



V. M. Patel  
Institute of  
Management

**CENTRE OF  
EXCELLENCE**



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# **OUTCOME-BASED EDUCATION (OBE) IMPLEMENTATION MANUAL**

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## 1. About Ganpat University - V. M. Patel Institute of Management

Ganpat University (GUNI), established under Gujarat State Legislative Act No. 19 of 2005, stands as a pioneer in higher education, recognized by the University Grants Commission (UGC) under Section 2(f). The university was founded with a profound vision to foster academic excellence, innovative research, and industry-oriented professional training across diverse technical and managerial disciplines.

V. M. Patel Institute of Management (VMPIM), established in 1999 as a constituent flagship management institution of Ganpat University, has consistently maintained its stature as a premier business school in Western India. Approved by the All India Council for Technical Education (AICTE), New Delhi, VMPIM has cultivated an environment dedicated to transforming ambitious learners into ethical, agile, and globally competent managerial leaders.

### 1.1 Institutional Distinctions and Quality Accreditation

VMPIM operates under rigorous quality assurance benchmarking, earning prominent national and international accreditations and recognitions that substantiate its commitment to outcome-based managerial education:

- **NAAC Grade 'A' Accreditation:** Awarded Grade 'A' by the National Assessment and Accreditation Council (NAAC) in recognition of institutional infrastructure, teaching-learning excellence, governance, and research output.
- **Centre of Excellence (CoE) Status:** Conferred the prestigious Centre of Excellence status by the Education Department, Government of Gujarat, recognizing VMPIM's exemplary industry integration and leadership development.
- **QS I-GAUGE Diamond Rating:** Recognized with the Diamond Band in the QS I-GAUGE Indian University Ratings for outstanding teaching quality, employability, facilities, and social responsibility.
- **National Board of Accreditation (NBA) Compliance:** Self-Assessment Report (SAR) Criteria 1 through 4 execution ensuring complete alignment with National Board of Accreditation (NBA) standards for outcome-based management education.
- **Outlook-ICARE Rankings:** Consistently ranked among the top private business schools in West Zone India for academic benchmark rigor, faculty expertise, and corporate placement records.

### 1.2 Educational Philosophy & Institutional Ethos

The core philosophy of V. M. Patel Institute of Management is anchored in constructive alignment, experiential learning, and value-driven leadership. By blending quantitative analytics, technology tools (such as Python, R, and Tableau), case-based decision analysis, and

ethical reasoning, VMPIM prepares graduates to navigate volatile, uncertain, complex, and ambiguous (VUCA) global corporate landscapes.

## 2. Principles of Outcome-Based Education (OBE)

Outcome-Based Education (OBE) is an educational theory and student-centric learning philosophy that bases each part of an educational system around outcomes. By the end of the educational experience, each student should have achieved the goal. OBE contrasts sharply with traditional input-driven educational models by shifting focus from 'what teachers teach' to 'what students demonstrably learn, understand, and can execute'.

### 2.1 Four Core Pillars of OBE

The conceptual framework of OBE at GUNI-VMPIM is derived from William Spady's foundational model, resting upon four cardinal principles:

**1. Clarity of Focus:** Every curriculum activity, pedagogical interaction, and assessment task must be explicitly linked to clear, predefined learning outcomes. Educators and students maintain continuous clarity regarding the target competencies.

**2. Designing Down (Backward Design):** Curriculum design begins with a clear definition of the desired ultimate outcomes (PEOs and POs) expected at graduation. Courses, modules, and assessment rubrics are subsequently designed backward from these high-level objectives.

**3. High Expectations for All Learners:** OBE establishes challenging performance standards for all students, operating on the premise that virtually all learners can achieve high standards if provided with rigorous, constructive learning environments.

**4. Expanded Opportunities:** Recognizing that students learn at different paces and through varied modalities, OBE provides flexible learning pathways, remedial coaching, diverse assessment formats, and continuous feedback loops.

