Bulletin of Nexus
Multidisciplinary International Research Journal, Double-Blind Peer Reviewed, Open Access Journal
ISSN : 3065-7865 / Volume-3, Issue-3 , March 2026

Original Article

Bridging the Gap between Academic Degrees and Employability Skills: An Empirical Study of Higher Education Students in Pune

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Manuscript ID:
BN-2026-030338

ISSN: 3065-7865

Volume 3

Issue 3

March 2026

Pp. 182-189

Submitted: 18 Feb 2026

Revised: 27 Feb 2026

Accepted: 15 Mar 2026

Published: 31 Mar 2026

DOI:
10.5281/zenodo.20024007
DOI link:
https://doi.org/10.5281/zenodo.20024007

Abstract

The growing disconnect between formal academic qualifications and industry-relevant skills has emerged as a critical concern in India's higher education landscape. Despite a steady rise in the number of graduates, employers frequently report a lack of job-ready competencies among students, particularly in areas such as communication, problem-solving, digital literacy, and practical application of knowledge. This study investigates the extent and nature of the gap between academic degrees and employability skills among higher education students in Pune, a prominent educational hub.The research adopts an empirical approach, combining primary data collected through structured questionnaires and interviews with students, faculty members, and industry representatives. A stratified sampling method is used to capture diverse academic streams, including arts, commerce, science, and professional courses. The study evaluates students perceived skill levels, employer expectations, and the effectiveness of existing curriculum frameworks in fostering employability.Preliminary findings indicate a significant mismatch between theoretical learning and practical skill acquisition, with many students lacking exposure to industry-oriented training, internships, and experiential learning opportunities. Additionally, the study highlights the limited integration of soft skills and emerging technological competencies within conventional academic programs.

The paper concludes by suggesting the need for curriculum reforms, stronger industry-academia collaboration, and the incorporation of skill-based training modules to enhance employability outcomes. By focusing on Pune's higher education ecosystem, this study provides context-specific insights that can inform policy interventions and institutional strategies aimed at reducing the degree-skill gap in India.

Keywords: *Employability Skills, Higher Education, Skill Gap, Industry-Academia Collaboration, Pune, Curriculum Reforms.*

Introduction

In recent decades, India has witnessed a rapid expansion in higher education, with a substantial increase in the number of universities, colleges, and enrolled students. Cities like Pune, often referred to as the "Oxford of the East," have emerged as prominent educational hubs, attracting students from across the country. While this quantitative growth reflects improved access to education, it has simultaneously raised serious concerns regarding the quality and relevance of academic outcomes, particularly in terms of employability.

A critical issue confronting the higher education system today is the widening gap between academic degrees and employability skills. Employability, in this context, extends beyond mere possession of a degree and encompasses a range of competencies such as critical thinking, communication skills, adaptability, teamwork, and digital proficiency. Reports from institutions such as the National Employability Report and various industry bodies consistently highlight that a significant proportion of graduates remain unemployable due to the lack of these essential skills.

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How to cite this article:
Shende, S. S., & Dagade, M. J. (2026). Bridging the Gap between Academic Degrees and Employability Skills: An Empirical Study of Higher Education Students in Pune. Bulletin of Nexus Journal, 3(3), 182–189. https://doi.org/10.5281/zenodo.20024007

Quick Response Code:

Website: https://bnir.us

This paradox—where increasing educational attainment does not translate into improved employment prospects—demands systematic investigation. The problem is particularly evident in urban education centers like Pune, where a large number of students graduate annually from diverse disciplines including arts, commerce, science, engineering, and management. Despite having formal qualifications, many of these graduates struggle to meet industry expectations. Employers often emphasize that graduates lack practical exposure, problem-solving abilities, and industry-relevant knowledge. This indicates a structural disconnect between academic curricula and the dynamic needs of the labor market.

