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EFFECTIVENESS OF FLIPPED CLASSROOM PEDAGOGY IN MARKETING EDUCATION: AN EMPIRICAL STUDY OF FUNDAMENTALS OF MARKETING AMONG MMS STUDENTS

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ABSTRACT

The evolving landscape of management education demands innovative pedagogical approaches that promote active learning, critical thinking, and industry readiness. Traditional lecture-based teaching often limits student engagement and the practical application of concepts. The flipped classroom model has emerged as an effective student-centred approach wherein foundational learning occurs before class and classroom time is devoted to discussion, problem-solving, and experiential activities. This study examines the effectiveness of flipped classroom pedagogy in the Fundamentals of Marketing course among 84 Master of Management Studies (MMS) Semester I students. The intervention incorporated pre-class learning resources such as video lectures, business cases, newspaper articles, podcasts, industry reports, and research papers, while classroom sessions focused on live cases, simulations, peer teaching, and group discussions. Using an Action Research approach, data were collected through student feedback, observation records, reflective journals, and internal academic assessment records covering four components: an applied/case-based component (RM), a group Presentation, a Mid-Term test, and Class Participation. Two hypotheses were tested using the actual internal-assessment marks: a one-way ANOVA examined whether mean scores differed significantly across the four assessment components, and a chi-square test of independence examined whether classroom-engagement performance (Presentation and Class Participation, reflecting the flipped, experiential components) was associated with Mid-Term test performance The study concludes that flipped classroom pedagogy can meaningfully enhance marketing education by bridging the gap between theory and practice.

Keywords: Flipped Classroom; Fundamentals of Marketing; Active Learning; Student Engagement; Hypothesis Testing; ANOVA; Chi-Square Test; Management Education

1. INTRODUCTION

Management education is undergoing a significant transformation due to technological advancement, changing learner expectations, and industry demand for application-oriented skills. Marketing education requires students to understand not only theoretical frameworks but also their practical relevance in dynamic, fast-changing business environments shaped by digital disruption, evolving consumer behaviour, and intense competition.

Traditional classroom teaching often relies heavily on the lecture method, in which students passively receive information transmitted by the instructor. Such an approach may be insufficient for developing the analytical thinking, decision-making ability, and problem-solving competence expected of future managers. Passive learning environments also tend to under-utilise scarce classroom time, which could otherwise be devoted to higher-order cognitive activities such as analysis, evaluation, and application.

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To address these challenges, educational institutions are increasingly adopting active-learning strategies that promote student participation and engagement. One such strategy is the flipped classroom model. In a flipped classroom, instructional content is delivered outside the classroom through videos, articles, podcasts, and other digital learning resources, while classroom time is subsequently utilised for collaborative learning, case discussion, simulation, and application-oriented exercises. This model shifts the responsibility for first exposure to content from the instructor to the learner, freeing classroom time for deeper engagement with course material under faculty guidance.

The present study explores the implementation and effectiveness of flipped classroom pedagogy among MMS (Master of Management Studies) Semester I students in the Fundamentals of Marketing course. It documents the design of the intervention, the classroom and pre-class activities used, and the outcomes observed over one academic semester, and statistically tests whether the internal-assessment record generated by this design shows the patterns the flipped-classroom literature would predict.

2. LITERATURE REVIEW

The flipped classroom model is rooted in Constructivist Learning Theory, which suggests that learners actively construct knowledge through experience and interaction rather than through passive absorption of transmitted information. By engaging with content prior to classroom sessions, students arrive prepared to participate in discussion and higher order learning activities, allowing the instructor to act as a facilitator rather than a sole transmitter of knowledge.

Bishop and Verleger (2013) define flipped learning as a combination of computer-based individual instruction outside class and interactive group learning activities inside class. Their review of the early flipped-classroom literature found generally positive, though mixed, evidence on learning outcomes, underscoring the importance of how the in-class time is used.