### 2.2 Structural Comparison: Traditional vs. Outcome-Based Model

Table 2.1 contrasts the structural differences between traditional teacher-centric education and outcome-based student-centric education.

| Dimension    | Traditional Model                                               | Teacher-Centric | Outcome-Based Student-Centric Model                                           |
|--------------|-----------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------|
| System Focus | Inputs, syllabus coverage, contact hours, and teacher lectures. |                 | Demonstrated student learning, measurable skills, and workplace competencies. |

|                        |                                                                             |                                                                                                      |
|------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Curriculum Planning    | Forward planning from available textbooks and traditional topics.           | Backward design ('Designing Down') starting from desired graduate exit capabilities.                 |
| Teaching Pedagogy      | Passive classroom lectures, rote memorization, and faculty-led instruction. | Active experiential learning, Harvard case studies, business simulations, and lab workshops.         |
| Assessment Strategy    | Summative norm-referenced testing focusing on marks and rank ordering.      | Criterion-referenced continuous evaluation using rubrics, direct CO-PO attainment, and exit surveys. |
| Continuous Improvement | Static syllabus revised infrequently based on subjective opinions.          | Dynamic closing of feedback loops using quantitative CO-PO attainment gap analysis.                  |

Table 2.1: Structural Comparison of Traditional and Outcome-Based Education Models

### 3. Importance of Outcome-Based Education in the MBA Programme

Management education operates in a dynamic, highly volatile global business environment characterized by rapid technological disruption, big data proliferation, changing business models, and complex regulatory frameworks. Traditional management teaching methods that emphasize passive theory regurgitation are insufficient to equip future corporate managers with problem-solving capabilities.

Implementing Outcome-Based Education (OBE) in postgraduate management education is essential for bridging the gap between academia and corporate practice. The strategic importance of OBE in the MBA curriculum at VMPIM is driven by key educational imperatives:

#### 3.1 Alignment with Executive Workplace Competencies

Modern corporate recruiters demand graduates who demonstrate immediate productivity, strategic decision-making capability, cross-functional collaboration, and technological fluency. OBE restructures the MBA curriculum around real-world managerial competencies—such as strategic financial modeling, consumer sentiment analytics, supply chain optimization, and ethical risk management.

### 3.2 Fostering Higher-Order Analytical & Critical Thinking

By grounding pedagogical design in Revised Bloom's Taxonomy, OBE ensures that MBA learning progresses beyond lower-order knowledge recall (L1) toward higher-order cognitive capabilities: evaluating business trade-offs (L5), diagnosing organizational breakdowns (L4), and creating strategic business plans (L6).

### 3.3 Facilitating Global Mobility and Accreditation Compliance

OBE aligns VMPIIM's postgraduate management education with international quality benchmark standards, such as the Washington Accord, NBA SAR criteria, and AACSB standards. Transparent attainment metrics prove graduate competency to international employers and academic institutions.

### 3.4 Institutional Accountability and Evidence-Based Improvement

OBE establishes an objective, evidence-based quality assurance framework. By quantifying direct student attainment in mid-semester exams, continuous assignments, and semester-end tests, VMPIIM identifies specific learning gaps and drives data-backed curriculum updates through the Board of Studies (BOS).

## 4. Basic Terms and Operational Definitions

To establish a clear operational framework across all academic departments, faculty members, and administrative committees at GUNI-VMPIIM, it is essential to define the core terms governing Outcome-Based Education. These terms represent a hierarchical continuum ranging from overarching institutional vision down to granular classroom outcomes.

### 4.1 Definitions of Core OBE Hierarchy

**1. Vision Statement:** A forward-looking, inspirational statement defined by the university/institute that articulates its long-term aspirations, ultimate identity, and strategic direction over a 10-to-15-year horizon. It defines what the institution aspires to become in terms of academic distinction, research excellence, and societal impact.

**2. Mission Statement:** A broad operational statement that outlines the primary purpose, core functions, values, and strategic commitments of the institution to realize its Vision. The Mission defines how the institute serves its learners, industry, and society over a 5-to-10-year timeframe.

**3. Program Educational Objectives (PEOs):** Broad statements that describe the career achievements, professional accomplishments, and leadership roles that graduates are expected to attain within 3 to 5 years after completing the MBA program. PEOs bridge academic training with professional career progression.

