



Mahatma Education Society's

**PILLAI COLLEGE OF
ARCHITECTURE** *Pillai*

**BLUE PRINT FOR
ACADEMIC
EXCELLENCE
AT PICA**



The Blueprint for Academic Excellence at PiCA

Contents

Introduction.....	2
Attributes and Program Outcomes for B. Arch Program.....	3
Competency Enhancement –	4
Research and Innovation –	4
Knowledge Progression –	5
Entrepreneurship and Employability –	5
Environmental and Social Values –	5
Design Thinking –	5
Mapping of Bloom’s taxonomy Six Objectives aligned with the PiCA attributes and aligned with Pos for Bachelors Program	6
Attributes and Program Outcomes for M. Arch Program	7
Knowledge Progression –	8
Environmental and Social Values –	8
Research and Innovation –	8
Design Thinking –	8
Entrepreneurship and Employability –	9
Competency Enhancement –	9
Mapping of Bloom’s taxonomy Six Objectives aligned with the PiCA attributes and aligned with Pos for Master’s Program	9
Incorporating Attributes and POs in the Syllabus and Teaching system at PiCA	11
The PiCA Perspective to Projected Academic Excellence.....	11

Introduction

PiCA is committed to its vision and mission to have a transformative impact and contribute meaningfully to the society through excellence in advanced architectural and spatial education.

Bloom's Taxonomy is quite significant in education system and used worldwide to structure curriculum learning objectives, assessments and activities. The cognitive domain of Bloom's taxonomy is used in attaining educational goals. Remember, Understand, Apply, Analyze, Evaluate, and Create are the revised six objectives in the same order (Wikipedia, updated 2023).

Based on the above, PiCA developed six attributes which are pillars to architectural and spatial education for its B.Arch. and M. Arch Urban Design Program and two Program Outcomes (POs) are assigned to each attribute (Refer Figure 1 & 5). The POs are to be achieved through the program Syllabus, Co-curricular activities and teaching learning processes contributing to the holistic development of the students. The six objectives of Bloom's taxonomy are distributed over the attributes and POs throughout the 10 semesters of B.Arch. Course as well as 4 semesters of M. Arch Urban Design program Depending upon type of course/subject, the objectives and POs are achieved through the respective Course Outcomes (COs).

The attributes and POs were carefully crafted by PiCA IQAC team of experienced faculty members and industry professionals to ensure holistic development of students. Reviewing the syllabus and current industry trends led the Institute to identify the essential skills and competencies required for architects and Urban Designers. This collaborative effort ensured that the attributes and POs aligned with the expectations of the profession and addressed the evolving needs of the architecture and Urban Design industry.

The institute adopted a systematic approach to integrate the POs into the curriculum and teaching methodologies. Since last four years, we had each subject and course modules planned and implemented in such a manner that specific Course Objectives (COs) are attained.

The COs were integrated and mapped to the relevant POs, ensuring a cohesive and progressive learning experience for the students. The following strategies were employed to incorporate the POs and align the same with NEP.

Teaching Methodologies: The faculty employed various teaching methodologies to foster the attainment of COs and POs. These included lectures, seminars, workshops, group discussions, case studies, studio-based projects, and site visits. Such diverse approaches ensured that students had ample opportunities to engage with the subject matter and actively apply their knowledge to real-world scenarios. The process and outcomes are documented in terms of Course Reports at the end of each semester.

Project-Based Learning: Emphasis was placed on project-based learning, where students were assigned design projects and challenges that required them to address multiple POs simultaneously. This approach encouraged critical thinking, problem-solving, collaboration, and the application of sustainable design principles through various courses. Bachelor's students implement this through their Architectural Design Projects and Thesis for while Masters Students implements principles through Urban Design Studios and Thesis. The technical subjects for bachelors students such as

Building Construction, Working Drawings, and Building Services are considered to be best understood by visiting the construction sites and hence such site visits were organized at various stages of the projects and assignments. Particularly for masters students' legislation and governance needs to be understood by giving exposure to practicing experts from the field.

Continuous Assessment: Continuous assessment methods, such as assignments, presentations, debates, group discussions, put-up juries and critiques, were incorporated to evaluate students' progress towards achieving the COs and POs. Regular feedback from faculty members allowed students to understand their strengths and areas for improvement, enabling them to refine their skills throughout the year.

