

FOSTERING ENTREPRENEURIAL MINDSETS IN STUDENTS THROUGH CURRICULUM INNOVATION

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ABSTRACT

This research investigates the impact of curriculum innovation on fostering entrepreneurial mindsets among students in Darbhanga district, Bihar. With India's growing emphasis on entrepreneurship as a driver of economic development, educational institutions are increasingly expected to cultivate entrepreneurial competencies among students. This study examines how innovative curriculum interventions influence students' entrepreneurial attitudes, skills and intentions. A mixed-method approach was employed, collecting data from 350 students across 15 educational institutions in Darbhanga district. The findings reveal significant positive relationships between curriculum innovation dimensions and entrepreneurial mindset development, offering valuable insights for educational policymakers and administrators seeking to enhance entrepreneurial education in semi-urban and rural contexts.

Keywords: Entrepreneurial Mindset, Curriculum Innovation, Higher Education, Darbhanga District, Entrepreneurship Education

1. INTRODUCTION:

In the 21st century, entrepreneurship has emerged as a critical catalyst for economic growth, employment generation, and social transformation. India, with its demographic dividend and aspirational youth population, stands at a crucial juncture where fostering entrepreneurial capabilities could determine future economic trajectories. The National Education Policy (NEP) 2020 explicitly emphasizes the integration of entrepreneurship education across all levels of learning, recognizing that traditional pedagogical approaches often fail to cultivate the innovative thinking, risk-taking propensity and problem-solving abilities essential for entrepreneurial success.

Darbhanga district in Bihar represents a unique context for examining entrepreneurial education initiatives. As a semi-urban region with significant educational infrastructure but limited industrial development, Darbhanga faces both opportunities and challenges in preparing students for entrepreneurial careers. The district hosts several colleges, universities and professional institutions that serve as potential incubators for entrepreneurial talent. However, conventional curriculum designs predominantly emphasize theoretical knowledge and job-seeking orientation rather than job-creation mindsets.

Curriculum innovation refers to the deliberate redesign of educational content, pedagogical methods, assessment strategies and learning environments to achieve enhanced educational outcomes. In the context of entrepreneurship education, curriculum innovation involves integrating experiential learning opportunities, industry interactions, project-based assessments and interdisciplinary approaches that mirror real-world business challenges. Such innovations aim to transform students from passive knowledge recipients to active creators and problem-solvers.

Despite growing recognition of entrepreneurship education's importance, empirical research examining the relationship between curriculum innovation and entrepreneurial mindset development

in tier-2 and tier-3 cities remains limited. This study addresses this gap by investigating how specific curriculum innovation practices influence various dimensions of entrepreneurial mindsets among students in Darbhanga district. The findings will inform educational administrators, policymakers and curriculum designers about effective strategies for embedding entrepreneurial learning within formal education systems.

2. REVIEW OF LITERATURE:

Entrepreneurial Mindset Framework

The entrepreneurial mindset encompasses a constellation of attitudes, skills and behavioral intentions that enable individuals to identify opportunities, mobilize resources and create value under uncertain conditions. Dweck's (2006) growth mindset theory provides a foundational framework, suggesting that individuals who believe abilities can be developed through effort are more likely to embrace entrepreneurial challenges. The entrepreneurial mindset includes dimensions such as opportunity recognition, creative problem-solving, calculated risk-taking, resilience, self-efficacy and proactive orientation.

Curriculum Innovation in Higher Education

Contemporary scholarship emphasizes that entrepreneurship cannot be effectively taught through traditional lecture-based methods alone. Neck and Greene (2011) advocate for entrepreneurship as a method—a practice-based approach emphasizing action, iteration and learning from failure. This perspective aligns with constructivist learning theories that position students as active knowledge constructors. Curriculum innovations in entrepreneurship education include: experiential learning through live projects and simulations, interdisciplinary curriculum integration, industry mentorship programs, entrepreneurship clubs and incubation centers, design thinking workshops and competency-based assessments.