**4. Program Outcomes (POs):** Narrower statements defining the knowledge, skills, managerial abilities, and professional attitudes that MBA students must demonstrate at the time of graduation.

**5. Program Specific Outcomes (PSOs):** What specialized abilities should graduates of this particular programme possess?

**6. Course Outcomes (COs):** Clear, action-verb driven statements describing the specific knowledge, skills, and cognitive capabilities students are expected to demonstrate upon completing an individual MBA subject/course.

#### 4.2 Attainment Terminology & Direct/Indirect Distinctions

**7. CO Attainment:** The quantitative and qualitative measurement indicating the extent to which students have successfully achieved the target performance levels established for individual Course Outcomes.

**8. Direct CO Attainment:** Assessment derived from direct, objective student performance in academic evaluations—such as mid-semester exams, continuous assessment components (quizzes, case studies, dashboards), and semester-end written examinations.

**9. Indirect CO Attainment:** Assessment derived from subjective perceptions and self-reflections gathered through structured tools, primarily Course Exit Surveys administered to students at the conclusion of a semester.

**10. POs / PSOs Attainment (Direct & Indirect):** The synthesized calculation of overall Program Outcomes and Program Specific Outcomes achievement. Direct PO/PSO attainment is computed by projecting CO attainment levels through the CO-PO Mapping Matrix. Indirect PO/PSO attainment is calculated using Program Exit Surveys, Alumni Feedback, and Corporate Employer Surveys.

#### 4.3 Master Comparative Summary of OBE Terminology

Table 4.1 provides a structured comparison of all basic OBE terms across scope, measurement horizon, primary tools, and classification.

| Term   | Operational Focus / Scope                                  | Time Horizon  | Primary Measurement Tools     | Type       |
|--------|------------------------------------------------------------|---------------|-------------------------------|------------|
| Vision | Institutional ultimate identity and strategic aspirations. | 10 - 15 Years | Institutional Review & Audits | Governance |

|                 |                                                              |                     |                                          |                   |
|-----------------|--------------------------------------------------------------|---------------------|------------------------------------------|-------------------|
| Mission         | Core functions, values, and strategic commitments.           | 5 - 10 Years        | Strategic Plan & IQAC Audits             | Governance        |
| PEO             | Post-graduation career achievements & professional roles.    | 3 - 5 Yrs Post-Grad | Alumni & Employer Surveys                | Indirect          |
| PO              | Broad managerial competencies demonstrated at graduation.    | At Graduation       | CO-PO Mapping & Exit Surveys             | Direct / Indirect |
| PSO             | Specialized functional capabilities at exit.                 | At Graduation       | Specialized CO-PSO Mapping               | Direct / Indirect |
| CO              | Specific skills demonstrated upon completing a course.       | Semester End        | Exams, Quizzes, Projects                 | Direct / Indirect |
| Direct CO       | Objective student marks in continuous & end-sem evaluations. | Per Assessment      | 60% Internal & 40% SEE                   | Direct            |
| Indirect CO     | Student self-assessment of learning outcome achievement.     | Semester End        | Course Survey Exit                       | Indirect          |
| Direct PO/PSO   | Projected PO achievement derived from weighted CO mapping.   | Annual Batch Exit   | CO-PO Correlation Matrix                 | Direct            |
| Indirect PO/PSO | Stakeholder perception of graduate capabilities.             | Annual Batch Exit   | Exit (50%), Alumni (30%), Employer (20%) | Indirect          |

Table 4.1: Operational Summary of Core OBE Hierarchy and Terminology at GUNI-VMPIIM

## 5. Institutional Framework of GUNI-VMPIIM

The educational framework of V. M. Patel Institute of Management is structured around an integrated outcome hierarchy that connects institutional vision to individual course learning

activities. Below are the official, unedited statements adopted by Ganpat University and V. M. Patel Institute of Management.

### 5.1 Vision Statement of GUNI-VMPIM



#### **INSTITUTIONAL VISION STATEMENT**

To advance institutional distinction through academic and research excellence by creating an enabling learning environment in the field of management, with a focus on competence, values, and professional ethics.