Approach to B. Arch Education

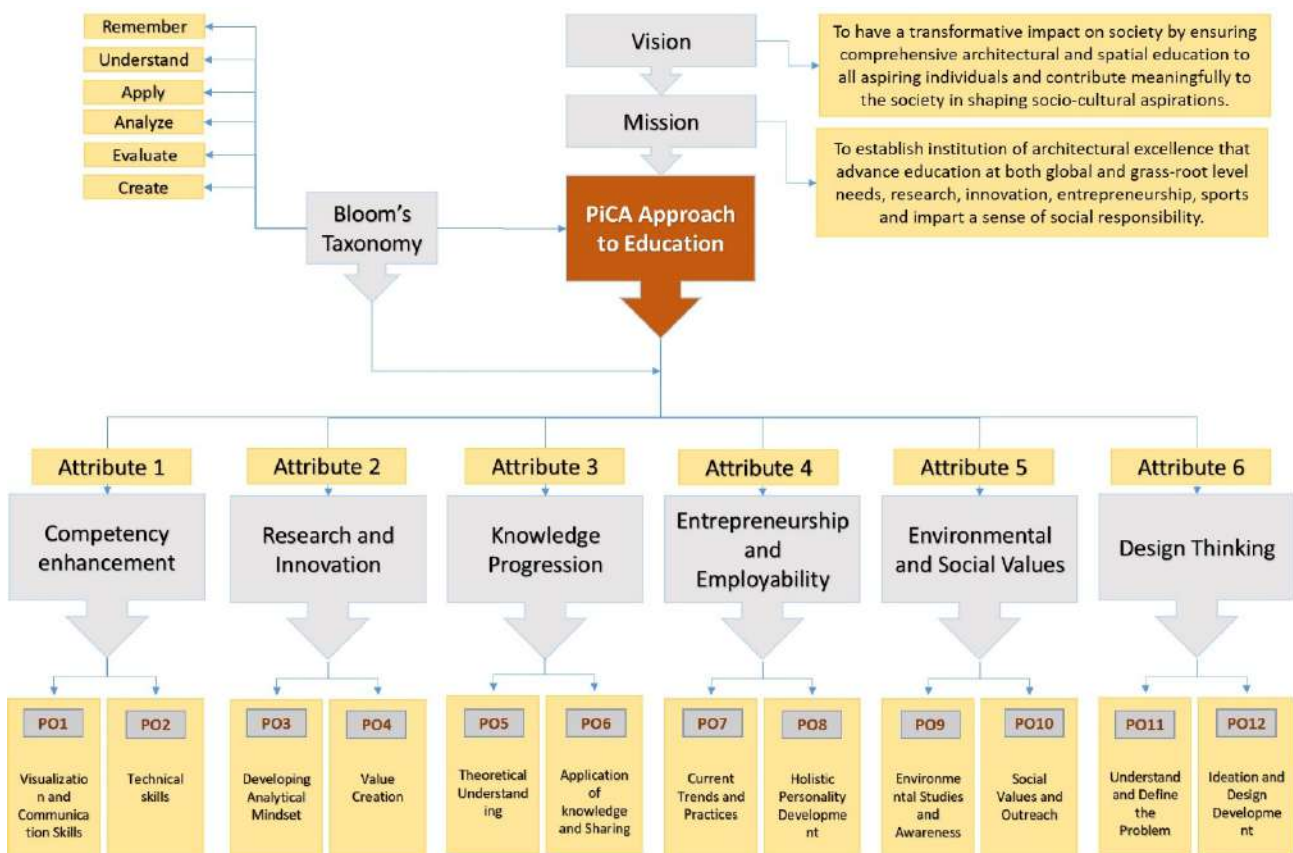


FIGURE 1: PiCA APPROACH TO EDUCATION (B. ARCH)

Attributes and Program Outcomes for B. Arch Program

1. Competency Enhancement –

- a. Visualization and Communication Skills
- b. Technical skills

2. *Research and Innovation*
 - a. Developing Analytical Mindset
 - b. Value Creation
3. *Knowledge Progression*
 - a. Theoretical Understanding
 - b. Application of knowledge and Sharing
4. *Entrepreneurship and Employability*
 - a. Current Trends and Practices
 - b. Holistic Personality Development
5. *Environmental and Social Values*
 - a. Environmental Studies and Awareness
 - b. Social Values and Outreach
6. *Design Thinking*
 - a. Understand and Define the Problem
 - b. Ideation and Design Development

Each attribute and program outcome can be tied to one or more of Bloom's six educational objectives: Remember, Understand, Apply, Analyze, Evaluate, and Create.

