and simultaneously serves as an informant during data collection. This investigation centres on the five plays *Maathorubhaagam*¹ (A Half of Woman, 1984), *Mansumantha Meniyar* (With Sweat and Dust on Their Shoulders, 1985), *Mansumantha Meniyar II* (1986), *Annai Idda Thee* (The fire lit by the mother 1991), and *Enthayum Thayum* (Land of our For Fathers, 1992). These particular plays were chosen as they were master pieces in terms of quality of dramatic text and effective performances. The local war had different turning points over time, each characterized by major events; for example, the play *Maathorubhaabagam* reflects the 1983 riot; the play *Mansumantha Meniyar* was written when the armed conflict got intensified, and the situation was precarious; *Mansumantha Meniyar II* was based on the internal conflict among different Tamil militants; the next play *Annai Idda Thee* brought out trauma and anguish that people psychologically went thorough during the



conflict. *Enthayum Thayum* talks about the hopeless and helpless elderly parents whose children were forced to migrate to foreign countries. These plays were also selected to closely examine the transition process of presenting about community to individuals. This transition process was observed during the performances of those plays.

A dramatic text comprises various elements; through the analysis of the each element, data were collected. Since the researcher and the playwright share the same historical, political and cultural background, they were able to easily perceive the interrelated events prior to or after a particular incident. As a member of the Tamil community the researcher was able to delve deep into textual and inter textual aspects. His positionality is based on this connection to the people who experienced the intensity of the war. Since the internal conflict ceased in 2009, the researcher was able to look into the plays objectively. The limitations of reflexivity is that, the researcher, as an inherent member of the Tamil community, is more likely to be subjective. Nevertheless, if the researcher happened to cross the limit of subjectivity, it would pose a challenge to him.

The knowledge and experience the researcher gained from watching the plays was compared with the dramatic texts and then with the written documents related to the performances. Later, the gathered data were triangulated with the forewords written by the playwright for the book that contained his plays. The theoretical framework provides support for the textual and performance analyses, the data collection process, and the researcher's positionality outlined above.

Subjectivity of the researcher relates to the Fischer-Lichte's statement on performance analysis "Ultimately, every analysis is subjective, based on the subjectivity of our perception. This subjectivity is a fundamental condition of every analysis" (Fischer-Lichte, 2014, p.50). At the same time, it is essential that the researcher observes his own subjective experiences through an objective lens. When reflecting on personal events from the past, such experiences should be analyzed as objectively as possible, given the retrospective nature of such reflection. Directors and researchers have applied the Aristotle's structural model of beginning, middle, and end in analyzing drama (Kiely 2016, p. 5), employing formalist methods to investigate the



six elements of drama alongside time, place, and action (Thomas, 2009, p. XX). While formalist analysis provides a foundational frame, this study incorporates post-structuralist approaches to examine dramatic texts. Haseman (2007, p. 151) highlights performative research's focus on non-numeric data, symbolic representations, material forms, moving images while Grbich (2007, p. 170) notes that structural analysis reveals linguistic systems and cultural values. As an outcome, the present research investigates how stage instructions and dramatic dialogue reveal many issues with different degrees of significance. Derrida says that texts have no fixed centre and merely highlight the act of continuous disclosure, echoing Heisenberg's Uncertainty Principle (Leach, 2008, p. 19). Derrida's deconstruction, that sees centrality as unstable, challenges structuralism's definition of systems, and this is based on coherent and fixed centrality (Grbich, 2007, p. 175). The partial review of the scripts of *Maathorubhaagam* (1984), *Mansumantha Meniyar* (1985), *Annai Idda Thee* (1991), and *Enthayum Thayum* (1992), where multiple components emerge both from the text's centre and outside, is particularly important to these theoretical viewpoints.

As a researcher, the study was driven by direct interaction and discussions with the playwright alongside textual analysis and performance witnessing. The concept of reflexivity, a demand for the researcher to analyze their own opinions, values, and methodologies, is supported by this reflexive approach in which the researcher appears as a part of the study itself (Hammond & Wellington, 2013, p. 129). In this particular case, the researcher's personal exposure to Shanmugalingam's plays through watching many performances and taking part in rehearsals adds to this analysis. Additionally, the researcher's political, social, and cultural background, particularly lived experiences during the wartime period in home country, has an impact on the reading of these texts. This aligns with Fischer-Lichte's view that "in performance analysis, one becomes a part of the performance processes one intends to analyze" (Fischer-Lichte, 2014, p. 49). In dramatic analysis, the researcher's lived experience intersects with staged events. This is also in line with Buddhist thought, as Fernando (2009, p. 4) states: one must test written ideas through personal experience and contemplation. Performance research spans text, visuals, sound, and human emotion, making it unsuitable for a single



theoretical model. It operates between theory and lived experience, often seen as anti-disciplinary (Kershaw & Nicholson, 2011, p. 3) or interdisciplinary (Hayford, 2022, p. 172). This study adopts both qualitative and performative methods, guided by some aspects of post-structuralism theory and on an empirical level supported by narrative analysis.

DRAMATIC REPRESENTATIONS OF WAR: SOCIAL REFLECTIONS AND ALLEGORICAL NARRATIVES

Shanmugalingam's creations are often probed from the perspective of blending author and text. However, his dramatic texts must be investigated, taking his community, its culture, attitude and tradition into consideration. This research does not seek to claim Shanmugalingam's plays as inherently superior works of theatre. Rather, it approaches them as nuanced reflections of a society's complex realities of war. In this regard, the plays resonate with Michel Foucault's perspective that texts and cultural productions serve as expressions of broader social and historical dynamics. As Barrett explains, "Foucault tells us that the understanding of author as function is often undermined by a tendency to privilege more traditional notions of 'the work' as an entity and the artist as a unique creator of the work" (Barrett, 2007, p. 136). Post structuralism approach provides insight into the analysis of textuality and intertextuality, it is employed to examine how the playwright engages with past experience. The plays, investigated here, reflect four different periods of the community and ethnic conflict. In these plays, appropriate theatre styles and techniques are used to bring out the issues.

Riots, Ethnicity, and Cultural Identity in Theatre

Shanmugalingam's work addresses social issues such as lapses in the education system, privatization of education, women's struggles, and aspirations to migrate. The 1983 Black July riots had lasting psychological and social effects on people, which are reflected in his post-1983 plays. *Maathorubhaagam*, for example, depicts a family traumatized by ethnic violence and further oppressed by cultural norms, combining earlier social themes with new concerns of ethnic conflict and the hardships of female wage laborers.