Entrepreneurship Education in Indian Context

India's entrepreneurship education landscape has evolved considerably over the past decade. Government initiatives like the Atal Innovation Mission, NITI Aayog's Atal Tinkering Labs and the Innovation and Entrepreneurship Development Centres (IEDCs) reflect policy-level commitment to fostering entrepreneurial capabilities. However, implementation challenges persist, particularly in resource-constrained regions. Studies by Tiwari, Bhat and Tikoria (2017) highlight the gap between entrepreneurship education intent and implementation quality in Indian institutions. Regional disparities in infrastructure, faculty expertise and industry linkages create uneven entrepreneurial education landscapes.

Entrepreneurship in Bihar Context

Bihar, historically characterized by agrarian economy and limited industrial development, is witnessing gradual economic transformation. The state government's focus on skill development and startup promotion has created new possibilities for entrepreneurial ventures. However, cultural factors including risk-averse attitudes, preference for secure employment, and limited exposure to entrepreneurial role models continue to influence career choices. Educational institutions in districts like Darbhanga play crucial roles in challenging these paradigms by exposing students to entrepreneurial possibilities and equipping them with necessary competencies.

3. RESEARCH OBJECTIVES:

This study was guided by the following research objectives:

Objective 1: To assess the current status of curriculum innovation practices in educational institutions of Darbhanga district and their orientation toward entrepreneurship education.

Objective 2: To examine the relationship between curriculum innovation dimensions (experiential learning, industry integration and interdisciplinary approaches) and students' entrepreneurial mindset components (opportunity recognition, risk-taking propensity and entrepreneurial self-efficacy).

Objective 3: To identify key challenges and recommendations for effective implementation of entrepreneurship-oriented curriculum innovations in semi-urban educational contexts like Darbhanga district.

4. RESEARCH HYPOTHESES:

Based on the research objectives and literature review, the following hypotheses were formulated:

H1: There is a significant positive relationship between experiential learning opportunities in the curriculum and students' opportunity recognition capabilities.

H2: Industry integration in curriculum design significantly influences students' risk-taking propensity and entrepreneurial intentions.

H3: Interdisciplinary curriculum approaches significantly enhance students' entrepreneurial self-efficacy and problem-solving abilities.

5. RESEARCH METHODOLOGY:

Research Design

This study employed a descriptive-analytical research design using mixed-methods approach. Quantitative data were collected through structured questionnaires, while qualitative insights were gathered through focus group discussions and interviews with faculty members and administrators.

Sample and Sampling Technique

The study population comprised undergraduate and postgraduate students enrolled in various disciplines (engineering, management, science, arts and commerce) across educational institutions in Darbhanga district. Using stratified random sampling, 350 students were selected from 15 institutions, ensuring representation across institution types (government colleges, private colleges and universities) and academic disciplines. Additionally, 25 faculty members and 10 administrators were interviewed for qualitative insights.

Data Collection Instruments

A structured questionnaire was developed containing three sections:

- **Section A:** Demographic information
- **Section B:** Curriculum Innovation Scale (measuring experiential learning, industry integration and interdisciplinary approaches) - 18 items on 5-point Likert scale
- **Section C:** Entrepreneurial Mindset Scale (measuring opportunity recognition, risk-taking propensity, entrepreneurial self-efficacy and entrepreneurial intentions) - 24 items on 5-point Likert scale

The questionnaire was validated through expert review and pilot testing (n=40). Cronbach's alpha values ranged from 0.78 to 0.89, indicating satisfactory reliability.