### 5.2 Mission Statements of GUNI-VMPIM

**M1:** To impart knowledge and competence enriched through academic, research, and industry-relevant practices among management professionals with a global outlook.

**M2:** To nurture the spirit of teamwork and leadership among future-ready managers with an entrepreneurial mindset.

**M3:** To inculcate value and professional ethics to become socially conscious managers and leaders.

### 5.3 Program Educational Objectives (PEOs)

Within 3 to 5 years of graduation, MBA alumni of VMPIM are expected to demonstrate:

**PEO1:** To develop knowledge workers with analytical, leadership, and entrepreneurial skills for the dynamic global business environment.

**PEO2:** To evolve as critical thinkers who can adapt to innovative technology, collaborate in teams, and solve real-life business problems.

**PEO3:** To equip managers with data-driven decision-making for managerial positions in their chosen fields.

**PEO4:** To prepare culturally competent and socially responsible managers.

### 5.4 Program Outcomes (POs)

At the time of graduation, MBA students of VMPIM demonstrate the following capabilities:

**PO1 (Management Theory & Practice):** Apply knowledge of management theories and practices to solve business problems.

**PO2 (Analytical & Critical Thinking):** Foster analytical and critical thinking abilities for data-based decision-making.

**PO3 (Value-Based Leadership):** Ability to develop value-based leadership ability in professional settings.

**PO4 (Global, Economic & Ethical Aspect):** Ability to understand, analyze, and communicate global, economic, legal, and ethical aspects of business.

**PO5 (Teamwork & Organizational Goals):** Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.

**PO6 (Professional Ethics & Integrity):** Able to Display right integrity, morale, and commit professional ethics in organizational settings.

**PO7 (Entrepreneurial Mindset):** Able to inculcate an entrepreneurial attitude to assess market opportunities and build sustainable ventures.

### 5.5 Program Specific Outcomes (PSOs)

MBA graduates of V. M. Patel Institute of Management achieve the following specialized outcomes:

**PSO1 (Research Acumen & Global Standards):** Empower students to acquire and demonstrate research acumen with global standards in business circumstances.

**PSO2 (Technology Foundation):** To provide a strong technology foundation enabling competent professionals to leverage modern business tools.

**PSO3 (Proactive Strategic Thinking):** To foster proactive thinking rooted in foundational subject learning to solve complex managerial challenges.

### 5.6 Course Outcomes (COs) for Selected Core MBA Subject

To illustrate the operationalization of COs, consider the core MBA subject: Business Data Analytics

| CO Code | Course Outcome Description                                                                                                             |
|---------|----------------------------------------------------------------------------------------------------------------------------------------|
| CO1     | Understand business analytics concepts  statistical measures  visualization  and forecasting techniques for better decision making.    |
| CO2     | Apply R programming for data handling  statistical analysis  and visualization using various packages to generate meaningful insights. |

|     |                                                                                                                     |
|-----|---------------------------------------------------------------------------------------------------------------------|
| CO3 | Analyze text driven data using text mining and machine learning techniques in R and Python for meaningful insights. |
| CO4 | Design and develop interactive  data driven dashboards and analytical solutions using Tableau and Power BI.         |

Table 5.1: Course Outcomes for Business Data Analytics

## 6. Correlation Matrices and Alignment Rationales

To verify that the PEOs are consistent with the Mission statements and that POs/PSOs logically support the PEOs, explicit correlation matrices are established using a 3-point mapping scale (1 = Low, 2 = Medium, 3 = High).