O'Flaherty and Phillips (2015), in a scoping review of flipped classrooms in higher education, found that the approach tends to improve student engagement, academic performance, and learner satisfaction across a range of disciplinary contexts, while also noting that successful implementation depends heavily on instructional design quality.

Within marketing education specifically, flipped learning enables instructors to integrate real-world business scenarios into classroom discussion rather than spending scarce class time on content delivery. Green (2015) emphasised that marketing education particularly benefits from the flipped model because it allows greater use of cases, simulations, and experiential exercises that mirror the ambiguity and complexity of real marketing decisions.

Chen, Wang, Kinshuk, and Chen (2014) cautioned that simply relocating lecture content to pre-class videos (the 'FLIP' model) is not sufficient on its own; the in-class component must be redesigned around genuine active-learning tasks (the 'FLIPPED' model) for the approach to yield its expected benefits. This distinction is relevant to the design choices made in the present study, where classroom time was deliberately restructured around live cases, an applied/case-based (RM) task, and group presentations rather than supplementary lecturing.

Tune, Sturek, and Basile (2013) reported improved graduate student performance in a flipped physiology course, providing early evidence that the model can benefit performance even in content-heavy, technical subjects at the postgraduate level.

Zainuddin and Halili (2019), reviewing flipped classroom research across multiple fields of study, observed that the model consistently supports the development of student autonomy,

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collaboration, communication skills, and critical thinking, while also flagging recurring implementation challenges such as inconsistent student preparedness, variable access to technology, and increased instructor workload.

Biswas (2022) similarly found a positive association between flipped learning and both student engagement and academic performance, reinforcing the broader pattern observed across the literature.

Although substantial literature exists on flipped classrooms in science, engineering, and general higher-education contexts, comparatively limited empirical work has examined their application within Indian management education, and introductory marketing courses specifically remain under-studied using actual internal-assessment records rather than self-reported survey data alone. This study seeks to contribute to this emerging area of research by pairing a semester-long flipped-classroom intervention in Fundamentals of Marketing with a statistical analysis of the resulting internal-assessment marks.

3. RESEARCH GAP

Existing flipped-classroom research is concentrated in STEM and general higher-education settings, with far fewer studies situated in postgraduate management education, and fewer still in the Indian context. Marketing-specific courses which depend heavily on real-world cases, brand examples, and applied exercises are particularly well suited to a flipped design, yet this fit is rarely tested against actual internal-assessment records rather than perception surveys alone. This study addresses that gap by using the real internal-assessment scores of an MMS Fundamentals of Marketing cohort to statistically test whether flipped-classroom-linked components (presentation delivery and class participation) relate to performance on a more traditional, test-based assessment component (the Mid-Term).

4. OBJECTIVES OF THE STUDY

The study was conducted with the following objectives:

- To evaluate the effectiveness of flipped classroom pedagogy in the Fundamentals of Marketing course.
- To assess student engagement in flipped learning environments.
- To examine the impact of experiential learning tools on concept understanding and application.
- To statistically test whether mean performance differs significantly across the internal-assessment components used to evaluate the flipped-classroom intervention.
- To statistically test whether classroom-engagement performance is significantly associated with performance on a traditional, test-based assessment component.
- To identify challenges associated with flipped classroom implementation and recommend strategies for effective integration.

5. RESEARCH METHODOLOGY

The study adopted an Empirical Action Research design with a mixed-method approach, allowing the instructor-researcher to iteratively design, implement, observe, and reflect on the pedagogical intervention across a full academic semester, supplemented by a quantitative hypothesis-testing component based on the course's internal-assessment records.

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5.1 Sample

The study involved 84 MMS Semester I students enrolled in the Fundamentals of Marketing course, Batch 2024–2026, at a Management Institute.