Data Analysis

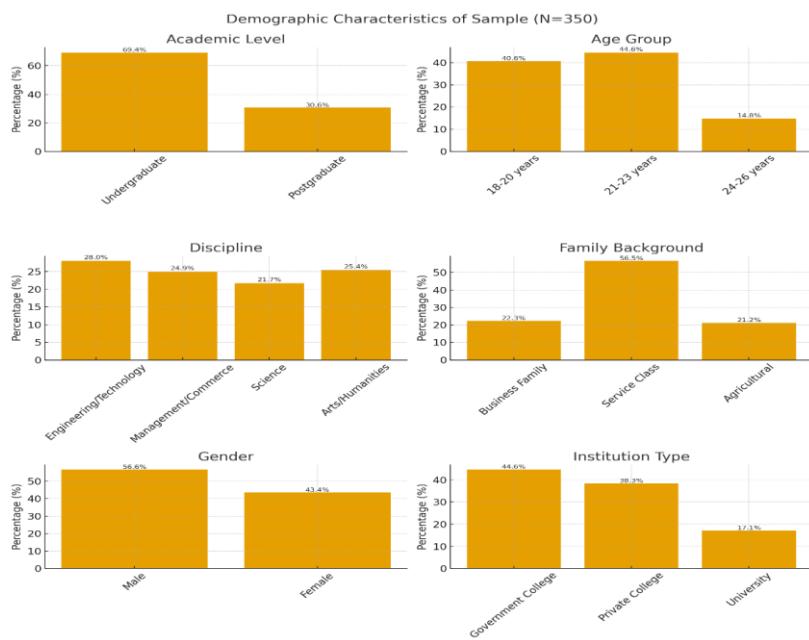
Quantitative data were analyzed using SPSS 26.0. Descriptive statistics (mean, standard deviation, frequency distribution) characterized the sample and variables. Pearson correlation analysis examined relationships between curriculum innovation dimensions and entrepreneurial mindset components. Independent samples t-tests and ANOVA compared groups across demographic variables. Multiple regression analysis identified predictors of entrepreneurial mindset. Qualitative data were thematically analysed to complement quantitative findings.

6. DATA ANALYSIS AND RESULTS:

6.1 Demographic Profile of Respondents

Table 1: Demographic Characteristics of Sample (N=350)

Characteristic	Category	Frequency	Percentage
Gender	Male	198	56.6%
	Female	152	43.4%
Age Group	18-20 years	142	40.6%
	21-23 years	156	44.6%
Academic Level	24-26 years	52	14.8%
	Undergraduate	243	69.4%
Discipline	Postgraduate	107	30.6%
	Engineering/Technology	98	28.0%
	Management/Commerce	87	24.9%
	Science	76	21.7%
	Arts/Humanities	89	25.4%
Institution Type	Government College	156	44.6%
	Private College	134	38.3%
	University	60	17.1%
Family Background	Business Family	78	22.3%
	Service Class	198	56.5%
	Agricultural	74	21.2%



The sample demonstrated balanced representation across demographic categories, with slight male predominance reflecting regional enrollment patterns. Majority of respondents were in the 21-23 age group and pursuing undergraduate programs.

6.2 Status of Curriculum Innovation Practices

Table 2: Mean Scores for Curriculum Innovation Dimensions (Scale: 1-5)

Curriculum Innovation Dimension	Mean	SD	Level
Experiential Learning Opportunities			
Case study analysis and discussions	3.42	0.87	Moderate
Project-based learning assignments	3.28	0.92	Moderate
Business plan development exercises	2.65	1.08	Low
Entrepreneurship competitions	2.54	1.12	Low
Industrial visits	2.89	1.05	Moderate
Internship/field work requirements	3.15	0.98	Moderate
Overall Experiential Learning	2.99	0.76	Moderate
Industry Integration			
Guest lectures by entrepreneurs	3.32	0.95	Moderate
Industry-academia collaboration projects	2.41	1.15	Low
Mentorship from business professionals	2.28	1.18	Low
Curriculum input from industry experts	2.56	1.09	Low
Exposure to startup ecosystems	2.33	1.13	Low
Industry-relevant skill workshops	2.87	1.02	Moderate
Overall Industry Integration	2.63	0.85	Low

Interdisciplinary Approaches			
Cross-departmental courses offered	2.74	1.06	Moderate
Team projects with diverse disciplines	2.92	0.99	Moderate
Integration of technology in all courses	3.18	0.93	Moderate
Elective choices across disciplines	3.45	0.89	Moderate
Problem-based learning approaches	2.81	1.01	Moderate
Innovation and design thinking modules	2.67	1.11	Low
Overall Interdisciplinary Approach	2.96	0.78	Moderate
TOTAL CURRICULUM INNOVATION	2.86	0.72	Moderate