Competency Enhancement –

- a. Visualization and Communication Skills: Understand (understanding how to visualize complex ideas and design concepts) Evaluate (visualization of ideas need to be evaluated before application) and Apply (using those visualization and communication skills in the real world).
- b. Technical skills: Apply (applying technical tools and software in architecture), Understand (comprehending the fundamental principles underlying these tools) and Analysis (Drawing, drafting and digital skills need ability to understand, analyse before application of the knowledge and expressing it through drawings).

Research and Innovation –

- a. Developing Analytical Mindset: Understand (Any project needs the in-depth understanding), Analyze (breaking down a complex architectural issue into simpler components) and Evaluate (judging the merits of various design alternatives).
- b. Value Creation: Apply (The knowledge gained to be applied for the benefit of society), Evaluate (in-depth evaluation of existing knowledge and practices) and Create (developing innovative design solutions that bring value to clients and society).

Knowledge Progression –

- a. Theoretical Understanding: Remember (memorizing important architectural theories and principles), Understand (comprehending these theories and how they can be applied) and Analysis (comprehensive analysis of theories to make the study meaningful).
- b. Application of knowledge and Sharing: Apply (applying the theoretical knowledge in practical scenarios), Evaluate (need to evaluate the learnings for creation or resolving the issue) and Create (sharing knowledge by creating reports, presentations, etc.).

Entrepreneurship and Employability –

- a. Current Trends and Practices: Understand (grasping the current trends in architecture and construction industry) and Apply (implementing these trends in the design process) and Analysis (comprehensive understanding of current trends to take individual career decisions).
- b. Holistic Personality Development: Remember (remembering good professional and personal habits), Understand (comprehending the importance of a well-rounded personality), Apply (incorporating these habits in day-to-day life), Analysis (comprehensive understanding of social needs and norms), Evaluate (Individual decisions regarding values and ethics) and Create (creating and implementing innovative ideas).

Environmental and Social Values –

- a. Environmental Studies and Awareness: Remember (learning about environmental issues and sustainable practices in architecture), Understand (comprehending how these issues impact architectural design), and Apply (incorporating these principles into design).
- b. Social Values and Outreach: Remember (learning about societal values), Understand (understanding the implications of these values for architectural practice), and Apply (engaging with the community through outreach) and Create (Serving society by creating and implementing meaningfully in terms of design and innovative ideas).

Design Thinking –

- a. Understand and Define the Problem: Understand (comprehending the design problem from all angles), Apply (application of knowledge to define the problem), Analyze (breaking the problem down into manageable components) and Evaluate (In-depth evaluation of concepts and theories are vital for design thinking).
- b. Ideation and Design Development: Apply (Applying the knowledge for visualizing and ideating), Evaluate (judging the merits of various design ideas) and Create (developing the final design).

In the context of the Pillai College of Architecture, these outcomes align well with the goals of an architectural education - to produce graduates who are technically competent, innovative, aware of current trends and societal needs, and equipped with strong design thinking skills.

Mapping of Bloom's taxonomy Six Objectives aligned with the PiCA attributes and aligned with Pos for Bachelors Program

Attributes for PiCA Approach to Education	Competency enhancement		Research and Innovation		Knowledge Progression		Entrepreneurship and Employability		Environmental and Social Values		Design Thinking	
Program Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	Visualization and Communication Skills	Technical Skills	Developing Analytical Mindset	Value Creation	Theoretical Understanding	Application of Knowledge and Sharing	Current Trends and Practices	Holistic Personality Development	Environmental Studies and Awareness	Social Values and Outreach	Understand and Define the Problem	Ideation and Design Development
Bloom's taxonomy Six Objectives												
Remember												
Understand												
Apply												
Analysis												
Evaluate												
Create												