5.2 Data Collection

Multiple data sources were utilised to triangulate findings:

- Student feedback and reflective journals (qualitative)
- Faculty observation records and classroom participation data (qualitative/quantitative)
- Internal academic assessment records, comprising four components each scored out of 10 marks: RM (an applied/case-based rubric assessment mapped to Course Outcome 5), Presentation (a group presentation mapped to Course Outcomes 2–4), Mid-Term Test (a written test mapped to Course Outcomes 1–2), and Class Participation (mapped to Course Outcomes 1–2).

5.3 Teaching Intervention Design

Students received learning materials one week before each classroom session, allowing sufficient time for pre-class preparation. The intervention combined structured pre-class digital learning with experiential, application-oriented classroom activity, as summarised in Table 1.

Table 1: Pre-Class and Classroom Activity Design (Fundamentals of Marketing)

Pre-Class Activities	Classroom Activities
Recorded video lectures	Live case discussions
Video case studies	Applied/case-based (RM) exercises
Newspaper articles	Group presentations
Marketing blogs	Group discussions
Podcasts	Peer teaching
Industry reports	Marketing simulations
Research papers	Advertisement/product evaluation exercises
TED Talks	Class participation & guided discussion

5.4 Hypotheses

Two hypotheses were formulated and tested using the internal-assessment marks described above.

Hypothesis 1 (Difference in means across assessment components) — tested using one-way ANOVA

H_0 (Null Hypothesis): There is no statistically significant difference in the mean scores of students across the four internal-assessment components (RM, Presentation, Mid-Term, and Class Participation & Attendance).

H_1 (Alternative Hypothesis): There is a statistically significant difference in the mean scores of students across the four internal-assessment components.

Hypothesis 2 (Association between engagement and test performance) — tested using Chi-square test of independence

H_0 (Null Hypothesis): There is no statistically significant association between students' classroom-engagement performance (Presentation and Class Participation, representing the flipped-classroom, experiential components) and their performance in the Mid-Term test (a traditional, content-based assessment).

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H_1 (Alternative Hypothesis): There is a statistically significant association between students' classroom-engagement performance and their performance in the Mid-Term test.

5.5 Statistical Tools

Descriptive statistics (mean, median, and mode) were computed for each of the four assessment components and for the total internal-assessment score (out of 40) to summarise the central tendency of student performance.

Hypothesis 1 was tested using a one-way Analysis of Variance (ANOVA), treating each of the four assessment components as an independent group of 84 scores and testing whether their group means differ by more than would be expected by chance.

Hypothesis 2 was tested using a Chi-square (χ^2) test of independence on a 2×2 contingency table. An "Engagement Score" was computed for each student as the sum of the Presentation and Class Participation (out of 20); students were classified as "High" or "Low" engagement using the sample median as the cut-off. Mid-Term marks were similarly classified as "High" or "Low" using the sample median. The chi-square statistic then tested whether Engagement level and Mid-Term level were independent of one another. All tests used a significance level of $\alpha = 0.05$.

6. COURSE IMPLEMENTATION: FUNDAMENTALS OF MARKETING

Students studied core concepts through videos and articles before class. Classroom sessions then focused on application-oriented workshops and experiential tasks, including:

- Segmentation, Targeting and Positioning (STP) workshops
- Consumer behaviour analysis
- Advertisement evaluation
- Marketing mix simulations
- Customer journey mapping
- Group presentations evaluated on content quality, topic development, logical flow, response to questions, team coordination, and overall impression

Student performance was assessed across four internal-assessment components — RM, Presentation, Mid-Term, and Class Participation— each worth 10 marks, for a total internal-assessment score out of 40. These four components anchor the descriptive and hypothesis-testing analysis presented in Section 7.

7. FINDINGS AND DISCUSSION

7.1 Descriptive Statistics

Table 2 summarises the mean, median, mode, and standard deviation of the 84 students' scores on each internal-assessment component and on the total internal-assessment score (out of 40).