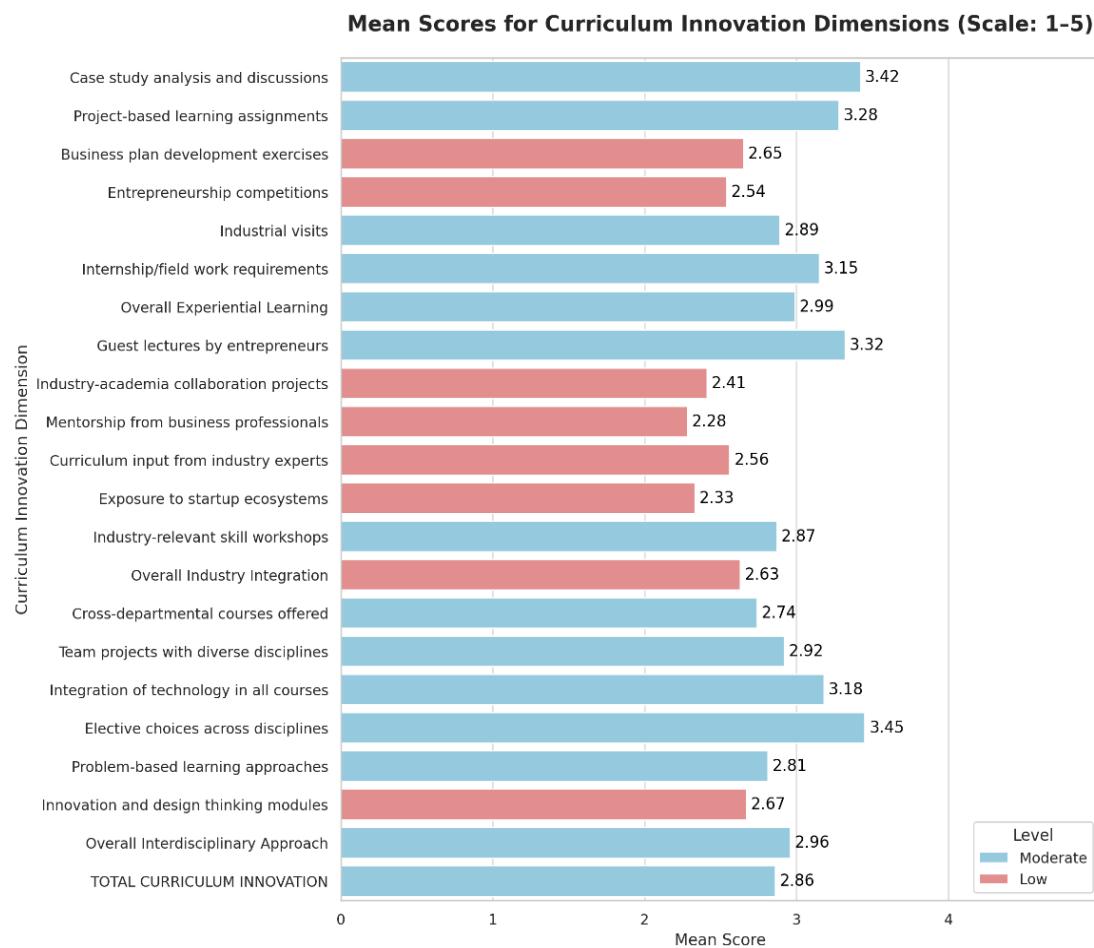
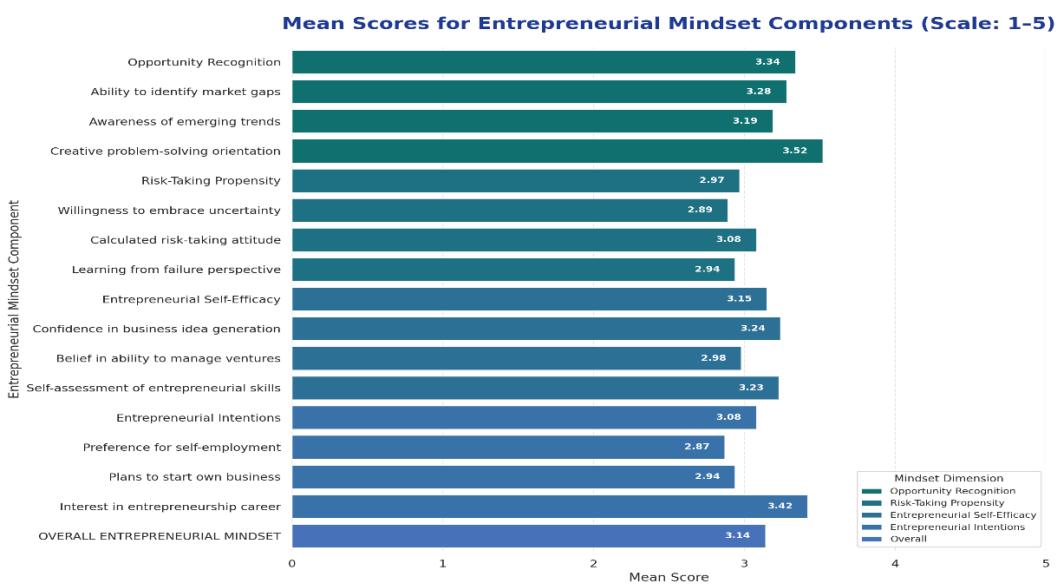