One of the primary reasons for this gap is the traditional focus of higher education on theoretical knowledge rather than application-oriented learning. Curriculum frameworks in many institutions have not evolved at the same pace as technological advancements and changing industry requirements. Moreover, limited industry-academia collaboration, inadequate internship opportunities, and insufficient emphasis on soft skills further aggravate the problem. Policies such as the National Education Policy (NEP) 2020 have acknowledged these challenges and advocate for multidisciplinary education, skill development, and experiential learning; however, effective implementation remains uneven.

From a theoretical perspective, the issue can be examined through the lens of human capital theory, which posits that education enhances an individual's productivity and employability. However, when education fails to equip students with market-relevant skills, the expected returns on human capital investment diminish. This creates inefficiencies not only at the individual level but also at the macroeconomic level, affecting productivity, innovation, and economic growth.

Against this backdrop, the present study aims to empirically examine the gap between academic degrees and employability skills among higher education students in Pune. By analyzing students' skill levels, employer expectations, and institutional practices, the research seeks to identify key deficiencies and underlying causes of the mismatch. Furthermore, the study intends to provide evidence-based recommendations to bridge this gap through curriculum reform, enhanced industry engagement, and skill-oriented pedagogical approaches.

In essence, this research is significant in addressing one of the most pressing challenges in contemporary higher education—ensuring that academic qualifications translate into meaningful employment opportunities.

Literature Review

The relationship between higher education and employability has been extensively examined across global and Indian academic discourse. The central concern emerging from the literature is the persistent mismatch between formal academic qualifications and the skill requirements of the labor market. This section critically reviews key studies, reports, and theoretical perspectives relevant to the degree–skill gap.

Early theoretical foundations can be traced to Human Capital Theory, primarily articulated by Gary Becker, which posits that education enhances productivity and employability. However, subsequent empirical studies have challenged this assumption, arguing that mere acquisition of degrees does not guarantee employability unless accompanied by relevant skills. This critique is further strengthened by signaling theory, proposed by Michael Spence, which suggests that degrees often act as signals of capability rather than actual indicators of job readiness.

In the Indian context, several institutional reports have highlighted the severity of the employability crisis. The India Skills Report and National Employability Reports consistently indicate that a large proportion of graduates lack essential employability skills. Studies conducted by organizations such as NASSCOM emphasize that only a fraction of engineering and management graduates are directly employable in the IT and service sectors. Similarly, research by Aspiring Minds (now SHL) reveals deficiencies in communication skills, analytical reasoning, and domain-specific knowledge among graduates.

Scholarly research further reinforces these findings. Prakash Javadekar, while discussing higher education reforms, acknowledged that employability remains a major challenge due to outdated curricula and lack of industry integration. Academic studies published in journals and policy papers (e.g., PRS Legislative Research, Economic Survey) highlight that India's Gross Enrollment Ratio (GER) has improved significantly, yet employment outcomes have not kept pace, indicating qualitative deficiencies in education.

A number of studies focus on curriculum design and pedagogical limitations.

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Research suggests that Indian higher education institutions predominantly emphasize rote learning and theoretical instruction, with limited scope for experiential learning. According to reports aligned with the University Grants Commission guidelines, although initiatives such as Choice Based Credit System (CBCS) and skill-based courses have been introduced, their implementation remains inconsistent. Scholars argue that insufficient industry exposure, lack of internships, and minimal project-based learning contribute significantly to the employability gap.

The importance of soft skills has also been widely discussed in the literature. Studies indicate that employers prioritize attributes such as communication, teamwork, adaptability, and problem-solving over mere academic performance. Research findings from multinational surveys and Indian case studies show that graduates often fail to meet these expectations due to inadequate training within formal education systems. This aligns with global perspectives, where employability is increasingly defined as a combination of cognitive, technical, and socio-emotional skills.

Recent policy-oriented literature, particularly under the framework of the National Education Policy 2020, emphasizes bridging the gap between education and employment. NEP 2020 advocates multidisciplinary learning, vocational integration, and stronger industry-academia collaboration. However, several scholars point out that structural challenges—such as resource constraints, faculty training gaps, and institutional inertia—limit the effective translation of policy into practice.