FIGURE 2: MAPPING OF BLOOM'S TAXONOMY SIX OBJECTIVES ALIGNED WITH PiCA ATTRIBUTES AND ALIGNED WITH POs (B.ARCH)

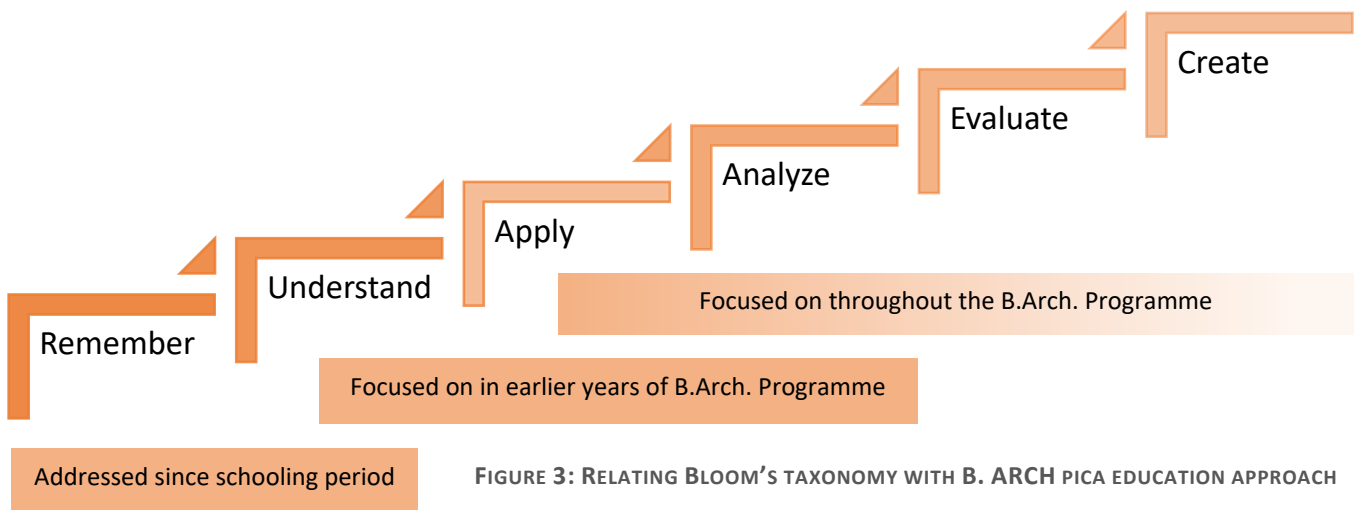


FIGURE 3: RELATING BLOOM'S TAXONOMY WITH B. ARCH PiCA EDUCATION APPROACH

Approach to M. Arch Education

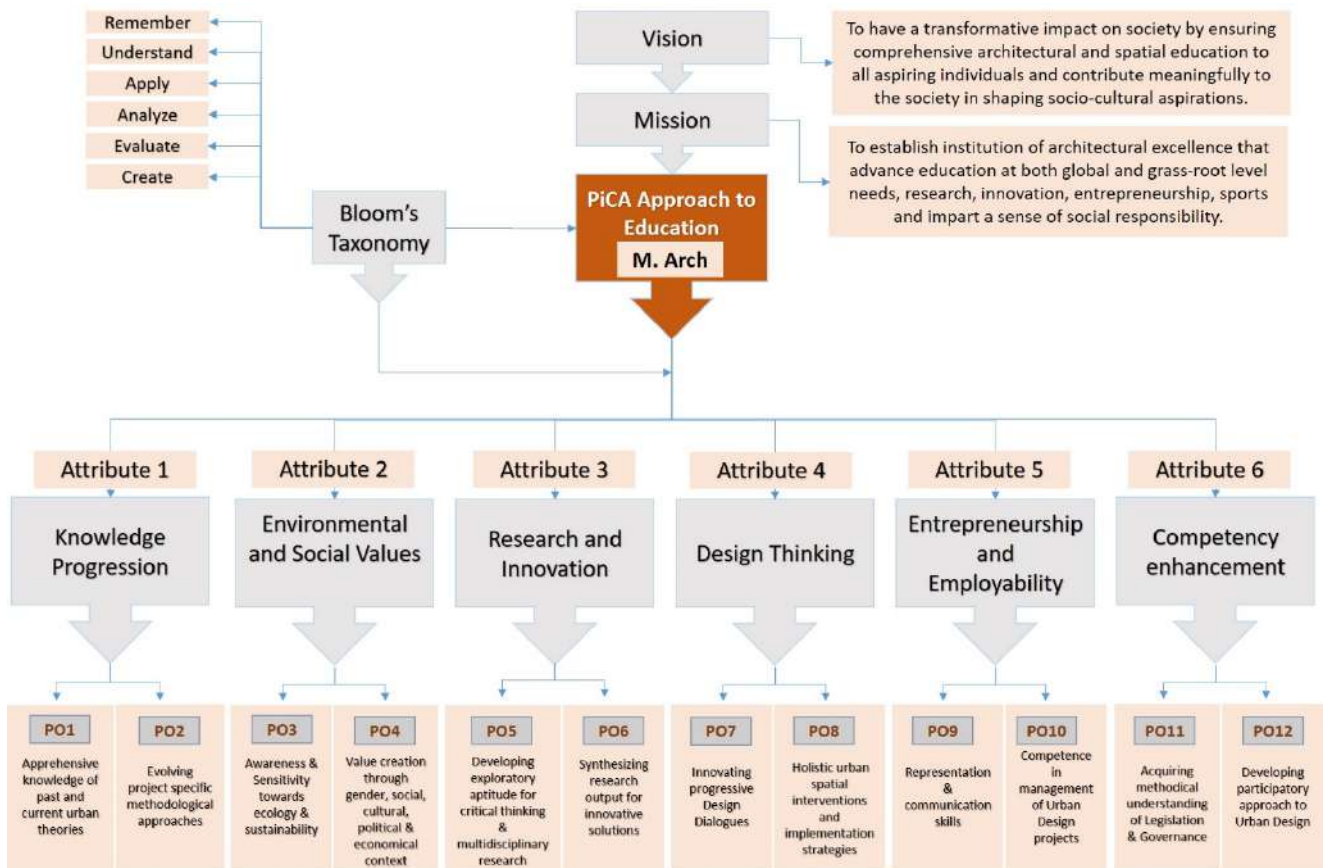


FIGURE 4: PiCA APPROACH TO EDUCATION (M. ARCH)

Attributes and Program Outcomes for M. Arch Program

1. Knowledge Progression –

- a. Apprehensive Knowledge of past and current theories
- b. Evolving project specific methodological approaches

2. Environmental and Social Values

- a. Awareness and sustainability towards Ecology & sustainability
- b. Value Creation through gender, social, cultural, political & economical context

3. Research and Innovation

- a. Developing exploratory aptitude for critical thinking & multidisciplinary research
- b. Synthesizing research output for innovative solutions

4. Design Thinking

- a. Innovative progressive Design Dialogues
- b. Holistic Urban spatial interventions and implementation strategies

5. *Entrepreneurship and Employability*

- a. Representation & communication skills
- b. Competence in management of Urban Design projects

6. *Competency Enhancement*

- a. Acquiring methodological approach of Legislation & Governance
- b. Developing participatory approach to Urban Design

Knowledge Progression –

- a. Apprehensive Knowledge of past and current theories: Remember (Identifying Urban theories) Understand (understanding various Urban Past and current theories) Evaluate (Analysing and evaluating its relevance before application) and Apply (Applying relevant theories in research or design).
- b. Evolving project specific methodological approaches: Comprehending understanding of context and theories and evolving project specific methodology. Analysis (analysing appropriate knowledge base) Create (evolving project specific methodology)

Environmental and Social Values –

- a. Awareness and sustainability towards Ecology & sustainability: Understand (Understanding Ecological context and developing awareness), Analysis (analysing appropriate sustainable project specific approach) Evaluate (Evaluating impact of sustainability) Apply (application of sustainable solutions) Create (Designing through new ways for sustainable growth)
- b. Value Creation through gender, social, cultural, political & economical context: Evaluate (sensitivity and awareness about various urban issues), Analysis (in-depth analysis of current Urban issues) and Create (developing innovative design solutions which responds to contextual relevance)

Research and Innovation –

- a. Developing exploratory aptitude for critical thinking & multidisciplinary research: Understand (comprehending multidisciplinary research) and Analysis (Analysing various theories and project specific mapping) Evaluate (developing Critical thinking for evaluation)
- b. Synthesizing research output for innovative solutions: Apply (applying the theoretical base for project specific solutions), Evaluate (evaluating and inferring through synthesizing knowledge) and Create (developing innovative solutions).