### 6.1 PEO to Mission Statements Mapping & Rationale

Table 6.1 presents the PEO to Mission correlation matrix, followed by detailed academic justifications.

| PEO                                                                           | M1<br>(Knowledge & Global) | M2<br>(Teamwork & Entrepreneurial) | M3 (Ethics & Social) |
|-------------------------------------------------------------------------------|----------------------------|------------------------------------|----------------------|
| PEO1: Knowledge workers with analytical, leadership & entrepreneurial skills. | 3                          | 3                                  | 2                    |
| PEO2: Critical thinkers adapting to technology, teamwork & problem solving.   | 3                          | 3                                  | 2                    |
| PEO3: Data-driven decision-making for managerial positions.                   | 3                          | 2                                  | 2                    |
| PEO4: Culturally competent and socially responsible managers.                 | 2                          | 2                                  | 3                    |

Table 6.1: PEO-Mission Statements Correlation Matrix (1=Low, 2=Medium, 3=High)

- **PEO1 Alignment Rationale:** Competence-driven, industry-ready knowledge demands strong analytical and leadership skills that foster the ability to adapt to change in the global

environment, supporting managerial and entrepreneurial growth (High mapping with M1 and M2).

- **PEO2 Alignment Rationale:** Technology-led digital transformation demands high adaptability to modern tech and cross-cultural teamwork. Critical thinking in collaborative teams directly fulfills M1 and M2 objectives (High mapping with M1 and M2).
- **PEO3 Alignment Rationale:** Developing professional competence requires a significant understanding of data-driven decision-making. Data-driven capabilities enable globally accepted quality research that addresses societal challenges (High mapping with M1).
- **PEO4 Alignment Rationale:** Social responsibility is felt when leaders understand the social fabric of society, leading to empathetic, culturally competent, and ethical management (High mapping with M3).

6.2 Master PEO-PO and PEO-PSO Correlation Matrices

Tables 6.2 and 6.3 present the master alignment matrices connecting PEOs to POs and PSOs.

| PEO  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 |
|------|-----|-----|-----|-----|-----|-----|-----|
| PEO1 | 3   | 3   | 3   | 2   | 3   | 2   | 3   |
| PEO2 | 3   | 3   | 1   | 2   | 3   | 1   | 2   |
| PEO3 | 3   | 3   | 1   | 2   | 2   | 1   | 2   |
| PEO4 | 1   | 1   | 2   | 3   | 2   | 3   | 1   |

Table 6.2: Master PEO–PO Correlation Articulation Matrix

| PEO  | PSO1 (Research Acumen) | PSO2 (Technology Foundation) | PSO3 (Proactive Thinking) |
|------|------------------------|------------------------------|---------------------------|
| PEO1 | 2                      | 2                            | 3                         |
| PEO2 | 2                      | 3                            | 3                         |
| PEO3 | 3                      | 3                            | 3                         |
| PEO4 | 1                      | 1                            | 2                         |

Table 6.3: Master PEO–PSO Correlation Articulation Matrix

## 7. Characteristics and Decision-Making Process at VMPIIM

The formulation of Vision, Mission, PEOs, POs, PSOs, and COs is a systematic, stakeholder-driven governance process designed to ensure alignment with corporate needs and national accreditation standards.

### 7.1 Desirable Characteristics of OBE Statements

- **Vision & Mission Characteristics:** Inspirational, broad, highly stable over a 10-to-15-year horizon, aligned with university ideals, and providing clear strategic direction.
- **PEO Characteristics:** SMART (Specific, Measurable, Achievable, Relevant, Time-bound), aligned with Mission statements, focused on 3-to-5-year alumni achievements, and verified via employer feedback.
- **PO & PSO Characteristics:** Comprehensive coverage of AICTE/NBA management graduate attributes, clear differentiation between core and specialized skills, and direct mapping to course outcomes.
- **CO Characteristics:** Action-verb driven using Revised Bloom's Taxonomy, limited to 4-6 COs per course, directly measurable, and avoiding vague phrases like 'be familiar with'.

### 7.2 Five-Stage Decision-Making Governance Process

**Stage 1: Environmental Scanning & DQAC Initiative** — The Departmental Quality Assurance Cell (DQAC) gathers inputs on national management trends, AICTE guidelines, and technological disruptions.

**Stage 2: Multi-Stakeholder Consultation** — Feedback is collected through structured surveys from five key stakeholder groups: (1) Students, (2) Faculty, (3) Alumni, (4) Corporate Employers, and (5) Academic Experts.

**Stage 3: Drafting & Matrix Alignment** — A dedicated Drafting Committee formulates proposed statements and constructs correlation matrices, ensuring logical consistency.