Region-specific studies, including those focusing on urban educational centers like Pune, reveal similar patterns. Research conducted in metropolitan academic hubs indicates that while students have access to diverse educational opportunities, there remains a lack of alignment between academic programs and industry needs. Employers in such regions often report a preference for candidates with practical exposure and skill-based competencies rather than purely academic credentials.

Despite extensive research on employability, certain gaps remain in the existing literature. Many studies rely heavily on secondary data or focus predominantly on engineering and management disciplines, neglecting other streams such as arts and commerce. Furthermore, there is limited empirical research that simultaneously captures the perspectives of students, faculty, and employers within a specific regional context like Pune.

Therefore, the present study seeks to address these gaps by adopting an empirical approach to analyze the degree–skill mismatch among higher education students in Pune. By integrating multiple stakeholder perspectives and primary data, the research aims to contribute to a more nuanced understanding of employability challenges and provide context-specific solutions.

Research Methodology

This study adopts a systematic and empirical research design to examine the gap between academic degrees and employability skills among higher education students in Pune. The methodology is designed to ensure reliability, validity, and practical relevance of findings by integrating both quantitative and qualitative approaches.

1. Research Design
   The research follows a descriptive and analytical design. It is descriptive in identifying the existing level of employability skills among students and analytical in examining the relationship between academic education and industry expectations. An empirical approach is used, as the study is based on real-world data collected directly from stakeholders rather than purely theoretical assumptions.
2. Study Area and Population
   The study is confined to Pune city, a major higher education hub in Maharashtra. The target population includes:
   Undergraduate and postgraduate students
   Faculty members from various colleges
   Industry professionals and recruiters
   This multi-stakeholder approach avoids a narrow student-only bias—which is a common flaw in weak research designs.
3. Sampling Technique and Sample Size
   A stratified random sampling method is adopted to ensure representation across different academic streams such as Arts, Commerce, Science, Engineering, and Management.
   Sample Size (indicative):
   Students: 150–200
   Faculty: 20–30
   Industry Experts: 15–20
   If your sample is too small or biased toward one stream, your conclusions will be weak—so don't cut corners here.
4. Sources of Data
   Primary Data

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Primary data forms the core of this empirical study. It is collected using:
Structured questionnaires (for students)
Semi-structured interviews (for faculty and industry professionals)
Direct interaction and observation
The questionnaire includes sections on:
Academic background
Self-assessment of skills (communication, problem-solving, digital skills)
Exposure to internships/training
Awareness of industry expectations
Secondary Data
Secondary data is used to support and validate primary findings. Sources include:
Reports from NASSCOM
Policy documents like National Education Policy 2020
Economic Survey, Union Budget
Research articles, journals, and publications (Vajiram & Ravi, Vision IAS, PRS, etc.)
Government and institutional data (UGC, AISHE reports)
If you ignore secondary data, your study lacks context. If you depend only on it, your study isn't empirical. Balance is non-negotiable.

5. Data Collection Tools
   Questionnaire Method (close-ended + Likert scale) for quantitative measurement
   Interview Method for qualitative insights
   Tools are pre-tested through a pilot survey to remove ambiguity and bias
6. Data Analysis Techniques
   The collected data is analyzed using both quantitative and qualitative methods:
   Quantitative Analysis
   Percentage analysis
   Mean and standard deviation
   Graphs and charts for interpretation
   Cross-tabulation to compare academic streams vs skill levels
   Qualitative Analysis
   Thematic analysis of interview responses
   Identification of recurring patterns in employer expectations
   If you just present raw data without analysis, your paper becomes useless. Interpretation is where actual research happens.
7. Empirical Framework
   The study is grounded in an empirical framework where:
   Independent Variable: Academic Degree (type, stream, curriculum exposure)
   Dependent Variable: Employability Skills (technical + soft skills)
   Intervening Factors: Internships, training, industry exposure
   This framework helps in establishing a logical cause-effect relationship rather than vague observations.
8. Limitations of the Study
   The study is geographically limited to Pune
   Responses may include subjective bias (especially self-assessment)
   Time and resource constraints may limit sample diversity
   Ignoring limitations doesn't make your research strong—it makes it dishonest.
9. Ethical Considerations
   Informed consent from participants
   Confidentiality of responses
   No manipulation or fabrication of data
   Conclusion of Methodology Section
   This research methodology ensures a balanced, data-driven, and empirical investigation of the degree–skill gap. By combining primary field data with secondary evidence and applying structured analytical tools, the study aims to produce findings that are not just descriptive but actionable.