Following the 1983 ethnic riots, his play *Madhorubagam* vividly brings out the experiences of families affected by the riots in a calm, clear, and balanced manner. This neutrality and clarity are evident in the following excerpt from the play.

Nandini : *Oh, it was only beasts who dragged my father out from home to the road, poured petrol over him.*

Janaki : *When the mob of savages came, Perera family who saved us while we ran to the next house.*

Orator III: *Perera? Isn't that a Sinhalese?*

Singer III: *A Sinhalese protected you?!!*

Janaki : *Oh yes, it was a Sinhalese family who protected us.*

Nandini : *Not just you. Every Tamil who survived from the outside was, in some way, saved by a Sinhalese.*

Singer I : *Then! So there are good people among them too.*

Janaki : *They are also good more than we are.*

Nandini : *Good and bad people exist everywhere. (Shanmugalingam 1987, p. 40)*

Civil War and the Stylization of Theatrical Form

In the play *Mansumantha Meniyar*, the playwright vividly exposes the deficiencies within the educational system and the struggles of the working class, alongside a critical examination of the war that emerged because of ethnic conflict and its enduring effect. This play originated, incorporating the past theatrical experiences. The following statement substantiates this, “while observing *Mansumantha Meniyar*, it becomes evident how the play emerges as an infant of past theatrical traditions.”(Sivathamby, 1998, p. 64). Besides, while the theme of war in a dualistic context is presented only to a minimal extent in Shanmugalingam’s earlier play *Mathorubagam*, it assumes a dominant thematic position in *Mansumantha Meniyar*, becoming a central aspect of the play.

The play under discussion captures this post-1983 context of intense militarization and conflict in a comprehensive manner. The state’s oppression by military was merely hinting a



reflecting a kind of self-censorship or deliberate restraint, even though the violent situation that exists in a war zone is depicted. Pickering's statement, "the playwright creates a montage of impressions and images instead of a story line," relates to the dramatization's use of symbolic representations and coded language to convey delicate themes by not using leaner storytelling (2005, p. 35). Through symbolic representations and coded language, the play shows the post-1983 context of violence and conflict as quietly reflecting on political brutality through strategic restraint. Pickering points out the use of disconnected, non-linear storytelling to draw focus on sensitive topics and uphold self-censorship.

"Friends: Otherwise? At least ten!" Do you consider the boys to be bottle gourds? (Shanmugalingam 2007, p. 08). This utterance contains or the conversations have several meanings: "boys" indicates members of the Rebel Movement, and "at least ten" implies the deaths of the military personal. The words "bottle gourds" reflects the force and effectiveness of these fighters by implying that they are anything expected. While Shanmugalingam's avoiding of specific words like "military" indicates a careful approach driven by political sensitivity, this demonstrates civilians' understanding of military processes.

Throughout the play, this technique is applied often, as in "Kin: there is trouble in Chunnakam*, they say." "Neighbor: to Sannathi; is it true that they have suffered severe casualties at Sillalai*?" and "I could hear the rumblings." (Shanmugalingam 2007, pp. 07–08), which indirectly refers to violence and human casualties. As in "First narrator: Like crows flying at the sound of crackers we run aimlessly at every noise" (p. 10), Shanmugalingam blends symbol and metaphor to show the horror of war, including unexpected attacks and mass killings, reflecting the widespread fear of wartime life. The helicopter flying beyond a Palmyra tree acts as a metaphor to aerial warfare: "Kin: Walk faster. High above the Palmyra's crown, the "flying ship" is heard" (Shanmugalingam 2007, p. 12). In this particular instance, "flying ship"² refers to the threat of helicopter attacks, which were routine on impassable ground situations during the time.

Through metaphor and sensory representations, the unpredictable nature and prevalence of violence, caused by the armed forces working within common places, is



effectively communicated. “Homes, streets, and places have turned as cremation grounds,” laments an elderly character. “The burning is illuminated by the sun.” and “The rains do the cleansing” (Shanmugalingam 2007, p.13) reveal how common locations can become areas of grief. “A clutter of noises, sounds, wails and screams” (p. 18) further highlights the chaos of war by expressing the emotional distress of natives. As seen by the ironic exchange, Shanmugalingam additionally discusses the media portrayals by using the voices of ordinary people who reinterpret news reports: “Friend: So what else? The rich will have a field day” and “Second Narrator: The richest Tamils took the chance to settle down in Madras” (pp. 18, 20) brings out inequality in society and the variety of civilian responses to conflict.

The pre-1983 ideological context, when many artists, inspired by communist and socialist views, used theatre to speak out against caste and class inequality, must be taken into account in order to comprehend the play’s intentions. Globally, there was a similar transition with the start of wars frequently shifting the dominant ideologies. In accordance with Zarrilli, “a new wave of theatrical activism was sparked as the Cold War divided communist and liberal nation-states around the world after World War II” (Zarrilli, 2010, p. 324). However, this ideal ended after the 1983 riots, and the consequences endured. The plays on ethnic tensions later reflected the effects of communist ideology, as dramatized in some plays during certain periods. This observation correlates with Sri Lankan reality. Shanmugalingam conveys this past by focusing attention on suffering of the vulnerable and addressing both class struggle and ethnic violence. The play is portrayed as a commentary of war and a reflection on class inequality at times of national crisis because of the way he presents the affluent fleeing conflict while the less fortunate experience it, highlighting an ongoing engagement with a communist influenced approach (Shanmugalingam, 2007).

Shanmugalingam questions wartime emigration in *Mansumantha Meniyar* as an act of social irresponsibility more than just a pragmatic action. He criticizes people who leave their country for security reasons by portraying it as an abandoned sense of social responsibility. The dialogue, “First Narrator: They abandon their neighbors, their community, their challenges and want their individual escape” (Shanmugalingam 2007, p. 18), clearly conveys this



viewpoint and emphasizes the moral conflict between one's own survival and collective responsibility. By highlighting how people sell ancestral lands in anticipation of receiving remittances, Shanmugalingam emphasizes the negative economic effects of migration. The line implies this "Father: We can buy it back when son starts to send money from overseas" (Shanmugalingam 2007, p. 26). However, as land prices rise mainly because of foreign revenue, such hopes prove impossible: "1st Narrator: Foreign money increases the price of land" (p. 25). As families try to keep marriages through sending money home from abroad, the play additionally shows how cultural and gender expectations are intertwined with economic targets: "Mother: We can have our daughters marry the youths who have gone abroad!" (p. 25).