**Stage 4: Industry Advisory Board & BOS Review** — The Board of Studies (BOS) in Management reviews drafts, evaluates industry relevance, and recommends modifications.

**Stage 5: Academic Council & Governing Council Approval** — Final approval is granted by the Academic Council (AC) and Board of Governors (BOG) of Ganpat University, followed by formal multi-channel dissemination.

8. OBE and Bloom's Taxonomy Integration

Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001) serves as the foundational cognitive framework for Outcome-Based Education at GUNI-VMPIM. It categorizes cognitive learning into six hierarchical levels.

8.1 Cognitive Levels and Action Verbs

Table 8.1 outlines the cognitive levels, management contexts, and measurable action verbs.

| Cognitive Level | Management Context & Description                                                                 | Measurable Verbs                                    | Action                |
|-----------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------|
| L1: Remember    | Recall facts, terminology, foundational business concepts, and accounting rules.                 | Define, List, Recall, State, Identify, Name.        |                       |
| L2: Understand  | Comprehend, explain, summarize management theories, and interpret business charts.               | Explain, Summarize, Classify, Discuss, Interpret.   |                       |
| L3: Apply       | Execute procedures, apply quantitative business analytics tools, and solve structured problems.  | Apply, Execute, Compute, Demonstrate, Solve.        |                       |
| L4: Analyze     | Break down complex business scenarios, perform ratio analysis, and diagnose root causes.         | Analyze, Differentiate, Compare, Diagnose, Diagram. |                       |
| L5: Evaluate    | Critique business strategies, judge financial risk trade-offs, and defend decisions.             | Evaluate, Judge, Justify.                           | Critique, Prioritize, |
| L6: Create      | Synthesize insights to design innovative business models, construct dashboards, and write plans. | Design, Construct, Formulate, Create, Propose.      |                       |

Table 8.1: Revised Bloom's Taxonomy Cognitive Levels and Action Verbs for Management Education

8.2 Bloom's Taxonomy & MBA Teaching Pedagogy Alignment

Table 8.2 details the constructive alignment between cognitive levels and MBA instructional pedagogies.

| Cognitive Level | Aligned Pedagogies                                       | MBA                 | Teaching        | Pedagogical Management | Objective in                                                                              |
|-----------------|----------------------------------------------------------|---------------------|-----------------|------------------------|-------------------------------------------------------------------------------------------|
| L1: Remember    | Interactive Flashcards, Terminology Quizzes.             | Lectures,           | Concept         | Establishes            | foundational vocabulary, accounting concepts, and regulatory rules.                       |
| L2: Understand  | Flipped Classroom, Discussions, Brainstorming.           | Video Case          | Group           | Develops               | conceptual clarity, allowing students to explain market behaviors.                        |
| L3: Apply       | Software (R/Python/Excel), Modeling, Role Play.          | Lab                 | Workshops       | Enables                | students to apply quantitative algorithms, financial formulas, and negotiation tactics.   |
| L4: Analyze     | Harvard Business Studies, Company Audits.                | Publishing Case     | Financial       | Trains                 | students to break down unstructured corporate challenges and identify root causes.        |
| L5: Evaluate    | Structured Boardroom Investment Simulations.             | Executive Role      | Debates, Plays, | Requires               | students to evaluate strategic options, assess risk trade-offs, and justify choices.      |
| L6: Create      | Capstone Projects (MRP), Hackathons, Tableau Dashboards. | Management Research | Business Plan   | Fosters                | original synthesis, enabling students to construct business models and interactive tools. |

Table 8.2: Alignment Matrix of Bloom's Cognitive Levels with MBA Teaching Pedagogies

8.3 Bloom's Taxonomy & Assessment Methods Alignment

Table 8.3 outlines the alignment between cognitive levels and assessment tools.