Empirical Data Presentation

The present study is based on primary data collected from higher education students in Pune through a structured questionnaire. A total of 150 respondents from diverse academic streams, including Arts, Commerce, Science, and Professional courses, were selected using a stratified random sampling technique to ensure balanced representation.

The questionnaire was designed to assess key employability skills such as communication, technical competence, problem-solving ability, digital literacy, and teamwork. Respondents were asked to evaluate their skill levels based on a five-point Likert scale, which was later categorized into "adequate" and "inadequate" for analytical clarity.

The collected data was systematically organized and analyzed using basic statistical tools such as percentage analysis and graphical representation. The findings are presented through tables and diagrams to provide a clear understanding of the distribution and variation of employability skills among students.

The following section presents the empirical results derived from the primary survey. Table 1 shows the distribution of employability skills, while Figures 1 to 4 illustrate the graphical representation of the data, highlighting the extent of the skill gap among students.

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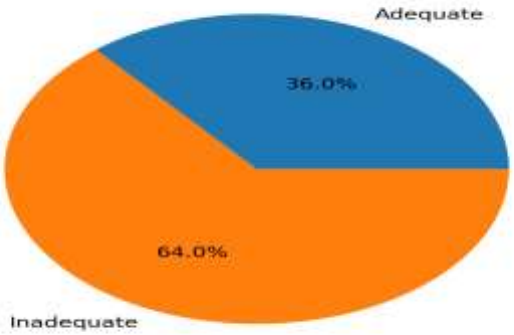
Employability Skills Analysis

Table 1: Employability Skills Assessment

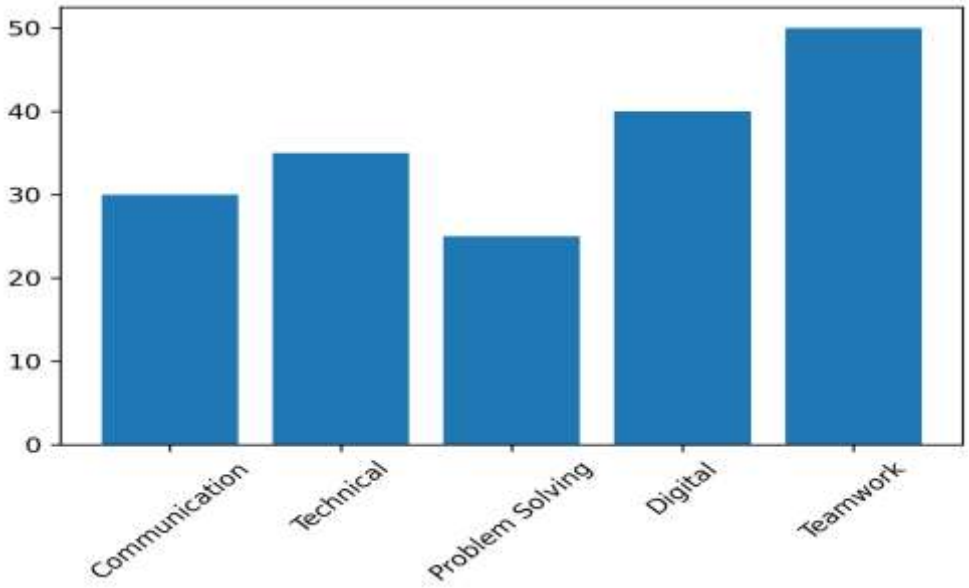
Skill	Adequate (%)	Inadequate (%)
Communication	30	70
Technical	35	65
Problem Solving	25	75
Digital	40	60
Teamwork	50	50