Additionally, the drama carefully comments on media and global connectivity. In one scene, characters are portrayed enthusiastically listening to Indian broadcasts, specifically Trichy News and Madras Regional News⁹ Shanmugalingam's play shows a dynamic interaction between Tamil conflict zones and India by demonstrating how Sri Lankan Tamils listened to Indian media for hope and solidarity. The drama explores migration as an escape plan and a morally difficult choice while portraying the daily realities of the ongoing conflict.

Through the application of chorus, narratives, songs, and traditional Koothu practices, the drama's construction unifies collective experiences in an artistically attractive way. Focusing on various activities has significance because it facilitates the urgent sharing of various topics pertaining to the effects of conflict. The drama also includes amusing aspects like proverbs, folk and spiritual songs, and comedy, and all of which increase the play's appeal and access to a broader audience. The community as a whole is portrayed by the characters. Character names such as "Friend," "Neighbor," "Relative," "Kin," "Father," "Brother," "He," "She," and "Anyone," for instance, represent an immense variety of social identities rather than particular identities.

The performance, which was staged more than sixty times around Jaffna peninsula, was frequently interrupted by military activity. Director Sithamparanathan's statement, "Due to military activities the theatrical tour had to be carried out carefully and slowly cautiously" (1998, p. 7), illustrates how theatre functioned in a militaristic situation.



This shows the relationship between creative expression and militarized environment, where theatre developed into a medium moulded by the reality of conflict along with a means of resistance. Understanding *Mann Sumandha Meniyar*'s performance and its connections to the liberation movements is important for recognizing its political importance. All of the main groups supported the play in 1985, but by 1986, Shanmugalingam's continuation, *Mann Sumandha Meniyar II*, had to confront with these liberation groups' growing internal disagreements. The drama investigated how strategic and ideological divides caused factions to fight or attack one another, resulting in fragmentation with severe social repercussions. Nevertheless, due to the tense political climate, the sequel faced severe performance restrictions. As Sivathamby observes, "Shanmugalingam's decision to follow up with *Mann Sumandha Meniyar II* and the fact that it could not be staged due to ideological conflicts within the youth movements must be recorded as significant historical evidence" (1997, p. 6).

Following the limited performance of *Mann Sumandha Meniyar II* (1986), the 1987 Indo-Sri Lanka Accord was signed, and the Indian Peace Keeping Forces (IPKF) were deployed in Sri Lanka until 1990. However, the resumption of civil war shortly took place, which later led Shanmugalingam to write a new play, *Annai Itta Thee* in 1991.

The Psychological Impact of War and the Rise of Therapeutic Theatre

Annai Itta Thee marked a transition in focus from the structural and political dynamics of war to the intense psychological trauma experienced by civilians during its rapid increase. He courageously brings these social repercussions and oppressive practices to the stage. As Sivathamby notes, "Shanmugalingam openly addressed issues that many others hesitated to articulate." (1997, p. 5). The significance of theatrical ability to express is shown by the following note: "Drama is a powerful social method to create awareness and express collective emotions. Shanmugalingam and Sithambranathan of the Jaffna University produced a play called *Annai Itta Thee* which was a socio drama on the psychological effects of war" (Ranasinha 2013, p. 84) whereas *Mann Sumandha Meniyar* illustrated how the rich and the poor responded to war differently, pointing out the reality that the wealthy often had more opportunities of escape, *Annai Itta Thee* expanded the focus to show how people from various



socioeconomic situation from the highly educated to the average citizen and from the poor to the rich, were psychologically affected by the war.

The play, which was staged in 1991, gave a substantial contribution to the public's awareness of the psychic damage caused by war. Pathmanathan points out, "the play's attempt to offer group therapy for the audience is commendable," recognizing its therapeutic potential (1997, p. 177). Its psychological impact is further illustrated by psychiatrist Somasuntharam, who says, "As a form of psychodrama, when public problems are presented on stage, the play triggers responses in the spectators' own suppressed emotions, communicating them through the characters and helping them free themselves from psychological problems" (1997, p. 160).

Torture, suicide, sexual harassment, military violence, kidnappings, and the risks of traveling through militarized areas with continuous security and battle were clearly addressed in the play. It raised attention to an increasing number of disappearances and the widespread psychological harm caused to ordinary people. The performance's emotional depth and historical rightness have been highlighted by Sivaththamby (1997, p. 6), who says "the mental wounds inflicted by war are articulated with profound historical integrity and aesthetic sensitivity."

The play, which focuses on a community that became a target of military attacks, utilizes character dialogue to illustrate the horrific events of 1987. A girl, who was left alone at home during one such attack was assaulted sexually and ended her life by jumping into a well. Gauri who heard about the cruelty, is greatly disturbed by the incident, which is subsequently related to her in a sensationalized way. Moments like this show her anxiety and mental distress: "Gauri: Don't do anything to me, please! Instead, kill me! Just keep your hands off me!"³ (Shanmugalingam 2021, p. 130). In order to enhance the intensity of emotion while preserving narrative sensitivity, Shanmugalingam notably avoids using the word "rape", instead he chooses metaphorical and allusive language.

"Good beatings, kicks, *Sirasasana*, *Simhasana*, eslon pipe, wire, iron rods-everything... Five days of festival..." is how Vakeesan, a character in the play, recalls the cruelty he faced. The *Thavil* drum played by everybody who came and went (Shanmugalingam 2021, p. 136).



Sanmugalingam prevents overloading an already traumatized spectator by employing stylized and metaphorical language which mixes realism with poetic imagery rather than portraying such brutality directly. Characters often mention the ICRC's efforts in tracking down missing people, indicating that finding them could result in their death (Shanmugalingam 2021, p. 130). The incident of coerced disappearances also occurs frequently. In order to reduce psychological discomfort, the playwright incorporates proverbs, poetry, religious and folk melodies, and comical relief, providing the audience psychological harmony throughout the story of the play.