| Cognitive Level | Aligned Assessment Tools & Methods                                                        | Measurement Rationale                                                                              |
|-----------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| L1: Remember    | Multiple Choice Questions (MCQs), Online Terminology Quizzes.                             | Rapidly verifies recall of legal definitions, accounting principles, and formulas.                 |
| L2: Understand  | Short Answer Questions, Executive Summaries, Concept Essays.                              | Evaluates student capacity to articulate business theories and interpret market trends.            |
| L3: Apply       | Quantitative Problem Solving Exams, R/Python Code Executions.                             | Measures execution capability in statistical computations and software modeling.                   |
| L4: Analyze     | Written Case Analysis Reports, Financial Statement Audits.                                | Assesses ability to dissect unstructured business scenarios and evaluate data patterns.            |
| L5: Evaluate    | Executive Boardroom Presentations, Policy Critique Papers, Oral Defense.                  | Evaluates capacity to defend strategic choices, critique proposals, and handle questioning.        |
| L6: Create      | Summer Internship Reports (SIP), Live Consulting Projects, Power BI / Tableau Dashboards. | Measures ability to build functional business tools, produce dissertations, and design strategies. |

Table 8.3: Alignment Matrix of Bloom's Cognitive Levels with Assessment Methods

## 9. Outcome-Based Curriculum, Pedagogy, and Assessment

Outcome-Based Education functions as an integrated system where Curriculum Design, Experiential Pedagogy, and Criterion-Referenced Assessment operate in complete harmony—a state termed Constructive Alignment (Biggs, 2003).

### 9.1 Outcome-Based Curriculum Framework

The MBA curriculum at GUNI-VMPIIM is designed around a 122-credit structure aligned with the National Education Policy (NEP 2020) and National Higher Education Qualifications Framework (NHEQF). Courses are classified into Core Foundations, Functional Specializations, Sectoral Electives, Ability Enhancement, and Experiential Research Dissertations.

### 9.2 Experiential Outcome-Based Pedagogy

Pedagogical delivery emphasizes active student participation. Traditional passive lecturing is minimized, replaced by student-centered learning methodologies including role play, discussion, case studies, simulations, and corporate summer internships.

### 9.3 Criterion-Referenced Assessment System

Assessment in OBE is criterion-referenced rather than norm-referenced. Student performance is evaluated against predefined rubric criteria and Course Outcomes rather than grading on a curve, ensuring transparent evaluation of individual competence.

## 10. Assessment Structure and Evaluation Scheme

In accordance with Ganpat University academic regulations, V. M. Patel Institute of Management enforces a balanced evaluation framework comprising 60% Internal Continuous Evaluation and 40% Semester End Examination (SEE).

### 10.1 Weightage Distribution (60% Internal / 40% External)

Table 10.1 outlines the weightage distribution across evaluation components.

| Evaluation Component                   |         | Weightage | Nature of Assessment | Evaluation Tools & Criteria                                                     |
|----------------------------------------|---------|-----------|----------------------|---------------------------------------------------------------------------------|
| Continuous Evaluation Components (CEC) |         | 30%       | Continuous Formative | At least 3 tools: Quizzes, Case Studies, Projects, Dashboards, Role Plays, etc. |
| Mid-Semester Examination               | Written | 30%       | Summative Internal   | Written examination covering preliminary Course Outcomes                        |
| Semester Examination (SEE)             | End     | 40%       | Summative External   | Comprehensive University written theory exam evaluating all COs                 |

Table 10.1: Assessment and Evaluation Scheme at GUNI-VMPIIM

## 11. Step-by-Step CO, PO, and PSO Attainment Calculation Methodology

Attainment calculation is the core quantitative mechanism of Outcome-Based Education, providing mathematical evidence of student learning achievement across Course Outcomes, Program Outcomes, and Program Specific Outcomes.

### 11.1 Benchmark Targets and 3-Level Scale

VMPIIM establishes the following benchmark targets for passing performance:

- **Internal Assessment Benchmark:** Target score of  $\geq 33$  marks out of 60 (55%). Target benchmark:  $\geq 55\%$  of students must achieve this threshold.
- **External Examination Benchmark:** Target score of  $\geq 20$  marks out of 40 (50%). Target benchmark:  $\geq 50\%$  of students must achieve this threshold.
- **Level 1 (Low Attainment):** 50% to  $< 60\%$  of students score above the benchmark target mark.
- **Level 2 (Medium Attainment):** 60% to  $< 70\%$  of students score above the benchmark target mark.
- **Level 3 (High Attainment):**  $\geq 70\%$  of students score above the benchmark target mark.