Table 2 reveals that overall curriculum innovation in Darbhanga district institutions remains at moderate level ($M=2.86$). Industry integration emerged as the weakest dimension ($M=2.63$), particularly regarding mentorship programs and industry-academia collaborative projects. Experiential learning and interdisciplinary approaches showed moderate implementation, though significant room for improvement exists.

6.3 Entrepreneurial Mindset Assessment

Table 3: Mean Scores for Entrepreneurial Mindset Components (Scale: 1-5)

Entrepreneurial Mindset Component	Mean	SD	Level
Opportunity Recognition	3.34	0.81	Moderate
Ability to identify market gaps	3.28	0.88	Moderate
Awareness of emerging trends	3.19	0.91	Moderate
Creative problem-solving orientation	3.52	0.79	High
Risk-Taking Propensity	2.97	0.89	Moderate
Willingness to embrace uncertainty	2.89	0.94	Moderate
Calculated risk-taking attitude	3.08	0.87	Moderate
Learning from failure perspective	2.94	0.96	Moderate
Entrepreneurial Self-Efficacy	3.15	0.85	Moderate
Confidence in business idea generation	3.24	0.89	Moderate
Belief in ability to manage ventures	2.98	0.92	Moderate
Self-assessment of entrepreneurial skills	3.23	0.84	Moderate
Entrepreneurial Intentions	3.08	0.93	Moderate
Preference for self-employment	2.87	1.02	Moderate
Plans to start own business	2.94	1.08	Moderate
Interest in entrepreneurship career	3.42	0.95	Moderate
OVERALL ENTREPRENEURIAL MINDSET	3.14	0.73	Moderate



Students demonstrated moderate levels across all entrepreneurial mindset dimensions ($M=3.14$). Creative problem-solving and interest in entrepreneurship showed relatively higher scores, while risk-taking propensity and preference for self-employment were comparatively lower, reflecting regional cultural influences favoring secure employment.