The play effectively dramatizes the reality of military checkpoints throughout the war. At the apron of the stage, a specific event at the Thandikulam* checkpoint in Vavuniya is performed out. The following dialogues highlight the violent checkpoint, the intermittent firing, and the risk posed by nearby landmines: "A landmine! God Muruga! "Save us," "stop!" "Lie down," "going to shoot" (Shanmugalingam, 2021, p. 103). It further highlights how transportation was affected throughout the period of crisis. The conversation of the Government Agent (GA) character who travels long distances by bicycle⁴ reflects the many changes in routes triggered by ongoing conflicts (Shanmugalingam, 2021, p. 107).

Shanmugalingam transformed the theatrical emphasis from revolutionary idealism to the psychological reality of war trauma through the play *Annai Itta Thee*, emphasizing awareness, healing, and the long-term effects of continuous assault on civilian life. In *Mansumantha Maniyar* the structure of the narration and the expression of the characters are in the form of anti realistic nature and non-leaner narratives. The following changes should be observed that *Annai Idda Thee* is in the anti - realistic setting, characters are moved and behaved very realistic manner of cross sectional view, the dramatic structure and setting break the development of realistic characterization. When the need of the war was spoken, stylization and anti-realism emerged and gained prominence.

It is obvious that the play *Annai Idda Thee* demonstrates cross-sectional realistic characterization. However, the play adopts realism in theme and tone. The following statements clearly show the requirement of the realistic context: as Canagaratna (1997, p. 166) notes "This play could not help but be realistic if only for the reason that the ethnic war is being waged



here and now in Sri Lanka, not in the South Indian film studios. In such a context, stylization runs the risk of being thought frivolous". Even though, its structure breaks conventional realistic form: multiple families appear in continuous performance of proscenium stage, the apron is used for street scenes and checkpoints, and actors shift their roles in mid-performance to enact other characters, especially during scenes of torture. The concept of the fourth wall is deliberately avoided; instead, the performance space is used as an interactive environment.

One of the events is presented in an indirect way, for instance, was the sound of firing from a helicopter, which is symbolically represented by a hymn of faith connected to religious culture that is rhythmic drumbeat and timed to the rounds of the gun. This hybrid style, which blends stylized aspects with real life, is a direct response to the psychological impacts of war instead of just an artistic experiment. However, as loss, death and trauma intensified, both aspects of realistic and anti-realistic theatre form (*Annai Idda Thee*) became partly necessary to convey lived reality. The emergence of the realistic play *Enthayum Thayum*, which is going to be analyzed in the next section, reflected the various psychological reality and truth related to war. In this analysis, the first play *Mansumantha Meniyar* presents characters as representations of the community, whereas *Annai Idda Thee* and *Enthayum Thayum* contradict this by focusing on the individual identity.

The Spread of War and the Emergence of Realistic Performance Conventions

The purpose of this play *Enthayum Thayum* diverges slightly from Shanmugalingam's broader thematic intentions, as it was specifically written for those migrated by war and living abroad. As the playwright notes, *Enthaiyum Thaayum* was written in 1992 at the request of several Jaffna Tamils residing in Canada. Consequently, the primary audience comprises the sons and daughters who migrated to foreign countries, leaving behind their parents and grandparents in the motherland (Shanmugalingam 2018, p. 10). In contrast to *Mann Sumandha Meniyar*, which overtly criticizes those who migrated, *Enthaiyum Thaayum* approaches the experiences of migrants with empathy rather than judgment. Although the play centres on the emotional and social abandonment experienced by elderly parents left behind, it does not explicitly reproach those who migrated.⁵ Rather, it puts an emphasis on how many families depended on their kiths



and kins in foreign countries for assistance and survival. However, from a critical point of view, the characters abroad might be seen as implicit antagonists in the narrative framework in the play even though they did not appear as character in the play.

The drama *Endhaiyum Thaayum* explores the civil war and its larger social effects that preceded it, and the era in which the play was written. It gives a critical description of the predominant socioeconomic conditions of the time by exposing topics including internal displacement, migration, economic hardship, communication difficulties, difficulties with transportation, and the effects of wartime brutality. The separation of elderly parents from their migrant children, an overall social reality of the era, is the primary subject of the play. Even if similar circumstances still exist today for some elderly people, even so contemporary communication gives distant care and contact possible. In contrast, handwritten letters via postal delivery were the only form of communication available during the war. Telephone was an expensive and difficult mode of communication then, frequently requiring travel to Colombo city, passing through military check points. Regular interaction with relatives overseas was practically impossible due to this limited entry. The line “Aiyathurai: You must go to the ICRC and inform the eldest son. He will notify the others” (Shanmugalingam 2008, p. 33), stressing lack of communication brought on by migration and conflict. A temporal shift is shown by Aiyathurai’s request to report to the ICRC ⁶, which exposes the inaction and communication obstacles of that era. *Endhaiyum Thaayum* displays Shanmugalingam’s roots in socio-political truth by mentioning the ICRC, thereby transitioning his plays from ideological narratives into historical evidence.

During this period, all transport and communication between northern and southern Sri Lanka were often disconnected. ⁷ Food, medicine, and letters to Vanni passed through strict military checkpoints, often via the Vavuniya detention camp, where items, especially medical supplies, were frequently confiscated. Shipments to Jaffna were sent by sea, with the *Kumari* and *Kumana* vessels transporting supplies and letters in 1992 (Shanmugalingam 2008, p. 22). Severe fuel shortages led to petrol being sold at 2800 rupees per litre, ⁸ (while bread cost only 5 rupees - for comparison), forcing vehicles to run on kerosene, emitting dense smoke



(Shanmugalingam 2008, p. 28). In this play too, newspapers served as vital communication tools, especially for death announcements, as seen in Periyaiya's obituary (Shanmugalingam 2008, p. 34). Aerial attacks on civilians were intermittent, and the play's symbolic use of a military aircraft, imagined by Periyaiya as his son returning from abroad, but ultimately dropping no bombs, evokes the dementia of the character without shifting the play's thematic focus (Shanmugalingam 2008, p. 30).