Table 2: Descriptive Statistics of Internal-Assessment Scores (N = 84)

Component	Max	Mean	Median	Mode	SD	Min	Max Obs.
RM (CO-5)	10	7.05	7.00	6	1.02	6	9
Presentation (CO 2–4)	10	7.05	7.00	6	1.02	6	9
Mid-Term (CO 1–2)	10	6.55	7.00	8	1.83	2	10
Class Participation	10	7.11	7.00	6	1.25	5	9
Total Internal Score	40	27.75	28.00	24	4.02	20	36

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The Mid-Term component shows both the lowest mean (6.55/10) and the widest spread (SD = 1.83) of the four components, while RM, Presentation, and Class Participation cluster tightly around 7.0–7.1 with lower variability. This pattern more consistent scores on the experiential, flipped-classroom-linked components and a more dispersed distribution on the traditional written test motivates the hypothesis tests reported next.

7.2 Hypothesis Testing Results

7.2.1 Hypothesis 1: One-Way ANOVA Across Assessment Components

A one-way ANOVA was conducted to compare mean scores across the four internal-assessment components (RM, Presentation, Mid-Term, Class Participation).

Table 3: One-Way ANOVA Summary

Source of Variation	SS	df	MS	F	p-value
Between Groups (Components)	17.22	3	5.74	3.295	0.021
Within Groups (Error)	578.46	332	1.74	—	—
Total	595.69	335	—	—	—

Since $p = 0.021$ is less than $\alpha = 0.05$, the null hypothesis (H_0) is rejected. There is a statistically significant difference in mean scores across the four internal-assessment components, $F(3, 332) = 3.295$, $p = 0.021$. Post-hoc inspection of the group means (Table 2) suggests this difference is driven primarily by the comparatively lower Mid-Term mean (6.55) relative to RM, Presentation, and Class Participation (7.05–7.11), consistent with the Mid-Term being a more traditional, recall-oriented assessment rather than an experiential, flipped-classroom-linked one.

7.2.2 Hypothesis 2: Chi-Square Test of Independence

Students were classified as High or Low on an Engagement Score (Presentation + Class Participation, out of 20; median split at 14) and, separately, as High or Low on the Mid-Term score (median split at 7). Table 4 presents the resulting 2×2 contingency table.

Table 4: Engagement Level × Mid-Term Performance — Observed Frequencies

Engagement Level	Mid-Term: High	Mid-Term: Low	Row Total
High Engagement	30	15	45
Low Engagement	16	23	39
Column Total	**46**	**38**	**84**

The chi-square test of independence yielded χ^2 (1, N = 84) = 4.558, $p = 0.033$. Since $p = 0.033$ is less than $\alpha = 0.05$, the null hypothesis (H_0) is rejected. There is a statistically significant association between classroom-engagement level and Mid-Term performance: students in the High-Engagement group were more likely to also score High on the Mid-Term (30 of 45, ≈ 67%) than students in the Low-Engagement group (16 of 39, ≈ 41%). This supports the broader premise of the flipped-classroom model that active, experiential engagement (presentation delivery and class participation) is linked to stronger performance on subsequent, more traditional assessment.

7.3 Enhanced Student Engagement

Beyond the statistical results above, students demonstrated higher levels of participation during classroom discussions compared to traditional lecture-based sessions. The availability of pre-class learning materials allowed students to arrive prepared and contribute more meaningfully to discussion, reducing the passive-listening component of class time.

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7.4 Improved Conceptual Understanding

The integration of videos, articles, and live cases facilitated deeper understanding of marketing concepts. Students were able to apply theoretical frameworks to practical business situations more effectively than in purely lecture-based delivery.

7.5 Development of Critical Thinking

Activities such as case analysis, debate, simulation, and advertisement evaluation encouraged students to weigh alternatives and justify managerial decisions, moving beyond rote recall toward applied reasoning.

7.6 Communication and Teamwork Skills

Group activities and peer-learning exercises enhanced presentation skills, interpersonal communication, and collaborative learning, competencies that are directly relevant to workplace readiness.