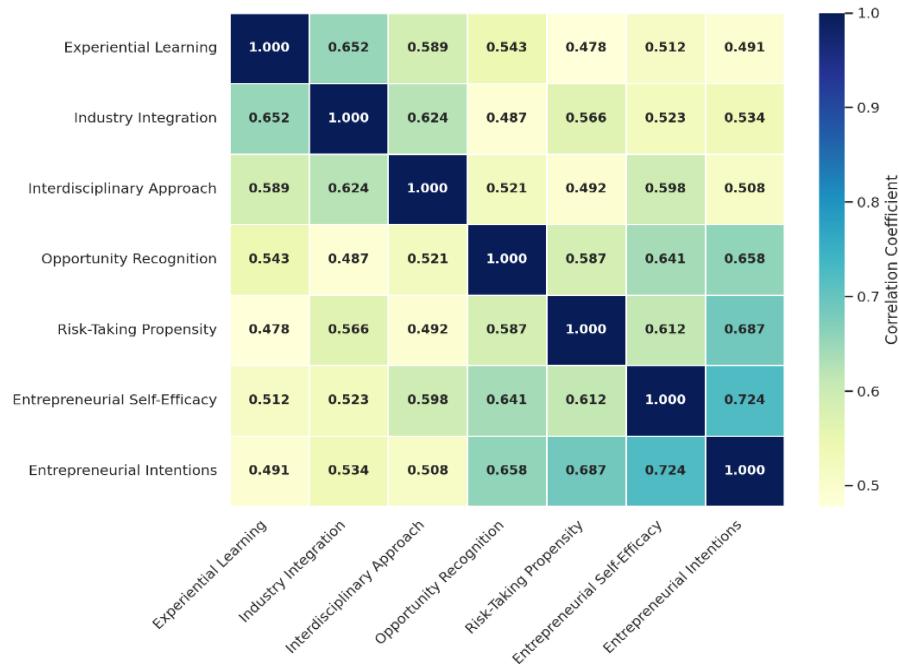
6.4 Hypothesis Testing

Table 4: Correlation Analysis between Curriculum Innovation and Entrepreneurial Mindset

Variables	1	2	3	4	5	6	7
1. Experiential Learning	1						
2. Industry Integration	.652	1					
3. Interdisciplinary Approach	.589	.624	1				
4. Opportunity Recognition	.543	.487	.521	1			
5. Risk-Taking Propensity	.478	.566	.492	.587	1		
6. Entrepreneurial Self-Efficacy	.512	.523	.598	.641	.612	1	
7. Entrepreneurial Intentions	.491	.534	.508	.658	.687	.724	1

$p < .01$ (two-tailed)

Correlation Analysis between Curriculum Innovation and Entrepreneurial Mindset



Hypothesis 1 Testing: Pearson correlation analysis revealed a significant positive relationship between experiential learning opportunities and opportunity recognition capabilities ($r=.543$, $p<.01$). The correlation is moderate to strong, supporting H1. Students exposed to case studies, projects and practical assignments demonstrated superior ability to identify business opportunities and market gaps.

Hypothesis 2 Testing: Industry integration showed significant positive correlations with both risk-taking propensity ($r=.566$, $p<.01$) and entrepreneurial intentions ($r=.534$, $p<.01$). This strongly supports H2, indicating that exposure to real entrepreneurs, industry mentorship and startup

ecosystems enhances students' willingness to embrace entrepreneurial uncertainty and strengthens their intentions to pursue entrepreneurial careers.

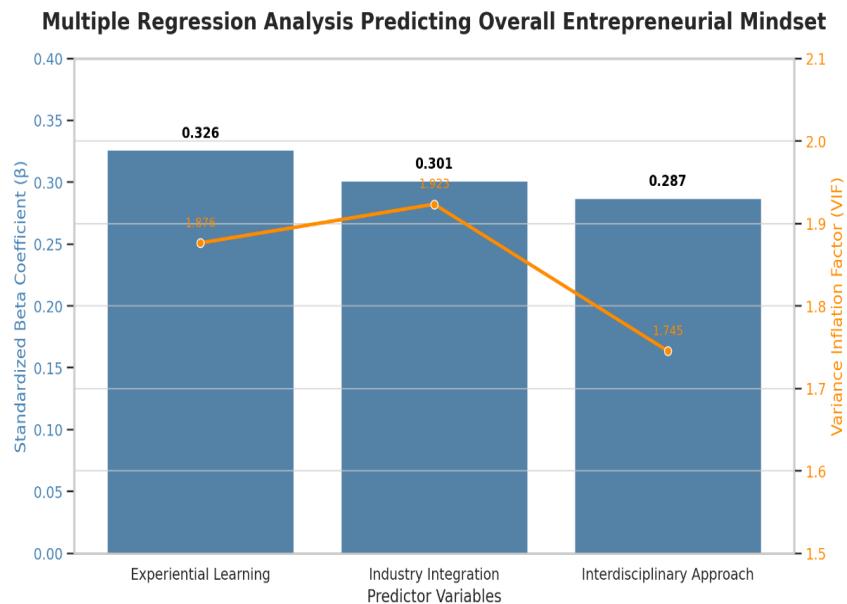
Hypothesis 3 Testing: Interdisciplinary curriculum approaches demonstrated the strongest relationship with entrepreneurial self-efficacy ($r=.598$, $p<.01$) and significant correlation with problem-solving abilities embedded within opportunity recognition ($r=.521$, $p<.01$). This confirms H3, suggesting that exposure to diverse disciplines, collaborative projects and integrative learning strengthens students' confidence in their entrepreneurial capabilities.