While Tamil modern theatre traditionally leaned towards stylized or anti-realistic forms, characterized by metaphor, symbolism, and traditional *Kooththu* performance, *Enthayum Thayum* is predominantly written in a realistic style, marking a shift necessitated by the intensifying war and the resulting lived reality and truth. Moreover, communist ideology partly shapes war-themed plays like *Mansumantha Meniyar*, blending political awareness with social inequality. In *Enthayum Thayum*, which mainly employs a realistic style, anti-realist approaches also appear particularly when actors break away from their characters to create meta-theatrical moments that compromise realism. Stage directions - "(Acts as conversing on the telephone)" (Shanmugalingam, 2008, p. 27), in which actors transcend mimetic roles as performers to demonstrate the flashback. The character Selvaratnam interacts on the phone with his son and daughter, who are living overseas. This flashback scene is imitated in the present tense without interfering with the events in real time. Remarkably, other characters such as Vasanthi and Kannan act out the situation as migrated son and daughter by imitating the past telephone conversation, instead of those who initially got involved in the past incident in dramatic text. This method can be considered as an anti-realistic feature that deviates from the regulations of rigid realism and relates to the idea of doing or reporting.

Despite this, there is a noticeable departure from conventional realistic character embodiment while past events are represented through present movements. The actor becomes a performer who presents a part or role instead of being trapped within a psychologically unified character. Here, a particularly complicated dramaturgical device is utilized. The actor becomes a performer and the character becomes a role in plays that mimic social reality and have a non-linear structure. Based on Konijn, directors like Jerzy Grotowski, Peter Brook,



Richard Schechner, and Eugenio Barba frequently substitute the terms actor and character with performer and role, focusing on the fluidity between stage performance and real-life behavior. This change reflects a blurring boundaries between theatrical roles and social identities (Konijn, 2000, p. 41). The simultaneous physical appearance of multiple families on stage during the performance is other anti-realistic feature of the play.⁹ The identical method may be employed to interrupt emotional continuity, which could be an alienation strategy, by applying stylized elements seen in previous dramatic traditions. At the end of the play adopts a hybrid theatrical framework, which includes some anti-realistic elements while promoting realism. On the contrary, in the following years, the realism once again evolved into anti-realism due to political situation.

CONCLUSION

The findings of this study demonstrate that the side effects and human consequences of war that resulted from ethnic conflict and militarization, are artistically represented in the dramatic texts of Kulanthai M. Shanmugalingam through the incorporation of collective memory, collective emotions, and collective trauma experienced by the Tamil community. These experiences are transformed into aesthetic theatrical expressions through dramaturgical techniques such as characterization, dialogue, stage directions, symbolism, songs, ritual elements, poetry, chorus, and fragmented episodic structures. Through these dramaturgical transformations, the plays establish a distinctive theatrical aesthetic capability to convey the realities of war, resistance and oppression. Shanmugalingam's dramatic texts also reveal the use of coded political language, which may be understood as an aesthetic adaptation developed under oppressive socio-political conditions. In this context, self-censorship functions simultaneously as symbolic dramaturgy and metaphorical resistance. A significant observation emerging from this study is that theatrical form and structure are shaped by external socio-political realities. The war-induced conditions of war and military surveillance determined whether linear or non-linear storytelling methods were appropriate. Consequently, the construction of dramatic form appears to have been based not only on artistic necessity but also on issues of safety, survival, and communicative urgency.



During periods in which the war expanded and dominant powers attempted to consolidate public support for militarization, Shanmugalingam's plays sought to maintain immediate artistic communication with affected communities. Since the plays needed to express collective suffering in a generalized and accessible manner, his dramaturgy adopted modified and anti-realist theatrical forms. However, as the war intensified and its consequences became increasingly severe and individualized, the impacts of violence could no longer be represented solely through collective generalizations. At this stage, Shanmugalingam's later dramatic works gradually shifted toward the representation of individual experiences and personal crises, thereby incorporating partial realist modes of dramaturgy. This study therefore argues that changes in theatrical form were not determined merely by ideological transformations, but rather by the evolving intensity, expansion, and pressures of war itself, which generated new theatrical styles and performance languages. In Western theatre history, the emergence of realism and anti-realism was profoundly connected to the Industrial Revolution, scientific developments, and post-war philosophical thought. In contrast, the Sri Lankan Tamil theatrical context demonstrates that within the relatively short span of a thirty-year civil war, realist and anti-realist theatrical modes emerged primarily out of practical and socio-political necessity rather than through direct theoretical or ideological movements. Shanmugalingam's dramatic texts and performances provide evidence that aesthetic forms were developed as urgent artistic responses to war, trauma, and social communication. Although the ideological positions reflected in his plays sometimes differ or even contradict one another across different historical periods, these variations should be understood as reflections of the changing socio-political realities of each particular phase of the conflict. The ethnic conflict in Sri Lanka between the Sinhalese and Tamil communities forms the conditions shaped by ethnic conflict of Shanmugalingam's plays, which predominantly portray the anguish, trauma, and lived experiences of the Tamil community. However, these plays were also widely appreciated by Sinhala audiences, demonstrating their capacity to transcend ethnic boundaries and evoke broader human empathy. This universality is further evident in the translation of several of his plays into Sinhala and their performance for Sinhala audiences.



Notably, when *Enthayum Thayum* was staged in Sinhala, the production generated a profound collective emotional response among Sinhala spectators, enabling audiences to empathetically engage with the suffering of another ethnic community beyond ethnic and political divisions.

Representing violent wartime experiences through theatrical performance for the very communities affected by those experiences raises important ethical and aesthetic questions. Nevertheless, this study finds that dramaturgical transformation played a crucial role in preventing audiences from being overwhelmed by direct traumatic representation. By incorporating local cultural practices, ritual traditions, and religious elements, these performances created a mediated aesthetic space that encouraged audiences not merely to relive suffering, but to understand social realities, express emotions, develop awareness, and engage in critical reflection. The practice and findings of this research further suggest that understanding artistic transformation and socio-political expression in dramatic writing is highly significant for contemporary playwrights and theatre practitioners. Within drama and theatre studies, script analysis, playwriting, literary interpretation, and socially engaged theatre remain essential components of the curriculum. In this regard, this study contributes substantially to the academic understanding of Sri Lankan Tamil theatre and provides a foundation for future research on dramatic texts and performances shaped by war and conflict. Moreover, the study offers valuable insights for artists, educators, and researchers seeking to critically examine socio-political history, cultural memory, and the role of theatre in shaping future social consciousness.