8. ADVANTAGES OF FLIPPED CLASSROOM PEDAGOGY

The flipped classroom model offers several benefits for management education, spanning academic, professional, and institutional dimensions.

8.1 Academic Benefits

- Improved student engagement
- Better knowledge retention
- Enhanced critical thinking
- Greater classroom interaction
- Active learning opportunities

8.2 Professional Benefits

- Improved industry readiness
- Stronger decision-making skills
- Better problem-solving ability
- Increased confidence
- Enhanced employability skills

8.3 Institutional Benefits

- Supports Outcome-Based Education (OBE)
- Aligns with NEP 2020 recommendations on experiential and multidisciplinary learning
- Encourages experiential learning
- Promotes student-centred teaching

9. CHALLENGES AND LIMITATIONS

Despite its advantages, several challenges were identified during implementation.

9.1 Student-Related Challenges

- Some students failed to review materials before class.

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- Time management difficulties affected preparation.
- Unequal participation within groups was observed.

9.2 Faculty-Related Challenges

- Preparation of videos and learning resources required significant effort.
- Continuous monitoring and facilitation increased workload.
- Faculty members needed technological proficiency.

9.3 Institutional Challenges

- Dependence on internet connectivity.
- Requirement of a learning management system (LMS).
- Need for faculty development and training.

9.4 Limitations of the Study

- The study was limited to a single institution, a single course (Fundamentals of Marketing), and a sample size of 84 students.
- The intervention was conducted over one semester, which limits assessment of long-term learning outcomes and retention beyond the course period. Mid-Term scores for 6 students were imputed rather than directly observed (see Section 5.2), which introduces a small degree of estimation error into the descriptive and inferential statistics.
- As the design relied on Action Research within an intact class rather than a randomised controlled comparison against a non-flipped section, and the ANOVA compares assessment components rather than independent student groups, causal claims about the flipped model's superiority over traditional teaching should be treated cautiously; the chi-square result establishes association, not causation, between engagement and Mid-Term performance.

10. FUTURE SCOPE

Building on the present findings, future studies may explore:

- Multi-institutional and multi-course implementation of flipped classrooms.
- Longitudinal studies across academic programmes to assess retention and career-readiness outcomes.
- A controlled comparison between a flipped and a traditionally taught section of Fundamentals of Marketing, using pre-test/post-test scores and repeated-measures ANOVA.
- Integration of Artificial Intelligence in flipped learning, including AI-generated pre-class content and adaptive assessment.
- Comparative studies between traditional and flipped classrooms using controlled designs and larger, multi-cohort samples.

Further research can also examine the impact of flipped learning on employability, entrepreneurial competencies, and overall professional readiness of management graduates.

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CONCLUSION

The findings of this study indicate that flipped classroom pedagogy is an effective instructional approach for the Fundamentals of Marketing course. By combining pre-class digital learning with classroom-based experiential activity, students developed stronger conceptual understanding, critical thinking ability, and communication skills, corroborated by the internal-assessment record.

Statistical testing of the actual internal-assessment marks supported this conclusion on two counts. First, a one-way ANOVA showed that mean scores differ significantly across the four assessment components ($F(3,332) = 3.295$, $p = 0.021$), with the traditional Mid-Term test showing a lower mean and greater spread than the experiential, flipped-classroom-linked components. Second, a chi-square test of independence showed a statistically significant association between classroom-engagement performance and Mid-Term performance ($\chi^2(1) = 4.558$, $p = 0.033$), indicating that students who engaged more actively in presentation and participation activities were also more likely to perform well on the traditional test.

While implementation requires significant faculty effort and institutional support, the benefits observed in this study both qualitative and statistical substantially outweigh the challenges encountered. The study concludes that flipped classroom pedagogy can serve as a valuable strategy for enhancing marketing education and recommends that institutions offering management programmes consider structured, faculty-supported adoption of the model, supported by course-level data such as the internal-assessment analysis presented here.

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