6.5 Regression Analysis

Table 5: Multiple Regression Analysis Predicting Overall Entrepreneurial Mindset

Predictor Variables	B	SE	β	t	p	VIF
(Constant)	0.847	0.215	-	3.940	.000	-
Experiential Learning	0.312	0.068	.326	4.588	.000	1.876
Industry Integration	0.289	0.061	.301	4.738	.000	1.923
Interdisciplinary Approach	0.276	0.065	.287	4.246	.000	1.745

Model Summary: $R = .724$, $R^2 = .524$, Adjusted $R^2 = .520$, $F(3,346) = 127.43$, $p < .001$



The regression model explains 52.4% variance in entrepreneurial mindset ($R^2=.524$), indicating strong predictive validity. All three curriculum innovation dimensions emerged as significant predictors:

- Experiential learning ($\beta=.326$, $p<.001$) demonstrated the strongest unique contribution
- Industry integration ($\beta=.301$, $p<.001$) and interdisciplinary approaches ($\beta=.287$, $p<.001$) also significantly predicted entrepreneurial mindset

VIF values below 2.0 indicate absence of multicollinearity concerns. The model suggests that comprehensive curriculum innovation incorporating all three dimensions maximally fosters entrepreneurial mindsets.

6.6 Comparative Analysis

Table 6: Entrepreneurial Mindset Scores by Demographic Variables

Variable	Category	N	Mean	SD	F/t	p
Gender	Male	198	3.21	0.71	2.134	.034
	Female	152	3.05	0.74		
Academic Level	Undergraduate	243	3.08	0.75	-2.318	.021
	Postgraduate	107	3.28	0.67		
Discipline	Engineering	98	3.34	0.68	5.872	.001
	Management	87	3.28	0.71		
	Science	76	3.06	0.74		
	Arts/Humanities	89	2.94	0.78		
Family Background	Business	78	3.45	0.64	8.923	.000
	Service Class	198	3.08	0.72		
	Agricultural	74	2.98	0.79		
Institution Type	Government	156	3.02	0.76	4.156	.017
	Private	134	3.18	0.69		
	University	60	3.34	0.71		

p < .05, p < .01

Significant differences emerged across demographic categories:

- Male students scored marginally higher than females, possibly reflecting socio-cultural factors
- Postgraduate students demonstrated stronger entrepreneurial mindsets, attributable to maturity and exposure
- Engineering and management students outperformed arts/humanities students, likely due to discipline-specific curriculum orientations
- Students from business families showed significantly higher scores, indicating family influence and role modelling effects
- University students scored higher than college students, possibly due to superior resources and curriculum flexibility

7. QUALITATIVE INSIGHTS:

Focus group discussions and interviews revealed several contextual insights:

Faculty Perspectives: Faculty members acknowledged entrepreneurship education's importance but cited constraints including lack of training in experiential pedagogy, rigid university syllabi limiting innovation, insufficient infrastructure for practical demonstrations and limited industry networks for mentorship arrangements.

Student Aspirations: Students expressed strong interest in entrepreneurship but identified barriers such as fear of failure and social pressure for conventional careers, limited awareness about funding mechanisms and support systems, inadequate practical training in business skills and disconnect between curriculum content and real-world entrepreneurial challenges.

Administrative Challenges: Administrators highlighted systemic obstacles including bureaucratic procedures limiting curriculum modifications, financial constraints restricting industry partnerships, absence of performance metrics for entrepreneurship outcomes and need for faculty development in innovation pedagogy.

8. DISCUSSION:

The findings confirm that curriculum innovation significantly influences entrepreneurial mindset development among students in Darbhanga district, supporting contemporary entrepreneurship education literature. The moderate implementation levels and moderate entrepreneurial mindset scores suggest substantial improvement potential.

The strong predictive relationship between experiential learning and opportunity recognition aligns with constructivist learning theories emphasizing active engagement. Traditional lecture-based approaches prove insufficient for developing competencies requiring practice, feedback and iteration. Case studies, simulations and live projects enable students to recognize patterns, analyse contexts and identify opportunities—fundamental entrepreneurial capabilities.