Design Thinking –

- a. Innovative progressive Design Dialogues: Apply (developing appropriate solutions through current and past theories and practices) Analysis (comprehensive understanding of Urban Issues) Create (Developing Design Solutions)
- b. Holistic Urban spatial interventions and implementation strategies: Apply (incorporating knowledge gained and apply for design solutions), Evaluate (Evaluating impact and significance of design strategies developed) and Create (creating and implementing innovative solutions).

Entrepreneurship and Employability –

a. Representation & communication skills: Understand (Understanding vocabulary for Urban Design) Apply (incorporating techniques while representing) and create (Develop new techniques specific to Urban projects)

b. Competence in management of Urban Design projects: Understand (Interpreting various Projects and Management) Apply (Evolving Project Proposals through application of Principles) and create (Develop phase wise project implementation strategy)

Competency Enhancement –

a. Acquiring methodological approach of Legislation & Governance: Remembering, Understanding & analysing (existing Legislations and Governance in Urban context). Apply (Appropriate Legislative framework) Create (Developing innovative framework if necessary)

b. Developing participatory approach to Urban Design: Apply (Applying participatory techniques), Analysis (Analysing from various stakeholders) and Evaluate (evaluating design strategies through mapping)

In the context of the Pillai College of Architecture, these outcomes align well with the goals of an Urban Design Education - to produce Urban Designers who are methodically competent, innovative about sustainable solutions, sensitive towards social and ecological context, and equipped with holistic approach for evolving better cities for tomorrow.

Mapping of Bloom’s taxonomy Six Objectives aligned with the PiCA attributes and aligned with Pos for Master’s Program

Mapping of existing courses for respective semesters in M. Arch aligned with the stated POs												
Attributes for PiCA Approach to Education	Knowledge Progression		Environmental and Social Values		Research and Innovation		Design Thinking		Entrepreneurship and Employability		Competency enhancement	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Program Outcomes	Apprehensive knowledge of past and current urban theories	Evolving project specific methodological approaches	Awareness & Sensitivity towards ecology & sustainability	Value creation through gender, social, cultural, political & economical context	Developing exploratory aptitude for critical thinking & multidisciplinary research	Syntheticizing research output for innovative solutions	Innovating progressive Design Dialogues	Holistic urban spatial interventions and implementation strategies	Representation & communication skills	Competence in management of Urban Design projects	Acquiring methodical understanding of Legislation & Governance	Developing participatory approach to Urban Design
Bloom’s taxonomy Six Objectives												
Remember												
Understand												
Apply												
Analysis												
Evaluate												
Create												

FIGURE 5: MAPPING OF BLOOM’S TAXONOMY SIX OBJECTIVES ALIGNED WITH THE PiCA ATTRIBUTES AND ALIGNED WITH POS (M. ARCH)