The research demonstrates that anti-realist theatre becomes particularly effective within highly restricted and politically sensitive social environments, where direct expression is constrained and multiple layers of meaning must be communicated indirectly. At the same time, the study also reveals that realist theatre gains greater relevance when the direct impacts of crisis and violence become intensely personal and socially overwhelming for affected communities. The findings additionally emphasize that, beyond fictional imagination alone, the artistic documentation of lived reality enables society to critically reflect upon both the past and the future. Such representations provide valuable insight not only for theatre practitioners



and scholars, but also for broader socio-cultural understanding. Therefore, the study of Shanmugalingam's dramatic texts is significant not merely for understanding dramaturgical aesthetics and theatrical techniques, but also for recognizing how humanity confronts the challenges produced by crises such as war. His plays demonstrate how deeply localized experiences of suffering can simultaneously embody universal human concerns and emotions, ultimately transcending ethnic, political, and cultural boundaries to affirm the shared humanity at the core of collective trauma and resistance.

Foot note

1. *Maathorubhaagam*: A Half of Woman, Ardhanarishvara in Sanskrit—*Ardha* meaning half, *Nari* meaning woman, and *Ishvara* meaning Shiva *Mathorupaham* “The Lord Who is Half Woman”. In this work, Shanmugalingam introduces, for the first time, the destructive aspects of ethnic conflict
2. The English translation of the play directly conveys the term helicopter, whereas in the original Tamil version, it carries a symbolic meaning in cultural context.
3. Although many characters in the play exhibit psychological trauma in various forms, this paper focuses exclusively on the character of Gauri as a representative case, omitting others due to constraints of length.
4. Fuel shortages forced civilians to travel predominantly by bicycle. Shanmugalingam displays an acute awareness of the extraordinary wartime conditions and how they infiltrated everyday life.
5. The Sinhala translated version of the play (*Hiru Naegenthura*) was staged at Punchi theatre in Colombo in 2018, where same reflections and sympathies were observed among Sinhala audience.
6. The period during which, ICRC played a significant role in providing humanitarian assistance: transporting the wounded and sick across military-controlled zones for medical treatment, distributing essential relief materials, transmitting urgent communications such as death notices to Colombo and foreign countries, facilitating letter exchanges to and from conflict zones, and locating separated family members.



7. For those traveling from Jaffna to Colombo via Vavuniya, the journey entailed passing through LTTE-controlled areas such as Poonakari*, Kilali*, Urian kaadu*, and Kompadi* or alternatively, traveling by sea.
8. The playwright composed *Annai Itta Thee* and *Enthaiyum Thayum* at home under light of energy saving Kerosene lamp (*Kuppi vilakku/Sikkana vilakku*). Due to the unavailability of electricity, people relied on bicycle dynamos to power radios for news, manually pedaling to generate current. With kerosene bans in effect, improvised lamps were created using jam bottles, minimal kerosene, and salt.
9. The play at first staged in a courtyard house, featuring three families in a joint family setup that created a highly realistic environment. At the same time, it avoided the anti-realistic technique of breaking the fourth wall commonly found in proscenium theatre.

*** Names of the villages in Jaffna**

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INDIGENOUS KNOWLEDGE AND GENDER DYNAMICS: A COMPARATIVE STUDY OF WORKING AND NON-WORKING WOMEN AS CULTURAL CUSTODIANS

Bithi Paul

Research Scholar, Department of Education, Aliah University, Contact- 8697887844

Reshma Khatun

Assistant Professor, Department of Education, Aliah University, Contact- 8001185338

Email- bpaul.phd2023@gmail.com

ABSTRACT

Indigenous knowledge (IK) is a centuries-old storehouse of knowledge, customs, and beliefs. Local societies have created it via consistent engagement with their surroundings, which forms a fundamental component for both societal continuity and environmental resilience and is closely linked to cultural identity, ecological stewardship, and sustainable development. In the past, women have played a crucial role in maintaining the Indian Knowledge System, protecting cultural assets, health practices, biodiversity, and child socialization. With rapid socioeconomic development and an increase in female labor force participation, gender roles and information transfer procedures are evolving. This study explores the impact of decision-making authority and self-esteem on cultural custodianship and compares the roles of working and non-working women in the transmission and preservation of indigenous knowledge. A sample of 200 married women from urban and semi-urban areas of Kolkata, 100 of them were employed, and the other 100 were non-working, from India. A mixed-method comparative study design was used, where qualitative tales were subjected to thematic analysis, and quantitative data were assessed using independent t-tests and Pearson correlation. The findings demonstrate that whereas working women deploy adaptive institutional and digital modes of transmission, non-working women engage in everyday household-based indigenous traditions more frequently. In both categories, cultural participation is strongly predicted by decision-making authority and self-esteem. The study comes to the conclusion that women's position as cultural guardians is transformed rather than diminished by employment.

Keywords: Cultural custodianship, Decision-making power, Gender dynamics, Indigenous knowledge, Self-esteem

INTRODUCTION

Indigenous knowledge (IK) refers to the traditional understandings, skills, and philosophies developed by local communities through long-term interaction with their environment and cultural practices. It represents a rich repository of traditional understandings, practical skills, and guiding philosophies, maintained by Indigenous communities to sustain life, culture, and ecological balance. Both cultural legacy and global sustainability depend on its study and



protection, where IK is the practical, spiritual, and cultural knowledge that indigenous peoples acquire over many generations. It is frequently context-specific and intimately related to the environment, social structures, and history of a certain group.

IK is intricately intertwined with everyday life in South Asian cultures, and household spaces play a crucial role in its transmission and preservation, where women are the main keepers of this knowledge, integrating it in various ways into family, community, and home rituals. Women serve as intergenerational cultural continuity bridges through food preparation, herbal medicines, ceremonial practices, storytelling, and childrearing; these procedures are usually relational, experiential, and informal. They serve as guardians, educators, and practitioners, integrating IK into intangible practices like rituals, storytelling, and moral advice as well as concrete activities like the kitchen, garden, and craft areas.

Economic liberalization, educational reforms, and increased female labor force participation have altered the gendered division of labor. Policies like the National Education Policy 2020, which promote women's education and employment inclusion, are reshaping domestic power relations. The question of whether employment alters the means of transmission or reduces women's involvement in indigenous knowledge practices is thus brought up. The current study contrasts working and non-working women as cultural guardians and looks at the psychological and structural elements that affect their involvement in indigenous knowledge preservation in order to address this question.