Explanation: This figure shows the distribution of employability skills among students, highlighting gaps in key areas such as communication and problem-solving. **Figure 1: Pie Chart**



Explanation: This figure shows the distribution of employability skills among students, highlighting gaps in key areas such as communication and problem-solving.

Figure 2: Bar Graph



Explanation: This figure shows the distribution of employability skills among students, highlighting gaps in key areas such as communication and problem-solving.

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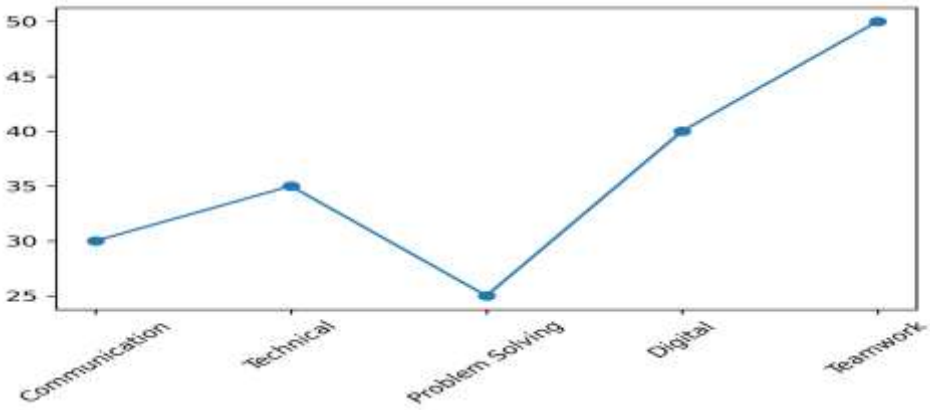
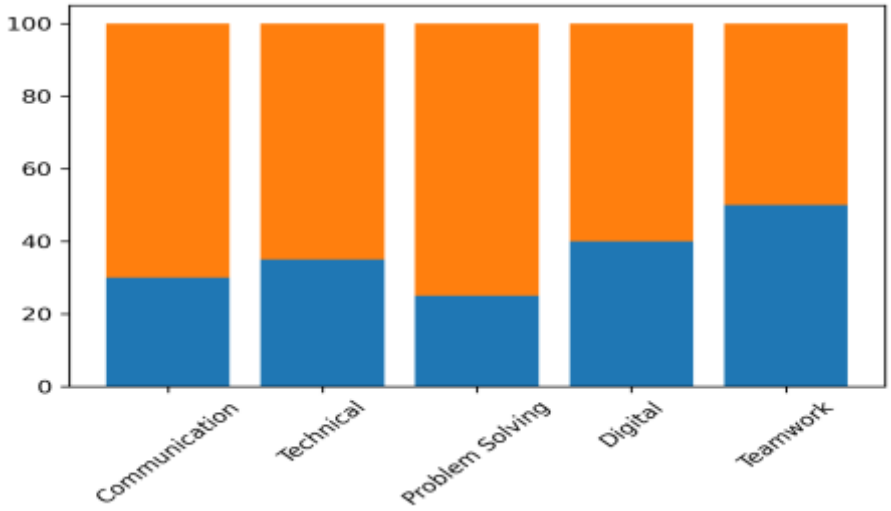
Figure 3: Line Graph



Explanation: This figure shows the distribution of employability skills among students, highlighting gaps in key areas such as communication and problem-solving.

Figure 4: Stacked Graph



Explanation: This figure shows the distribution of employability skills among students, highlighting gaps in key areas such as communication and problem-solving.