Industry integration's influence on risk-taking propensity addresses a critical cultural barrier in regions like Darbhanga where risk-averse attitudes predominate. Exposure to successful entrepreneurs normalizes entrepreneurial careers, demystifies business uncertainties and provides realistic perspectives on managing risks. Mentorship programs particularly help students assess risks calculatively rather than avoiding them entirely.

Interdisciplinary approaches' impact on self-efficacy reflects entrepreneurship's inherently integrative nature. Real-world ventures require synthesizing knowledge from multiple domains—technology, finance, marketing, operations, law. Curriculum structures promoting cross-disciplinary learning enhance students' confidence in navigating complex business environments.

The relatively lower implementation of industry integration represents a critical gap requiring attention. While experiential learning can be partially implemented through internal resources, authentic industry connections demand institutional commitment to relationship-building with business communities. Darbhanga's limited industrial base presents challenges but also opportunities for creative partnerships with regional businesses, startups and online platforms.

Demographic variations highlight equity considerations. Gender disparities, though small, reflect broader societal patterns requiring targeted interventions. The discipline-based differences suggest need for entrepreneurship integration across all streams, including arts and humanities where entrepreneurial opportunities exist but receive less emphasis. Family background's influence underscores the importance of institutional efforts to compensate for students lacking entrepreneurial role models.

9. RECOMMENDATIONS:

1. Establish entrepreneurship cells and incubation centers to promote innovation and student ventures.
2. Conduct faculty development programs focused on experiential and project-based teaching.

3. Integrate entrepreneurship education across all academic disciplines.
4. Build strong industry, academia and government partnerships for mentorship and innovation.
5. Incorporate real-world, community-based, and social entrepreneurship projects into curricula.
6. Replace theoretical exams with project-based and interdisciplinary assessments.
7. Encourage resilience by highlighting learning from failure in entrepreneurship education.
8. Motivate students to join entrepreneurship clubs, internships and diverse professional networks.

10. LIMITATIONS AND FUTURE RESEARCH:

This study's cross-sectional design limits causal inference. Longitudinal research tracking students across academic progression would provide stronger evidence regarding curriculum innovation's long-term impact on entrepreneurial behavior and venture creation.

The sample's geographic specificity limits generalizability beyond similar semi-urban contexts. Comparative studies across districts with varying economic profiles would illuminate contextual factors moderating curriculum innovation effectiveness.

Self-reported measures may introduce social desirability bias. Future research could incorporate behavioral measures such as actual venture creation, participation rates in entrepreneurship activities and business plan quality assessments.

The study focused on formal curriculum innovations without examining co-curricular and extra-curricular entrepreneurship initiatives. Comprehensive evaluation should examine entire institutional ecosystems supporting entrepreneurial learning.

11. CONCLUSION:

This research demonstrates that curriculum innovation significantly fosters entrepreneurial mindsets among students in Darbhanga district, validating theoretical frameworks advocating experiential, industry-integrated and interdisciplinary approaches to entrepreneurship education. While current implementation levels remain moderate, the strong predictive relationships identified provide compelling evidence for investing in comprehensive curriculum transformation.

The findings carry particular relevance for semi-urban educational contexts where entrepreneurship represents a viable path toward economic development and employment generation. As India pursues its demographic dividend, transforming educational institutions from job-seekers to job-creators factories becomes imperative.

Darbhanga district's educational institutions possess foundational infrastructure and student potential requiring strategic curriculum interventions to unleash entrepreneurial capabilities. The moderate entrepreneurial mindset levels indicate receptivity and readiness for enhanced programming. With coordinated efforts among educators, administrators, industry partners and policymakers, curriculum innovation can effectively cultivate the entrepreneurial mindsets essential for 21st-century economic participation.

The entrepreneurial journey begins in classrooms where curiosity is nurtured, experimentation is encouraged, failure is normalized and innovation is celebrated. Through deliberate curriculum innovation, educational institutions in Darbhanga and similar contexts can fulfill their transformative potential—preparing students not merely for existing jobs but empowering them to create new economic possibilities for themselves and their communities.

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