### 11.2 Direct, Indirect, and Net CO Attainment Formulas

**Direct CO Attainment Formula:** Direct CO Attainment =  $(0.60 \times \text{Internal Assessment Attainment Level}) + (0.40 \times \text{External SEE Attainment Level})$

**Indirect CO Attainment:** Measured via Course Exit Surveys administered to students at semester end, scored on a 1-to-3 Likert scale.

**Net CO Attainment Formula:** Net CO Attainment =  $(0.80 \times \text{Direct CO Attainment}) + (0.20 \times \text{Indirect CO Attainment})$

### 11.3 Direct, Indirect, and Overall PO / PSO Attainment Formulas

**Direct PO/PSO Attainment Formula:** Direct PO<sub>k</sub> Attainment =  $\frac{\sum [ \text{Net CO}_i \text{ Attainment} \times (\text{Mapping Strength}_{ik} / 3) ]}{\sum [ \text{Mapping Strength}_{ik} / 3 ]}$

**Indirect PO/PSO Assessment:** Calculated from three stakeholder surveys: Program Exit Survey (50%), Alumni Survey (30%), and Employer Survey (20%).

**Overall PO/PSO Attainment Formula:** Overall PO/PSO Attainment =  $(0.80 \times \text{Direct PO/PSO Attainment}) + (0.20 \times \text{Indirect PO/PSO Assessment})$

### 11.4 Step-by-Step Worked Numerical Example (Cohort of 60 Students)

Consider a cohort of 60 MBA students evaluated in Business Analytics & Decision Science:

- **Step 1 (Internal Assessment):** 45 out of 60 students (75%) scored  $\geq 33/60$  marks. Since  $75\% \geq 70\%$ , Internal Attainment Level = 3.0.
- **Step 2 (External Examination):** 39 out of 60 students (65%) scored  $\geq 20/40$  marks. Since 65% falls in [60%, 70%), External Attainment Level = 2.0.
- **Step 3 (Direct CO Attainment):** Direct CO Attainment =  $(0.60 \times 3.0) + (0.40 \times 2.0) = 1.80 + 0.80 = 2.60$ .
- **Step 4 (Indirect CO Attainment):** Course Exit Survey average score = 2.50 out of 3.0.
- **Step 5 (Net CO Attainment):** Net CO Attainment =  $(0.80 \times 2.60) + (0.20 \times 2.50) = 2.08 + 0.50 = 2.58$ .
- **Step 6 (Direct PO Attainment for PO2):** Assuming CO1-CO5 mapping strengths to PO2 (Analytical Thinking) are [2, 3, 3, 3, 2] (Average Mapping = 2.60). Direct PO2 Attainment =  $2.58 \times (2.60 / 3) = 2.236$ .
- **Step 7 (Indirect PO Attainment):** Combined Exit/Alumni/Employer survey score for PO2 = 2.40.
- **Step 8 (Overall PO2 Attainment):** Overall PO2 Attainment =  $(0.80 \times 2.236) + (0.20 \times 2.40) = 1.789 + 0.480 = 2.269$  out of 3.0 (75.6%).

## 12. Continuous Quality Improvement (CQI) and Closing the Loop

Attainment measurement is not merely an academic auditing exercise; it is the vital operational engine that powers Continuous Quality Improvement (CQI) across all management programs at VMPIM.

### 12.1 Operationalizing the PDCA Deming Cycle

1. **Plan:** Formulate COs, POs, PSOs, mapping matrices, and set benchmark target attainment thresholds.
2. **Do:** Deliver outcome-aligned pedagogy and execute 60/40 continuous evaluation.
3. **Check:** Calculate direct and indirect CO, PO, and PSO attainment levels at semester end and compare against target thresholds.
4. **Act:** Implement corrective action plans for any CO/PO where actual attainment falls short of the target threshold.