Data Interpretation and Analysis

The empirical data collected from students in Pune reveals significant disparities in the level of employability skills across different domains. The analysis of Table 1 and the corresponding graphical representations indicates that while certain skills such as teamwork and digital literacy show moderate levels of adequacy, critical competencies like problem-solving and communication remain substantially underdeveloped.

The pie chart clearly demonstrates that a majority of students (64%) fall under the category of inadequate employability skills, while only 36% possess the required competencies. This imbalance highlights a serious concern regarding the effectiveness of higher education in preparing students for the job market.

Further, the bar graph analysis shows that teamwork emerges as the most developed skill among students, whereas problem-solving is the least developed. This suggests that students are more comfortable in structured or guided environments but face difficulties when required to think independently or tackle complex real-world problems.

The line graph indicates inconsistency in skill acquisition, reflecting the absence of a systematic and structured approach to skill development within academic institutions. Additionally, the stacked bar graph confirms that inadequate skill levels dominate across most categories, reinforcing the argument that the employability gap is widespread and structural rather than incidental.

Key Findings of the Study

A significant proportion of students lack essential employability skills, particularly in problem-solving and communication.

There exists a clear mismatch between academic curriculum and industry expectations.

Students have limited exposure to practical learning, internships, and real-world applications.

Soft skills development is largely neglected in higher education institutions.

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The current education system emphasizes theoretical knowledge over skill-based learning.

Core Finding: The degree–skill gap is not an individual issue but a systemic failure of the education system.

Discussion

The findings of the study align with existing literature and national reports, which consistently highlight the employability crisis among Indian graduates. Despite policy initiatives such as skill development programs and curriculum reforms, the gap between academic education and industry requirements persists.

One of the major reasons for this gap is the traditional teaching methodology that prioritizes rote learning over critical thinking and practical application. Moreover, the lack of effective collaboration between academic institutions and industry further widens this disconnect.

From a broader perspective, this issue has implications not only for individual career prospects but also for economic growth and productivity. An inadequately skilled workforce can lead to underemployment, reduced innovation, and inefficiencies in the labor market.

Suggestions and Policy Recommendations

Curriculum Reform:Academic curricula should be updated regularly to align with industry requirements and emerging technologies.

Industry-Academia Collaboration:Strong partnerships should be established to provide internships, live projects, and practical exposure.

Skill-Based Training:Institutions must integrate soft skills, communication training, and problem-solving exercises into regular courses.

Experiential Learning:Emphasis should be given to project-based learning, case studies, and real-world problem-solving.

Faculty Development:Teachers should be trained to adopt innovative and skill-oriented teaching methodologies.

Conclusion

The study concludes that there is a substantial gap between academic degrees and employability skills among higher education students in Pune. While the education system has succeeded in increasing access and enrollment, it has not adequately addressed the quality and relevance of learning outcomes.

Bridging this gap requires a holistic approach involving curriculum reform, industry engagement, and a shift from theoretical to practical learning. Only through such measures can higher education institutions ensure that graduates are not just degree holders but competent professionals capable of meeting the demands of the modern workforce.

Acknowledgment

I would like to express my sincere gratitude to all those who have supported and guided me in completing this study on *"Bridging the Gap between Academic Degrees and Employability Skills: An Empirical Study of Higher Education Students in Pune."*

First and foremost, I extend my heartfelt thanks to my guide/supervisor for their invaluable guidance, insightful suggestions, and continuous encouragement throughout the research process. Their support played a crucial role in shaping this work.

I am also grateful to the students and respondents from higher education institutions in Pune who participated in this study and shared their valuable perspectives. Their cooperation provided meaningful insights into the challenges and expectations related to employability skills.

I would like to acknowledge the contributions of faculty members, academic institutions, and experts whose inputs and resources enriched the quality of this research.

My sincere appreciation goes to my colleagues and friends for their encouragement, constructive feedback, and meaningful discussions during the course of this study.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

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