Conceptualizing Indigenous Knowledge and Gender Dynamics

Understanding how gender roles and dynamics interact with traditional knowledge systems is a key component of the concept of Indigenous Knowledge and Gender Dynamics. These knowledge systems are essential to the identity and resiliency of indigenous communities, and indigenous women are vital in their transmission and preservation; although patriarchal rules frequently obscure female contributions, their autonomy and resiliency allow women to negotiate and make their voices heard within established knowledge systems. Knowledge transfer, control, and access are all significantly influenced by gender due to their everyday household duties, women are at the center of domains related to indigenous epistemologies, such as food systems, caregiving, and health management.

LITERATURE REVIEW

Women as Custodians of Indigenous Knowledge

Vandana Shiva (1988) argues that women's ecological knowledge is fundamental to biodiversity conservation and sustainable agriculture, the ecofeminist perspective positions women as guardians of environmental ethics and traditional practices. Similarly, Agarwal (1994) emphasized the importance of women's participation in natural resources governance and collective management systems where it is demonstrated that women's inclusion strengthens sustainability outcomes.



The Food and Agricultural Organization (2011) reported that women are primary actors in seed preservation, food processing, and household-level agricultural decision-making, thereby sustaining local food systems; another study by Halder, (2025) highlighted how women function as intergenerational transmitters of indigenous education, ecological ethics, medicinal practices, and oral traditions. Both the study argued that women's roles extend beyond domestic labour and contribute significantly to cultural sustainability and environmental stewardship.

Similarly, research conducted in Odisha by Naik & Das (2025) demonstrated that tribal women play a vital role in preserving ecological balance and traditional environmental knowledge through farming practices, medicinal plant usage, and ritual activities. The study further emphasized that modernization, migration, and deforestation threaten these indigenous systems, making women's cultural labour increasingly significant.

In the Indian context, Kumar & Das (2025) examined women's contribution to preserving Indigenous Environmental Knowledge (IEK) and argued that women's everyday interactions with food, agriculture, and caregiving position them as critical agents of ecological continuity and sustainability. These studies demonstrate the importance of women in the preservation of indigenous knowledge, but they do not systematically compare urban working and non-working women.

Empowerment, Agency, and Decision-Making

Naila Kabeer (1999) defined empowerment as the development of people's capacity to make informed life decisions which integrates resources, agency, and achievements and highlights decision-making ability as a critical indicator of empowerment. Employment is often associated with increased negotiating power inside households (Kabeer, 1999) and includes psychological components like self-worth.

Cultural Capital and Intergenerational Transmission

The term "cultural capital" was first used by Pierre Bourdieu in 1977 to describe the generational transmission of norms, attitudes, and practices within families. Indigenous knowledge is transmitted via everyday interactions and serves as a type of embodied cultural capital. Time restrictions may affect the embodied transmission of cultural traditions, even if working women may have more financial capital. On the other hand, women who do not work can have more time but less institutional channels for sharing information. The necessity of comparative empirical analysis is shown by this disparity.

Theoretical Framework

The study integrates three theoretical perspectives:



1. Feminist Standpoint Theory- Lived experiences of women generate unique epistemic insights.
2. Empowerment Theory (Kabeer, 1999)- Decision-making power and self-esteem enhance agency.
3. Cultural Capital Theory (Bourdieu, 1977)- Knowledge transmission occurs through familial and social reproduction.

The proposed framework synthesizes three interrelated theoretical perspectives to explore women's lived experiences, agentic capacity, and knowledge transmission within socio-cultural and employment contexts.

OBJECTIVES

1. To compare indigenous knowledge engagement between working and non-working women.
2. To analyse differences in modes of transmission.
3. To examine the relationship between decision-making power and custodianship.
4. To assess the role of self-esteem.

HYPOTHESES

H₁ (Directional Hypothesis): Non-working women exhibit significantly higher involvement in daily household-based indigenous practices than working women

H₂ (Directional Hypothesis): Working women demonstrate significantly higher institutional/digital knowledge transmission than non-working women

H₃ (Correlational Hypothesis): Decision-making power positively correlates with indigenous knowledge engagement

METHODOLOGY

Research Design

A comparative mixed-method design was used for the present study to evaluate employment status and its relation to the transmission of indigenous knowledge, decision-making power and self-esteem.

Sample

There was a total of 200 women, consisting of 100 working women and 100 non-working women, between the age group of 25-50 years from urban and semi-urban areas of Kolkata. Stratified random sampling was used for this purpose. For the qualitative part, 10 women (5 working and 5 non-working) are selected who scored better in the quantitative analysis. The interviews were taken through telephone for about 30 minutes. This age range was



deliberately selected to capture women who are actively engaged in household decision-making, child-rearing, and socio-cultural practices, thereby increasing the relevance of their role in indigenous knowledge transmission.

Instruments

Name	Items	Reliability
Indigenous Knowledge Engagement Scale (IKES)	40 items covering Food traditions, Health practices, environmental ethics, and storytelling	$\alpha = .86$
Household Decision-making Scale	Adapted from empowerment indices	$\alpha = .81$
Rosenberg Self-Esteem Scale	Standardised 10-item measure	$\alpha = .88$
Semi-structured interviews	N=10	

Assumption

Although assumptions such as normality and homogeneity of variance were not formally tested, the independent samples t-test is generally considered robust to moderate violations of normality, particularly when sample sizes are sufficiently large, and group sizes are approximately equal (Havlicek & Peterson, 1974).

Data Analysis

- Independent samples t-test
- Pearson correlation
- Thematic analysis (Braun & Clarke's 2006)

RESULTS

Comparative Analysis



Table 1: Household-based Indigenous practices (t-test)

Working status	Mean	SD	t-value	df	p-value
Non-working	78.4	8.2	3.12	238	<.01**
Working	72.1	9.4			

**** Indicates significance at the 1% level ($p < .01$)**

Non-working women scored higher in household-based indigenous practices than working women.

Table 2: Institutional/Digital Knowledge Transmission (t-test)

Working status	Mean	SD	t-value	df	p-value
Non-working	20.8	5.1	-3.18	238	<.05*
Working	24.6	4.3			

*** Indicates significance at the 5% level ($p < .05$)**

Working women scored higher in institutional/digital knowledge transmission compared to non-working women.