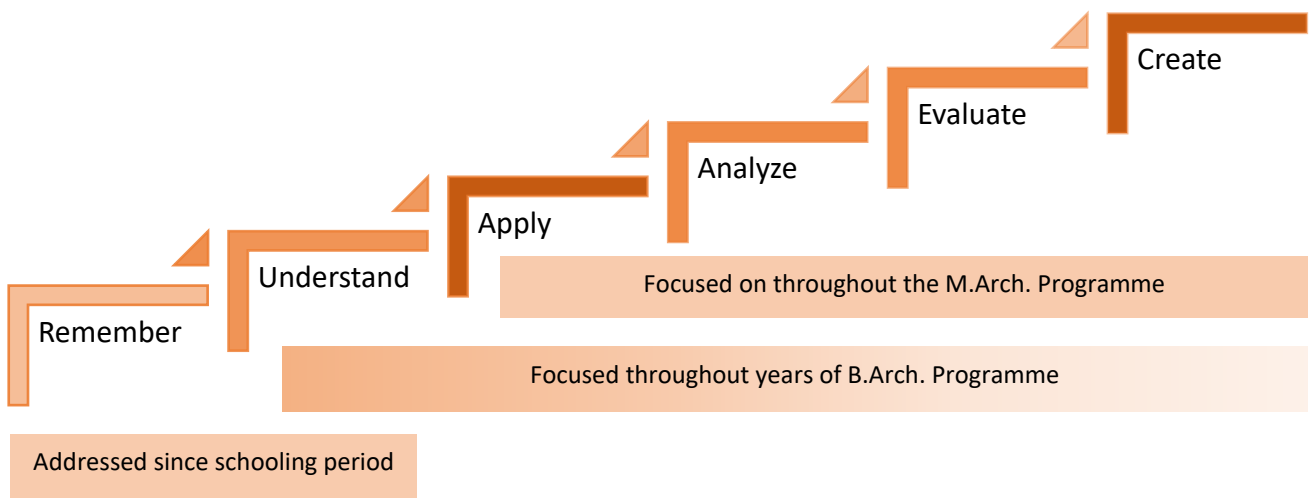


Figure 4: Relating Bloom's taxonomy with M. ARCH pica education approach

Attainment of Cos and POs at the End of the Year

The attainment of all CO's by students was evaluated for each subject/ course at the end of each semester. At the end of the year, mapping of all CO's and POs was done through a comprehensive assessment process. At the end of each term, an IQAC workshop was held for portfolio reviews where all faculty had a vertical integration of all Design Projects and their ideas and suggestions were shared with all faculty for further improvement that can be adapted in the next term / year.

As a part of evaluation, design jury, or examination was conducted, providing a platform for students to present their work and demonstrate their achievement of the CO's. Faculty members and external experts evaluated the students' performance based on predetermined criteria, ensuring objectivity and fairness. The feedback from external experts was collected through a feedback system which is then compiled and shared with all concerned faculty members to consider and take necessary actions to improve upon the teaching methods for their subject/s.

Furthermore, the institute emphasized the importance of self-reflection and self-assessment. Faculty members were encouraged to reflect on their subjects' achievements and progress throughout the year, identify their strengths and weaknesses, and develop an action plan to further enhance students' skills and knowledge.

Incorporating Attributes and POs in the Syllabus and Teaching system at PiCA

Being affiliated institute to Mumbai University, the syllabus of B.Arch., M.Arch. and Ph.D. Programme of Mumbai University are followed by PiCA. However, after careful study and assessment. PO's are achieved through various electives also in both programs. Electives are distributed over years according to the student's knowledge progression and development. These electives are choice-based electives and students can choose amongst the pool of electives as per their aptitude (Refer figure 7). Grouping of the electives is done with respect to 3 major attributes to ensure desired outcome.

The PiCA Perspective to Projected Academic Excellence

The implementation and success of CO PO mapping at Pillai College of Architecture (PiCA) is the result of a concerted and dynamic approach. This approach, which involves regular evaluations, comprehensive assessments, vertical integration of design projects, engagement of both internal and external expertise, and the promotion of self-reflection and assessment, is aimed at ensuring that every student achieves their Course Outcomes (COs) and Program Outcomes (POs).

The institution's emphasis on objectivity and fairness, as well as the provision for self-reflection, is instrumental in maintaining educational standards, thereby enhancing the quality of the institution's output. Importantly, the invaluable input from external experts adds an additional layer of rigor and diversity to the evaluation process.

Moreover, the flexibility offered by PiCA, despite being affiliated to Mumbai University, ensures a tailored learning experience for students, enabling them to choose electives based on their unique aptitude and interest. This flexibility is reflected in how POs are incorporated and attained through the university's syllabus. It demonstrates the commitment to not only adhering to the university's standards, but also in equipping students with the skills and knowledge they require for their professional futures.

Moving forward, PiCA is committed to continuously improving and adapting its methods, based on ongoing reflection and feedback. Through this ongoing process of CO PO mapping, the institute is well poised to provide an enriched and fulfilling learning experience for all its students, thereby molding architects of the future who are fully equipped to meet and overcome the challenges of their field.

The Blueprint for Projected Academic Excellence at PiCA is reflected clearly in PiCA Perspective Plans that will provide a strategic pathway for our commitment to shaping the future of education. By adhering to and improving upon it, we strive to mould architects equipped with the skills and knowledge necessary to confront and overcome the challenges of their field, thus contributing significantly to our evolving world.