Correlation Analysis

Table 3: Two Correlations between two different variables

Variable	Correlation (r)	p-value
Decision-making Power & Indigenous Knowledge	.49	<.01**
Self-esteem & Custodianship	.42	<.01**

**** Indicates significance at the 1% level ($p < .01$)**

Decision-making power correlated positively with indigenous knowledge engagement. Whereas Self-esteem correlated significantly with Custodianship.



Qualitative Themes

1. **Continuity at Home:** Women who did not work placed a strong emphasis on embodied practice and ritual regularity. The idea of domestic continuity emphasizes how non-working women are the primary custodians of indigenous knowledge through everyday home tasks. In addition to being functional, their involvement is highly embodied and habitual, with knowledge being transmitted through regular rituals, repetition, and observation.
2. **Adaptive Transmission:** Working women used social media, schools, and community events. As demonstrated by the idea of adaptive transmission, working women handle time constraints and modern demands by integrating institutional and digital platforms into the diffusion of knowledge. Here, knowledge becomes more structured, mediated, and explicit than in the home model. Often, working women depend on: Social media sites like YouTube and WhatsApp groups, schools and formal education systems, and community-based initiatives. As a result, a hybrid model of knowledge transfer is produced, in which conventional methods are reinterpreted in light of modern circumstances.
3. **Intergenerational Negotiation:** In order to adapt to contemporary lifestyles, younger mothers changed their customs. The dynamic interplay between tradition and modernity, especially among younger moms, is captured by the concept of intergenerational negotiation. They actively reinterpret and adapt customs to suit modern lifestyles rather than passively absorbing them. This negotiation takes place in a number of ways: Time restrictions (making long rituals simpler), evolving ideals (gender roles, education, and work), and urbanisation and mobility

DISCUSSION

The present study examined the comparative role of working and non-working women as custodians of indigenous knowledge (IK), with particular attention to the influence of decision-making power and self-esteem on cultural engagement. The results advance interdisciplinary research at the nexus of cultural sustainability, empowerment theory, and gender studies. The findings further confirm that indigenous knowledge functions as a type of embodied cultural capital that is passed down through routine activities in social and home contexts. The study, which is based on Pierre Bourdieu's (1977) theory of cultural reproduction, shows that families serve as the main locations for the transmission of information, with women playing a crucial mediating role. Indigenous household-based behaviours are far more prevalent among non-working women. The outcome also shows that working women are adapting the channels of transmission rather than disengaging from cultural custodianship. Therefore, work position influences the mode of indigenous knowledge interaction rather than its presence or absence.



The results of the study indicate that, when it comes to women's engagement in the workforce, cultural agency is changing rather than diminishing. Employment often boosts women's access to social networks and financial resources, changing gender dynamics within households. Custodianship should be understood as an active debate between continuity and modernity rather than just the preservation of tradition and results show that agency increases cultural participation, which is consistent with empowerment theory (Kabeer, 1999). Women who do not work exhibit continuity-based custodianship that is based on everyday household activities. On the other hand, working women integrate indigenous knowledge into formal and digital environments, acting as adaptable guardians when women are recognized as cultural agents rather than passive bearers, indigenous knowledge is reframed as a dynamic, evolving system influenced by gendered negotiation.

The results disprove the idea that employment reduces cultural engagement and contrarily, employment alters custodianship practices. Cultural capital (Bourdieu, 1977) is still present, but it takes on different forms based on the socioeconomic context. The study demonstrates that rather than being strictly preserved, indigenous knowledge survives through constant modification, negotiation, and recontextualization across institutional, generational, and domestic realms.

Limitations and Scope

The current inquiry faces notable limitations, which are-

First, the choice of an urban-centric sample limits the results' application to rural contexts, where sociocultural dynamics and indigenous knowledge systems may differ significantly. In order to generate more thorough comparative insights, future research should use samples from rural populations.

Second, the cross-sectional design of the study makes it more challenging to establish the causal relationships between the variables because the data were collected at a specific point in time, the observed connections should be interpreted with caution. Longitudinal research approaches may be used in future studies to improve causal findings and better capture changes over time.

Lastly, the study ignores intersectional factors like class and caste, which may have a significant impact on how people interact with indigenous knowledge systems, have access to resources, and have decision-making authority. In order to provide a more complex and thorough knowledge of the phenomenon, future research is advised to incorporate these elements.

CONCLUSION

Regardless of their employment situation, women continue to be the primary guardians of indigenous knowledge; however, the methods of transmission and preservation are different



for working and non-working women. Cultural agency is greatly enhanced by decision-making authority and self-worth, and women's caregiving responsibilities are transformed rather than diminished by employment, demonstrating the adaptive endurance of indigenous knowledge systems. The study aimed to investigate the impact of decision-making authority and self-esteem in influencing cultural involvement, as well as how working and non-working women serve as stewards of indigenous knowledge. The results make several important contributions-

First, regardless of their work status, women continue to play a crucial role in the preservation of indigenous knowledge. Participation in the workforce reconfigures cultural custodianship into adaptive forms rather than diminishing it while working women expand transmission into institutional and digital settings, non-working women maintain continuity through everyday physical actions.

Second, cultural participation is strongly predicted by empowerment factors, especially decision-making authority and self-esteem. Women's ability to prioritise and legitimise indigenous behaviours is strengthened by structural authority in the home. Their willingness to pass on knowledge to future generations is further reinforced by psychological confidence.

Third, the analysis questions binary presumptions that modernity and tradition are mutually exclusive. Indigenous knowledge, on the other hand, exhibits resilience through change. Working women provide as an example of how cultural systems adjust to modern socioeconomic structures while maintaining their core principles.

In conclusion, indigenous knowledge systems in urban and semi-urban India are maintained by gendered agency. Whether or not they have a job, women are dynamic cultural guardians whose roles shift in response to structural and psychological empowerment. Future studies should examine long-term shifts, the intersectional effects of caste and class, and legislative initiatives that formalise the preservation of indigenous knowledge by women.

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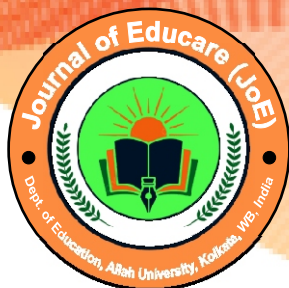
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Department of Education, Aliah University, Park Circus Campus
9th Floor, 17 Gorachand Road, Kolkata-700014, West Bengal, India
Email: jhl.edu@aliah.ac.in Website: <https://educare.aliah.ac.in>